


<b>Prüfbericht-Nr.:</b> <i>Test report no.:</i>	<b>IN23HH4B 001</b>	<b>Auftrags-Nr.:</b> <i>Order no.:</i>	<b>146741372 0010</b>	Seite 1 von 137 Page 1 of 137
<b>Kunden-Referenz-Nr.:</b> <i>Client reference no.:</i>	2390953	<b>Auftragsdatum:</b> <i>Order date:</i>	2022-12-01	
<b>Auftraggeber:</b> <i>Client:</i>	Proxim Wireless Corporation 2114 Ringwood Avenue, San Jose, California 95131			
<b>Prüfgegenstand:</b> <i>Test item:</i>	Stratum™ X5	<b>Serien-Nr.:</b> <i>serial no.:</i>	001	
<b>Bezeichnung.:</b> <i>Identification .:</i>	SX5-1040A-US & SX5-1042A-US SX5-1040A-WD & SX5-1042A-WD			
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	Testing and issue of Test report with Grant Certificate			
<b>Prüfgrundlage:</b> <i>Test specification:</i>	FCC Part 15 Subpart C 15.247,15.207, 15.205 & 15.209, Subpart E 15.407 RSS 247 Issue 3 & RSS Gen Issue 5			
<b>Wareneingangsdatum:</b> <i>Date of sample receipt:</i>	2023-04-11			
<b>Prüfmuster-Nr &amp;</b> <i>Test sample no &amp;</i>	A003453731-003 & A003473785-001			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	2023-04-24 - 2023-06-30			
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	Wireless laboratory, Bangalore			
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland (India) Pvt.Ltd., 27/B, 2nd Cross, Electronic City Phase1 Bangalore -560 100, India FCC Test site registration number: 496599 ISED Test site registration number: 27711 HVIN: Gigabit 5 quad			
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass			
<b>geprüft von:</b> <i>tested by:</i>	<b>M.V.Naveen Kumar</b> Senior Engineer	<b>genehmigt von:</b> <i>authorized by:</i>	<b>Madhu K.N</b> Assistant Manager	
<b>Datum:</b> <i>Date:</i>	<b>2023-07-03</b>	<b>Ausstellatum:</b> <i>Issue date:</i>	<b>2023-09-19</b>	
<b>Stellung / Position:</b>	<b>M.V.Naveen Kumar</b> Senior Engineer	<b>Stellung / Position:</b>	<b>Madhu K.N</b> Assistant Manager	
<b>Sonstiges / Other:</b>	FCC ID: HZB-GIGA5 IC : 1856A-GIGA5			
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend 5 = mangelhaft N/T = nicht
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient 5 = poor N/T = not tested
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>				

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 2 von 137**  
Page 2 of 137

1	<p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p>
2	<p>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben.</p> <p><i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.</i></p>
3	<p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p>
4	<p>Die Entscheidungsregel für Konformitätserklärungen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird.</p> <p><i>The decision rule for statements of conformity in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report.</i></p>

## TEST SUMMARY

Test Item	Applicable Standard		Result
	FCC 47 CFR 15	ISED	
Emission Bandwidth	15.407 (a) & (e)	RSS Gen Issue 5 Section 6.7 RSS 247 Issue 3 Section 6.2.1.1; 6.2.4.1	Pass
Frequency Stability	15.407 (g)	RSS Gen Issue 5 Section 8.11	Pass
Maximum conducted output power	15.247 (b) & 15.407 (a)	RSS 247 Issue 3 Section 6.2.1; 6.2.4	Pass
Maximum Power spectral density	15.407 (a)	RSS 247 Issue 3 Section 6.2.2; 6.2.4	Pass
Dynamic Frequency Selection	15.407 (h)	RSS 247 Issue 3 Section 6.3	*N/A
Spurious Radiated Emissions & Restricted Bands of Operation	15.407 (b) / (15.205 &15.209)	RSS 247 Issue 3 Section 6.2.1; 6.2.4 RSS Gen Issue 5 Section 8.9 & 8.10	Pass
AC Power Lines Conducted Emission	15.207	RSS Gen Issue 5 Section 8.8	Pass
Antenna Requirement	15.203	-	Pass

\*N/A → Not Applicable

Product Category: Electronics Testing  
Test Discipline : EMC Test Facility

**Prüfbericht - Nr.:**  
*Test Report No.:*

**IN23HH4B 001**

**Seite 4 von 137**  
*Page 4 of 137*

## REVISION HISTORY OF THIS REPORT

Report Number	Version	Description	Issue date
IN23HH4B 001	01	Initial issue of report	2023-09-19

## Table of Contents

1	GENERAL REMARKS .....	6
1.1	Attachments .....	6
2	TEST SITES .....	7
2.1	Testing Facilities.....	7
2.2	List of Test and Measurement Instruments.....	7
3	GENERAL PRODUCT INFORMATION.....	9
3.1	Product Function and Intended Use.....	9
3.2	Ratings and System Details of Equipment under Test .....	9
3.3	Measurement Uncertainty: .....	10
4	TEST SET-UP AND OPERATION MODE.....	11
4.1	Principle of Configuration Selection .....	11
4.2	UUT Exercise Software .....	11
4.3	Special Accessories and Auxiliary Equipment .....	11
4.4	Test Modes_ data rates & Modulation .....	11
4.5	Simultaneous Transmission .....	11
4.6	Countermeasures to achieve EMC Compliance .....	11
4.7	List of frequencies .....	12
4.8	Report Reference .....	12
5	OPERATIONAL DESCRIPTION.....	13
6	TEST METHODOLOGY .....	14
6.1	AC Power line Conducted Emission .....	14
6.1.1	Test Setup Configuration .....	14
6.2	Radiated Emission Test .....	15
6.2.1	Test Setup Configuration .....	15
7	TEST RESULTS .....	17
7.1	Emission Bandwidth.....	17
7.2	Maximum Conducted Output Power .....	20
7.3	Maximum Power Spectral Density .....	32
7.4	Spurious Radiated Emissions & Restricted Bands of Operation .....	43
7.5	FREQUENCY STABILITY.....	128
7.6	AC POWER LINES CONDUCTED EMISSION .....	130
8	LIST OF TABLES.....	133
9	POWER LEVEL USED FOR TESTING.....	133

# 1 GENERAL REMARKS

## 1.1 Attachments

All attachments are part of this test report and are issued in separate document

- 1: TEST SETUP PHOTOS
- 2: EUT EXTERNAL PHOTOS
- 3: EUT INTERNAL PHOTOS
- 4: FCC LABEL AND LABEL LOCATION
- 5: BLOCK DIAGRAM
- 6: SPECIFICATION OF EUT
- 7: SCHEMATIC DIAGRAM
- 8: BILL OF MATERIAL
- 9: USER MANUAL
- 10: MAXIMUM PERMISSIBLE EXPOSURE INFORMATION
- 11: TEST PLOTS

NOTE:

Multiple Models:

The models SX5-UUVWY-ZZ differ as below for marketing purpose.

UU can be 2 digits defining product frequency range but with no specific meaning: 10 (5 GHz), 20 (6 GHz)

V can be 1 digit defining MIMO capacity(V): 2 (MIMO 2x2), 4 (MIMO 4x4)

W can be 1 digit defining beam Width: 0 (connectorized), 1 (10 degree), 2 (20 degree) ... 9 (90 degree)

Y can be 1 alphanumeric defining product type: A: All-purpose unit (Base Station (1 SU max) and Client), B: Base Station (unlimited SU) and Client, C: Client only

ZZ can be 2 alphanumeric defining country of operation: WD (World), US (USA)

## 2 TEST SITES

### 2.1 Testing Facilities

- |  |   |
|--|---|
| <p>1. TÜV Rheinland (India) Pvt.Ltd.,<br/>27/B, 2nd Cross,<br/>ElectronicCityPhase1<br/>Bangalore – 560 100,<br/>India</p> | <p>2. TUV Rheinland (India) Pvt.Ltd.,<br/>108 , Beside ISBR Business School,<br/>Electronic city Phase I<br/>Bangalore - 560 100.<br/>India</p> |
|--|---|

Radiated Measurement site type :  
Fully anechoic chamber (used for above 1 GHz  
measurements)

Radiated Measurement site type :  
Semi anechoic chamber (used for below 1 GHz  
measurements)

### 2.2 List of Test and Measurement Instruments

Table 1: List of test and measurement instruments

Equipment	Manufacturer	Model Name	Serial Number	Firmware Versions	Calibration Due Date	Periodicity	Test Facility
EMI Receiver	Rohde & Schwarz	ESW 44	101732	4.73 SP5	30.07.2024	Yearly	Radiated Spurious Emission
Active loop antenna	Frankonia	LAX-10	LAX-10-800	-	02.03.2024	Yearly	
Balun & Biconical Antenna	Schwarzbeck mess-elektronik	BBA 9106+VH BB 9124	9124-1117	-	05.05.2024	Yearly	
Log-Periodic Antenna	Schwarzbeck mess-elektronik	VUSLP 9111B	9111B-111	-	06.05.2024	Yearly	
Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-01944	-	18.10.2023	Yearly	
EMI Test Receiver	Rohde & Schwarz	ESW44	101773	1.72.SP1	15.02.2024	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	-	
Fully Anechoic Chamber	Albatross	-	-	-	-	-	
Spectrum Analyzer	Agilent	E4407B	US41192772	A.14.07	27.12.2023	Yearly	Conducted Test Parameters
10dB Attenuator	H+S Electronics Pvt. Ltd	6810.17.A	770041	-	06.03.2024	Yearly	
Signal Analyzer	Rohde & Schwarz	FSV7	101644	3.40	03.02.2024	Yearly	
Open Switch & Control Unit	Rohde & Schwarz	OSP120 Incl. B157	OSP120-101323 & B157-100894	1.27.0.0	16.12.2023	Yearly	
Vector Signal Generator	Rohde & Schwarz	SMBV 100A	260789	4.15.125.49	03.02.2024	Yearly	
RF and microwave Signal Generator	Rohde & Schwarz	SMB 100A	108788	3.01.203.32	03.02.2024	Yearly	
EMI Receiver	Rohde & Schwarz	ESR7	101133	3.48 SP3	29.07.2024	Yearly	Conducted AC Power line Test
Two Line V-Network (LISN)	Rohde & Schwarz	ENV 216	100022	-	10.10.2023	Yearly	
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100811	-	12.07.2024	Yearly	

**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 8 von 137**

*Test Report No.:*

*Page 8 of 137*

**Table 2: Instrument application Software versions**

<b>SL. No.</b>	<b>Test Type</b>	<b>Application software</b>	<b>Version</b>
1	Radiated spurious emission measurement in 10mtr-SAC	BAT EMC	3.20.0.17
2	Radiated spurious emission measurement in FAC	EMC 32	10.60.20
3	Antenna Port conducted measurement: TS8997 system	WMS 32	10.60.20



### 3 GENERAL PRODUCT INFORMATION

#### 3.1 Product Function and Intended Use

The Stratum™ X5 is an outdoor wireless product that supports 11ax Wi-Fi standard Qualcomm Chipset with high power supported with MU-MIMO, Wave 3.0, OFDMA, Seamless roaming with built in BLE and GPS module. It complies with 802.11ax, 4x4 MIMO technology with two dual band radio supported (one on board 5GHz radio plus one external 2.4/5/6GHz Radio provision) with PCIe3.0 and M2.0 connectors with up to 5Gbps data rates, equipped with 2.5Gbps WAN & 1Gbps LAN ports. It Supports MU-MIMO and DL/UL-OFDMA modulations. With faster Ethernet data rate, more number of users can upload or download multiple packets at the same time. With narrower subcarrier spacing, longer symbol time, improved stability and data processing efficiency, the Stratum X5 can be used in Point to Point Network and Backhaul Solutions for Service Providers and Enterprises and Point to Multipoint Network with Last mile access for WISP, Mobility and Smart City Applications.

#### 3.2 Ratings and System Details of Equipment under Test

Table 3: Ratings and System Details as declared by the Client\*

<b>Radio Protocol</b>	WI-FI 5GHz	
<b>Operating Frequency Range</b>	UNII-1 _ 5150MHz to 5250MHz UNII-3 _ 5725MHz to 5850MHz	
<b>No. of Channels</b>	(Refer Table 5)	
<b>Channel Spacing</b>	20 MHz, 40MHz, 80MHz	
<b>Modulation</b>	1024QAM	
<b>Power level index setting used</b>	Refer the power levels Clause:	
<b>Maximum Measured Average Power (dBm)</b>	22.79dBm 5825MHz(ax-mode 20MHz Data rate: MCS0) Omni Antenna 17.90dBm 5230MHz(ax-mode 40MHz Data rate:MCS11) Sector Antenna 19.38dBm 5745MHz(ax-mode 20MHz Data rate MCS11) integrated Panel Antenna 17.90dBm 5240MHz(ax-mode 40MHz Data rate: MCS11) Panel Antenna 17.89dBm 5755MHz(ax-mode 40MHz Data rate: MCS9) Dish Antenna	
<b>Number of antennas</b>	4*4 MIMO	
<b>Antenna Model &amp; Gain(dBi)</b>	Please refer Table 4: Antenna Details	
<b>Supply Voltage to Product</b>	36-57V DC to EUT(Through POE injector) & 110-230V AC to PoE injector	
<b>Environmental Conditions</b>	Storage	-50°C to 70°C
	Operating	-40°C to 60°C
<b>EUT Dimension(L x Wx H)</b>	SX5-1042A_ 371mm x 371mm x 97mm SX5-1040A_ 250mm x 220mm x 62mm	

**\*Disclaimer:** The information/data is supplied by the client and the same is considered to arrive at the final value. Any changes made apart from the specified specification, can directly impact on the tests results. Refer the products user manual for more details.

**Table 4: Antenna Details**

Manufacturer	Antenna Name	Antenna Model	Antenna Gain/used Frequency range
Telimart India	Omni Directional Antenna	TM55D-HVOMNI-12	2 X 12±0.5/ 5.15 to 5.850GHz
Telimart India	Dual Polarization Sector Antenna	TM55D-HVSECT-21	2 X 21±0.5/ 5.15 to 5.850GHz
Telimart India	Dual Polarization Directional Antenna	MT-466010/NVH	2 X 28±1.0/ 5.15 to 5.850GHz
Telimart India	Dish Antenna 4.9 - 5.9 GHz, Dual Polarized,	TM55L-DPDISH-35	2 x 35±0.5/ 5.15-5.25GHz & 5.15- 5.85GHz
MARS Antennas & RF Systems LTD	4.9-6.425 GHz Quad Polarization	MA-WA57-QP4MIMO19	5.15-6.425 @ 4x19 dBi

### 3.3 Measurement Uncertainty:

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$

**Table 5: Measurement Uncertainty**

Parameter	Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3 dB
Unwanted Emissions, conducted	±3 dB
SAC, radiated measurement	±6 dB
FAC, radiated measurement	±6 dB
Temperature	±3 °C
Supply Voltages	±3 %
Time	±5 %

## **4 TEST SET-UP AND OPERATION MODE**

### **4.1 Principle of Configuration Selection**

Transmission was enabled with highest possible duty cycle on low, mid and high channels.

### **4.2 UUT Exercise Software**

Hardware Version : v1.0

Kernal version : 4.4.60

Software Name: QRCT4-GUI Program

Hardware Name: GIGABIT MB PCB P/N: 170-00028

### **4.3 Special Accessories and Auxiliary Equipment**

<b>Model Name &amp; Model Number</b>	<b>Power Adapter Ratings</b>
Gigabit PoE Injector RP026-5601100YG/Proxim 400-00031	Input: 100-240V~50/60Hz 1.5A Max Output: 56.0VDC 1.1A 61.6W +(3,4,5,6)pins, -(1,2,7,8)pins

### **4.4 Test Modes\_ data rates & Modulation**

- None

### **4.5 Simultaneous Transmission**

This product supports Simultaneous operation

### **4.6 Countermeasures to achieve EMC Compliance**

- None

## 4.7 List of frequencies

Frequency Band	Channel No.	Frequency (MHz)
5150–5250 MHz	36	5180
	38	5190
	40	5200
	42	5210
	44	5220
	46	5230
	48	5240
5725-5850 MHz	149	5745
	151	5755
	159	5795
	165	5825

Table 6: List of Wi-Fi center Frequencies

### Channel used for Wi-Fi Testing

Channel Bandwidth (20MHz)	Channel Bandwidth (40MHz)	Channel Bandwidth (80MHz)
5180	5190	5210
5240	5230	5755
5745	5755	-
5825	5795	-

### Note:

TUV Sample Identification number : A003453731-003 – Radiated test Sample & Conducted test Sample

## 4.8 Report Reference

SL. No	Radio Protocol	Report No
1	BLE	IN23HNHD 001
2	Wi-Fi 5GHz (UNII-1 & UNII-3)	(This Report) IN23HH4B 001

## 5 OPERATIONAL DESCRIPTION

The Stratum™ X5 is a highly efficient radio endpoint that delivers gigabit-plus throughput in both point-to-point and multipoint wide area network configurations.

Able to operate in MIMO 4x4, with either integrated or external antenna (software switchable on some variant), the Stratum™ X5 is ideally suited to high-capacity backhaul, high-resolution video surveillance, or high-density multipoint deployments.

Powered by Proxim WORP® (Wireless Outdoor Router Protocol), managed via web GUI, CLI, Bluetooth-enabled Proxim BlueConnect™ and SNMP for ProximVision® Advanced, this high-speed platform offers advanced Quality of Service, granular service level management, and very secure networking.

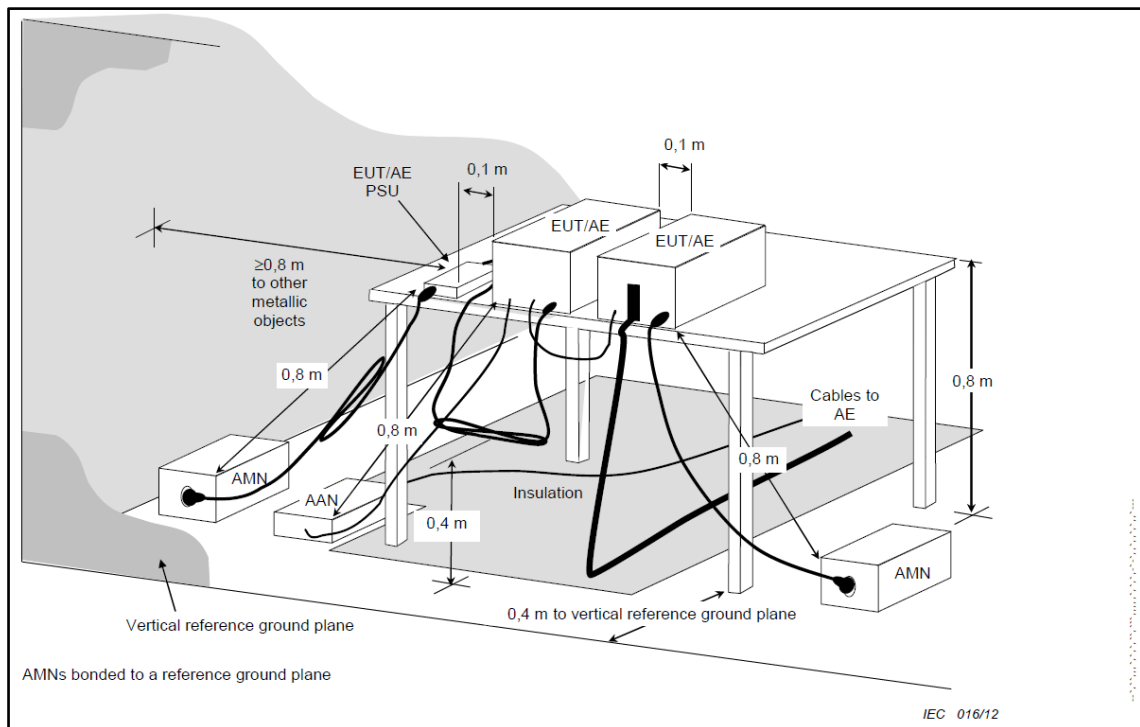
## 6 TEST METHODOLOGY

### 6.1 AC Power line Conducted Emission

Measured levels of ac power-line conducted emission across the 50Ω LISN port (to which the EUT is connected). All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer.

The device is placed on the test table, raised 80cm above the reference ground plane. The vertical conducting plane is located 40cm to the rear of the device. AC Conducted emission measurement is made over frequency range from 150kHz to 30MHz, this measurement was performed with EUT powered with an AC adaptor with 110V AC 60Hz supply .

#### 6.1.1 Test Setup Configuration

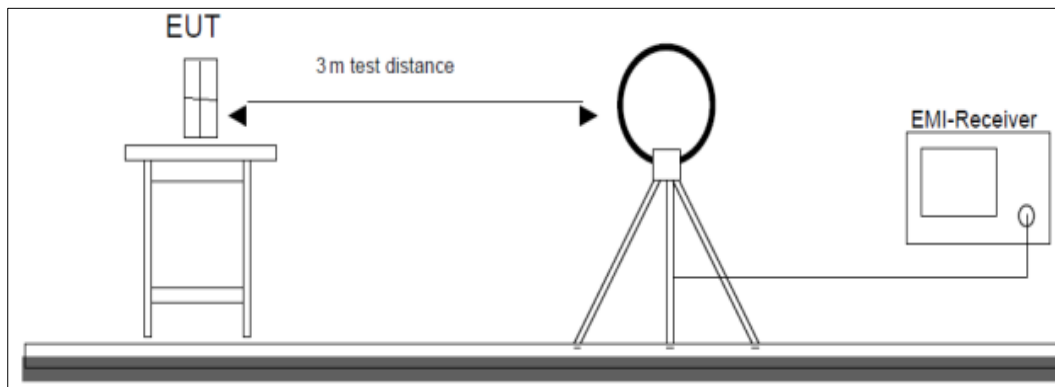


## 6.2 Radiated Emission Test

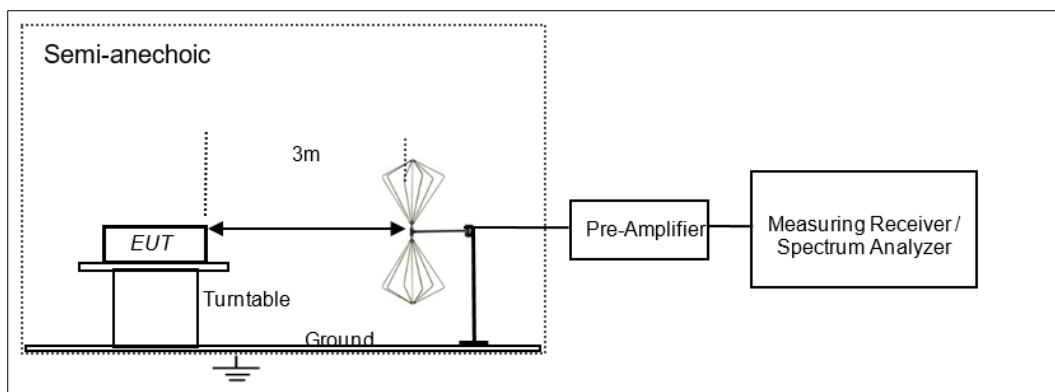
The radiated emission measurement was performed according to the procedures in ANSI C63.10-2013. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable for below 1 GHz & 1.5 m height for above 1 GHz measurement, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360° for obtaining the maximum emission. The height of the measuring antennas was scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement above 1000 MHz was performed by horn antenna, The measurement below 30 MHz was performed by loop antenna, Measurement from 30 MHz to 200 MHz was performed by Baloon and Biconical Antenna, and mesurement from 200 MHz to 1 GHz was performed by Log-Periodic Antenna.

The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded

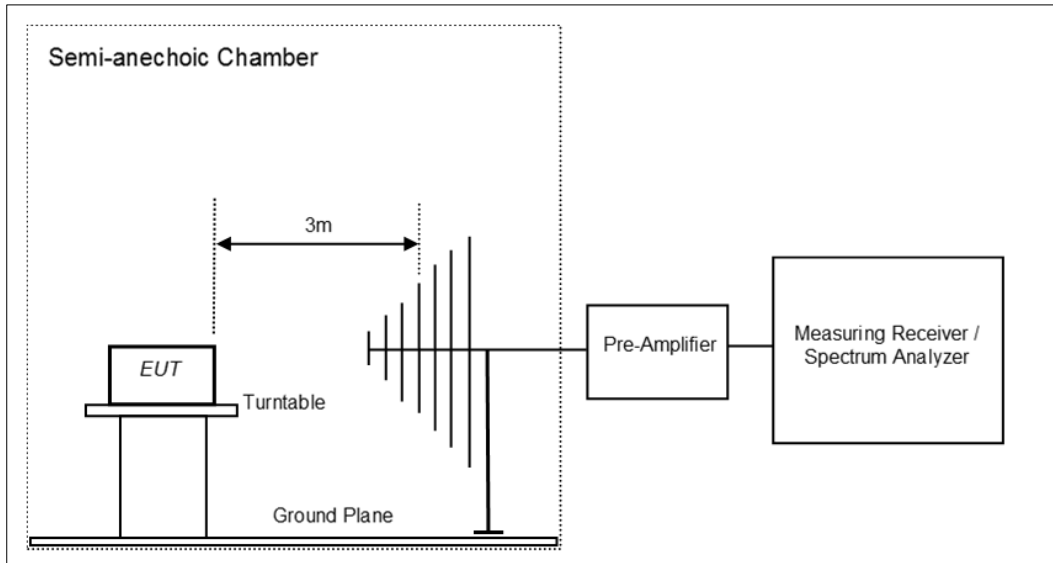
### 6.2.1 Test Setup Configuration



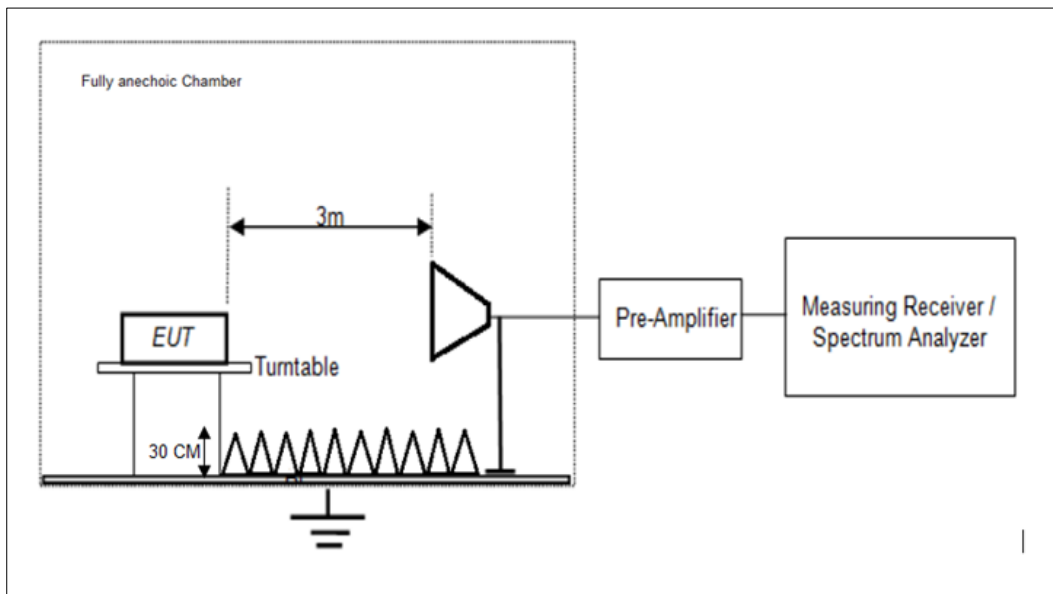
**Figure 1: Frequency Range 9 kHz- 30 MHz**



**Figure 2: Frequency Range 30 MHz – 200 MHz**



**Figure 3: Frequency Range 200 MHz - 1GHz**



**Figure 4: Frequency Range above 1 GHz**



## 7 TEST RESULTS

### 7.1 Emission Bandwidth Result

**Pass**

Test Specification	FCC part 15 Subpart C & E, 15.247 (a) (2), 15.407 (a) & (e) RSS Gen Issue 5, section 6.7 & RSS 247 Issue 3, section 6.2.1.1 & 6.2.4.1
Test Method	Subclause 12.4.1 of ANSI C63.10 for emission Bandwidth Subclause 6.93 of ANSI C63.10 for Occupied channel Bandwidth
Measurement Bandwidth	Refer Test Method below
Detector	Refer Test Method below
Port of testing	Antenna port
Requirement	1. 99% emission band width measurement for reporting purpose only in the band 5150-5250 MHz  2. For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz

#### Test Method



#### The following procedure shall be used for measuring (99%) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency
2. Set span = 1.5 times to 5.0 times the OBW
3. Set RBW = 1% to 5% of the OBW
4. Set VBW  $\geq 3 \times$  RBW
5. Use the 99% power bandwidth function of the instrument
6. Use sample detector with single sweep mode, or use Peak detector and Max Hold mode (until the trace is stabilized)

#### The following procedure shall be used for measuring 6dB or 26dB emission bandwidth:

1. Set center frequency to the nominal EUT channel center frequency
2. Set span = 1.5 times to 5.0 times the OBW
3. Set RBW = 1% to 5% of the OBW (for 26 dB BW) & 100 kHz (for 6dB BW)
4. Set VBW  $\geq 3 \times$  RBW
5. Determine the “-xx dB down amplitude” using [(reference value) - xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument.

**Note :** All the steps in measurement method of KDB 789033 D02, ANSI C63.10 section 6.9.2 & 6.9.3, are followed

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 18 von 137**  
Page 18 of 137

**Test Condition:**

**Normal Test Condition:**

Temperature (Norm) = + 22.6 °C      Voltage = 56VDC through POE Injector      Relative humidity: 62 %

**KDB Guidelines applied:**

Measurements were made as per section C & D in KDB 789033 D02 General UNII Test Procedures New Rules v02r01

**Test results**

**Note:**

1. All the losses are included during measurement
2. Testing has been performed in single chain mode condition.
3. Testing is performed with the maximum Power level setting

**Note: Refer Attached Appendix for test Plots**

Bandwidth	Mode	Data rate	Band	Channel frequency	Measured Emission Bandwidth 26dB (MHz)	Measured Emission Bandwidth 6dB (MHz)	Measured 99% Bandwidth (MHz)
20	a	6Mbps	UNII 1	5180	19.60	-	16.40
				5240	19.60	-	16.40
			UNII 3	5745	-	16.40	16.40
				5825	-	16.40	16.40
		54Mbps	UNII 1	5180	21.50	-	16.60
				5240	21.60	-	16.70
UNII 3	5745		-	16.60	16.60		
	5825	-	16.60	16.60			
20	n	MCS0	UNII 1	5180	21.50	-	17.60
				5240	20.90	-	17.60
			UNII 3	5745	-	17.65	17.60
		5825		-	17.65	17.60	
		MCS7	UNII 1	5180	20.70	-	17.70
				5240	20.90	-	17.60
UNII 3	5745		-	17.65	17.60		
	5825	-	17.65	17.60			
20	ac	MCS0	UNII 1	5180	21.60	-	17.50
				5240	20.80	-	17.60
			UNII 3	5745	-	17.65	17.60
		5825		-	17.85	17.80	
		MCS8	UNII 1	5180	22.00	-	17.90
				5240	22.30	-	17.90
UNII 3	5745		-	17.90	17.90		
	5825	-	17.90	17.90			
20	ax	MCS0	UNII 1	5180	21.40	-	18.90
				5240	21.60	-	19.00
			UNII 3	5745	-	18.95	19.00
		5825		-	18.85	19.00	
		MCS11	UNII 1	5180	22.70	-	19.10
				5240	23.00	-	19.10
UNII 3	5745		-	19.25	19.20		
	5825	-	19.20	19.20			

Bandwidth	Mode	Data rate	Band	Channel frequency (MHz)	Measured Emission Bandwidth 26dB (MHz)	Measured Emission Bandwidth 6dB (MHz)	Measured 99% Bandwidth (MHz)
40	n	MCS0	UNII 1	5190	43.13	-	36.25
				5230	40.22	-	36.25
			UNII 3	5755	-	35.80	36.25
		5795		-	35.80	36.25	
		MCS7	UNII 1	5190	46.22	-	36.75
				5230	46.37	-	36.75
UNII 3	5755		-	36.60	36.75		
	5795	-	36.60	36.75			
40	ac	MCS0	UNII 1	5190	39.76	-	36.25
				5230	39.92	-	36.25
			UNII 3	5755	-	36.35	36.25
		5795		-	36.00	36.25	
		MCS9	UNII 1	5190	46.97	-	36.75
				5230	44.57	-	36.75
UNII 3	5755		-	36.60	36.75		
	5795	-	36.60	36.75			
40	ax	MCS0	UNII 1	5190	43.07	-	37.75
				5230	41.12	-	37.75
			UNII 3	5755	-	38.05	38.00
		5795		-	38.00	38.00	
		MCS11	UNII 1	5190	44.12	-	38.25
				5230	44.57	-	38.25
UNII 3	5755		-	38.35	38.25		
	5795	-	38.25	38.25			

Bandwidth	Mode	Data rate	Band	Channel frequency(MHz)	Measured Emission Bandwidth 26dB (MHz)	Measured Emission Bandwidth 6dB (MHz)	Measured 99% Bandwidth (MHz)
80	ac	MCS0	UNII 1	5210	82.80	-	75.50
			UNII 3	5775	-	75.2	75.50
		MCS9	UNII 1	5210	90.37	-	76.50
			UNII 3	5775	-	76.55	76.50
80	ax	MCS0	UNII 1	5210	87.09	-	77.50
			UNII 3	5775	-	77.9	77.50
		MCS11	UNII 1	5210	89.09	-	78.50
			UNII 3	5775	-	78.30	77.50

## 7.2 Maximum Conducted Output Power

### Result

**Pass**

Test Specification	FCC part 15 Subpart C 15.247(b) & Subpart E 15.407 (a) & RSS-247 Issue 3 Section 6.2.1 & 6.2.4
Test Method	Subclause 12.3.3.2 of ANSI C63.10
Measurement Bandwidth	Refer the remarks below
Detector	Average sample detector mode
Port of testing	Antenna port
Requirement for FCC	Please Refer the Below limits

### Limits:

#### For FCC 15.407(a):

1. For an outdoor access point operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
2. For fixed point-to-point access points operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U–NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
3. For the band 5.725–5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U–NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 21 von 137**  
Page 21 of 137

**For ISED according to RSS-247 Clause 6.2**

**For Frequency band:5150MHz to 5250MHz:**

LE-LAN devices are restricted to indoor operation only in the band 5150-5250 MHz. However, original equipment manufacturer (OEM) devices, which are installed in vehicles by vehicles manufacturers, are permitted.

**Power limits**

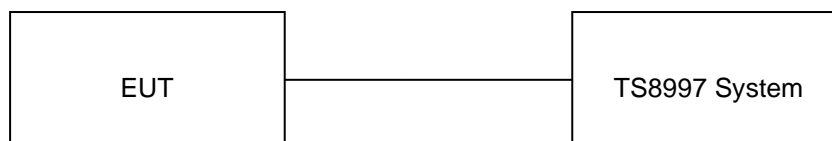
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or  $1.76 + 10 \log_{10} B$ , dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or  $10 + 10 \log_{10} B$ , dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

**For Frequency band:5725MHz to 5850MHz**

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint3 systems, omnidirectional applications and multiple collocated transmitters transmitting the same information

**Test Method**



**Test Condition:**

**Normal Test Condition:**

Temperature (Norm) = + 22.6 °C      Voltage = 56VDC through POE Injector      Relative humidity: 62 %

**KDB Guidelines applied:**

Measurements were made as per section E 3 sub-section (b) in KDB 789033 D02 General UNII Test Procedures New Rules v02r01

**Test results:**

**Note:**

1. All the losses are included during measurement.
2. Testing has been performed in MIMO mode condition.

**Antenna type & Antenna Gain:** Omni Antenna & 12dBi

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
20	a	6	5180	20.47	24.00	-
			5240	20.56	24.00	-
			5745	22.12	24.00	24.00
			5825	22.22	24.00	24.00
		54	5180	20.50	24.00	-
			5240	20.63	24.00	-
			5745	22.15	24.00	24.00
			5825	22.20	24.00	24.00
20	n	MCS0	5180	20.29	24.00	-
			5240	20.45	24.00	-
			5745	22.03	24.00	24.00
			5825	22.05	24.00	24.00
		MCS7	5180	20.29	24.00	-
			5240	20.44	24.00	-
			5745	21.93	24.00	24.00
			5825	22.04	24.00	24.00
20	ac	MCS0	5180	20.32	24.00	-
			5240	20.41	24.00	-
			5745	21.91	24.00	24.00
			5825	22.07	24.00	24.00
		MCS8	5180	20.67	24.00	-
			5240	20.82	24.00	-
			5745	22.28	24.00	24.00
			5825	22.42	24.00	24.00
20	ax	MCS0	5180	20.57	24.00	-
			5240	20.68	24.00	-
			5745	22.25	24.00	24.00
			5825	22.36	24.00	24.00
		MCS11	5180	20.94	24.00	-
			5240	21.13	24.00	-
			5745	22.67	24.00	24.00
			5825	22.79	24.00	24.00

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
40	n	MCS0	5190	15.14	24.00	-
			5230	15.41	24.00	-
			5755	22.21	24.00	24.00
			5795	22.17	24.00	24.00
		MCS7	5190	15.21	24.00	-
			5230	15.44	24.00	-
			5755	22.33	24.00	24.00
40	ac	MCS0	5190	15.13	24.00	-
			5230	15.36	24.00	-
			5755	22.17	24.00	24.00
			5795	22.13	24.00	24.00
		MCS9	5190	15.31	24.00	-
			5230	15.49	24.00	-
			5755	22.37	24.00	24.00
40	ax	MCS0	5190	15.34	24.00	-
			5230	15.57	24.00	-
			5755	22.39	24.00	24.00
			5795	22.35	24.00	24.00
		MCS11	5190	15.63	24.00	-
			5230	15.84	24.00	-
			5755	22.68	24.00	24.00
			5795	22.64	24.00	24.00

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
80	ac	MCS0	5210	16.06	24.00	-
			5775	10.54	24.00	24.00
		MCS9	5210	16.23	24.00	-
			5775	21.11	24.00	24.00
80	ax	MCS0	5210	16.34	24.00	-
			5775	21.18	24.00	24.00
		MCS11	5210	16.61	24.00	-
			5775	21.49	24.00	24.00

**Note:**

1. This is an Outdoor AP, and this band from 5150MHz to 5250MHz Only for FCC use
2. The duty cycle correction factor is added into the test data
3. The antenna Gain is 12dBi, the device employed Cyclic Dealy diversity (CDD) for MIMO 802.11 transmitters per KDB 662911D01 Multiple transmitter output v02r01, for Power measurement on 802.11 devices  
Array gain =0dB(i.e., no array gain) for  $N_{ANT} \leq 4$ ;  
So directional gain = 12dBi

**Antenna Type & Antenna Gain:** Integrated Panel Antenna & 19dBi

BW	Mode	Data Rate	Channel frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
20	a	6	5180	14.53	30.00	-
			5240	14.50	30.00	-
			5745	18.80	30.00	30.00
			5825	18.29	30.00	30.00
		54	5180	14.57	30.00	-
			5240	14.51	30.00	-
			5745	18.85	30.00	30.00
			5825	18.34	30.00	30.00
	n	MCS0	5180	14.27	30.00	-
			5240	14.42	30.00	-
			5745	18.64	30.00	30.00
			5825	18.21	30.00	30.00
		MCS7	5180	14.69	30.00	-
			5240	14.63	30.00	-
			5745	18.94	30.00	30.00
			5825	18.42	30.00	30.00
	ac	MCS0	5180	14.27	30.00	-
			5240	17.46	30.00	-
			5745	18.60	30.00	30.00
			5825	18.16	30.00	30.00
		MCS8	5180	14.67	30.00	-
			5240	17.89	30.00	-
			5745	19.00	30.00	30.00
			5825	18.51	30.00	30.00
	ax	MCS0	5180	14.60	30.00	-
			5240	17.75	30.00	-
			5745	18.97	30.00	30.00
			5825	18.44	30.00	30.00
MCS11		5180	15.02	30.00	-	
		5240	18.19	30.00	-	
		5745	19.38	30.00	30.00	
		5825	18.87	30.00	30.00	



BW	Mode	Data Rate	Channel frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
40	n	MCS0	5190	10.05	30.00	-
			5230	15.51	30.00	-
			5755	15.87	30.00	30.00
			5795	16.71	30.00	30.00
		MCS7	5190	10.13	30.00	-
			5230	15.60	30.00	-
			5755	15.99	30.00	30.00
			5795	16.82	30.00	30.00
	ac	MCS0	5190	10.04	30.00	-
			5230	15.50	30.00	-
			5755	15.88	30.00	30.00
			5795	16.72	30.00	30.00
		MCS9	5190	10.19	30.00	-
			5230	15.61	30.00	-
			5755	16.00	30.00	30.00
			5795	16.87	30.00	30.00
	ax	MCS0	5190	10.21	30.00	-
			5230	15.68	30.00	-
			5755	16.07	30.00	30.00
			5795	16.86	30.00	30.00
MCS11		5190	10.51	30.00	-	
		5230	15.95	30.00	-	
		5755	16.36	30.00	30.00	
		5795	17.17	30.00	30.00	

BW	Mode	Data Rate	Channel frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
80	ac	MCS0	5210	8.81	30.00	-
			5775	10.50	30.00	30.00
		MCS9	5210	9.02	30.00	-
			5775	10.66	30.00	30.00
	ax	MCS0	5210	9.30	30.00	-
			5775	10.78	30.00	30.00
		MCS11	5210	9.55	30.00	-
			5775	11.00	30.00	30.00

**Note:**

1. This is Fixed Point-point AP Application
2. The frequency band 5150MHz to 5250MHz is only for FCC Use
3. The duty cycle correction factor is added in the final test data
4. The antenna gain is 19dBi. The device employed cyclic delay diversity (CDD) for 802.11 MIMO Transmitting per KDB 662911D01 Multiple transmitter output v02r01, for power measurements on IEEE 802.11 devices Array Gain =0dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;  
So,  
Directional gain =19dBi for 5150MHz to 5250MHz & 5725MHz to 5850MHz

**Antenna type & Antenna Gain:** Sector Antenna & 21dBi

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
20	a	6	5180	14.68	30.00	-
			5240	14.77	30.00	-
			5745	16.37	30.00	30.00
			5825	16.25	30.00	30.00
		54	5180	14.65	30.00	-
			5240	14.78	30.00	-
			5745	16.28	30.00	30.00
			5825	16.20	30.00	30.00
20	n	MCS0	5180	14.46	30.00	-
			5240	14.65	30.00	-
			5745	16.08	30.00	30.00
			5825	16.05	30.00	30.00
		MCS7	5180	14.50	30.00	-
			5240	14.89	30.00	-
			5745	16.45	30.00	30.00
			5825	16.31	30.00	30.00
20	ac	MCS0	5180	14.41	30.00	-
			5240	14.58	30.00	-
			5745	17.16	30.00	30.00
			5825	17.35	30.00	30.00
		MCS8	5180	14.66	30.00	-
			5240	14.81	30.00	-
			5745	17.33	30.00	30.00
			5825	17.38	30.00	30.00
20	ax	MCS0	5180	14.54	30.00	-
			5240	14.74	30.00	-
			5745	17.38	30.00	30.00
			5825	17.29	30.00	30.00
		MCS11	5180	15.11	30.00	-
			5240	15.17	30.00	-
			5745	17.79	30.00	30.00
			5825	17.78	30.00	30.00

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
40	n	MCS0	5190	12.61	30.00	-
			5230	14.83	30.00	-
			5755	17.47	30.00	30.00
			5795	17.09	30.00	30.00
		MCS7	5190	12.59	30.00	-
			5230	14.85	30.00	-
			5755	17.56	30.00	30.00
			5795	17.23	30.00	30.00
40	ac	MCS0	5190	13.49	30.00	-
			5230	14.71	30.00	-
			5755	17.16	30.00	30.00
			5795	17.35	30.00	30.00
		MCS9	5190	13.66	30.00	-
			5230	14.87	30.00	-
			5755	17.33	30.00	30.00
			5795	17.38	30.00	30.00
40	ax	MCS0	5190	12.65	30.00	-
			5230	14.94	30.00	-
			5755	17.62	30.00	30.00
			5795	17.28	30.00	30.00
		MCS11	5190	11.82	30.00	-
			5230	15.22	30.00	-
			5755	17.9	30.00	30.00
			5795	17.58	30.00	30.00

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
80	ac	MCS0	5210	12.45	30.00	-
			5775	10.78	30.00	30.00
		MCS9	5210	12.7	30.00	-
			5775	12.08	30.00	30.00
80	ax	MCS0	5210	12.77	30.00	-
			5775	12.15	30.00	30.00
		MCS11	5210	11.72	30.00	-
			5775	12.38	30.00	30.00

**Note:**

1. This is Fixed Point-point AP Application
2. The frequency band 5150MHz to 5250MHz is only for FCC Use
3. The duty cycle correction factor is added in the final test data
4. The antenna gain is 21dBi. The device employed cyclic delay diversity (CDD) for 802.11 MIMO Transmitting per KDB 662911D01 Multiple transmitter output v02r01, for power measurements on IEEE 802.11 devices  
Array Gain =0dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;  
So,  
Directional gain =21dBi for 5150MHz to 5250MHz & 5725MHz to 5850MHz

**Antenna Type & Antenna Gain: Panel Antenna & 28dBi**

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
20	a	6	5180	12.11	25.00	-
			5240	12.27	25.00	-
			5745	16.37	30.00	30.00
			5825	16.25	30.00	30.00
		54	5180	12.21	25.00	-
			5240	12.35	25.00	-
			5745	16.28	30.00	30.00
			5825	16.20	30.00	30.00
20	n	MCS0	5180	13.16	25.00	-
			5240	13.4	25.00	-
			5745	16.08	30.00	30.00
			5825	16.05	30.00	30.00
		MCS7	5180	13.18	25.00	-
			5240	13.40	25.00	-
			5745	16.45	30.00	30.00
			5825	16.31	30.00	30.00
20	ac	MCS0	5180	13.10	25.00	-
			5240	13.41	25.00	-
			5745	17.16	30.00	30.00
			5825	17.35	30.00	30.00
		MCS8	5180	13.40	25.00	-
			5240	13.55	25.00	-
			5745	17.33	30.00	30.00
			5825	17.38	30.00	30.00
20	ax	MCS0	5180	13.35	25.00	-
			5240	13.53	25.00	-
			5745	17.38	30.00	30.00
			5825	17.29	30.00	30.00
		MCS11	5180	13.75	25.00	-
			5240	14.00	25.00	-
			5745	17.79	30.00	30.00
			5825	17.78	30.00	30.00

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
40	n	MCS0	5190	12.95	25.00	-
			5230	13.35	25.00	-
			5755	17.47	30.00	30
			5795	17.09	30.00	30
		MCS7	5190	13.15	25.00	-
			5230	13.47	25.00	-
			5755	17.56	30.00	30
			5795	17.23	30.00	30
40	ac	MCS0	5190	13.00	25.00	-
			5230	13.38	25.00	-
			5755	17.16	30.00	30
			5795	17.35	30.00	30
		MCS9	5190	13.21	25.00	-
			5230	13.51	25.00	-
			5755	17.33	30.00	30
			5795	17.38	30.00	30
40	ax	MCS0	5190	13.21	25.00	-
			5230	13.50	25.00	-
			5755	17.62	30.00	30
			5795	17.28	30.00	30
		MCS11	5190	13.08	25.00	-
			5230	13.45	25.00	-
			5755	17.90	30.00	30
			5795	17.58	30.00	30

BW	Mode	Data rate	Channel Frequency (MHz)	Measured Power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
80	ac	MCS0	5210	12.96	25.00	-
			5775	10.49	30.00	30.00
		MCS9	5210	13.26	25.00	-
			5775	10.73	30.00	30.00
80	ax	MCS0	5210	13.27	25.00	-
			5775	10.79	30.00	30.00
		MCS11	5210	13.57	25.00	-
			5775	10.26	30.00	30.00

**Note:**

1. This is Fixed Point-point AP Application
2. The frequency band 5150MHz to 5250MHz is only for FCC Use
3. The duty cycle correction factor is added in the final test data
4. The antenna gain is 28dBi, The device employed cyclic delay diversity (CDD) for 802.11 MIMO Transmitting per KDB 662911D01 Multiple transmitter output v02r01, for power measurements on IEEE 802.11 devices. Array Gain =0dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

So,

Directional gain: 28dBi for 5150MHz to 5250MHz & 5725MHz to 5850MHz

**Antenna Type & Antenna Gain: 35dBi**

Bandwidth (MHz)	Mode	Data rate	Band	Channel frequency (MHz)	Measured Conducted power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
20	a	6Mbps	UNII 1	5180	4.10	18.00	-
				5240	4.11	18.00	-
			UNII 3	5745	17.31	30.00	30.00
		5825		17.23	30.00	30.00	
		54Mbps	UNII 1	5180	3.96	18.00	-
				5240	4.03	18.00	-
	UNII 3		5745	17.30	30.00	30.00	
		5825	17.26	30.00	30.00		
	n	MCS 0	UNII 1	5180	3.92	18.00	-
				5240	3.94	18.00	-
			UNII 3	5745	17.08	30.00	30.00
		5825		17.02	30.00	30.00	
		MCS 7	UNII 1	5180	3.86	18.00	-
				5240	4.07	18.00	-
	UNII 3		5745	17.43	30.00	30.00	
		5825	17.40	30.00	30.00		
	ac	MCS 0	UNII 1	5180	3.83	18.00	-
				5240	4.05	18.00	-
			UNII 3	5745	17.09	30.00	30.00
		5825		17.40	30.00	30.00	
		MCS 8	UNII 1	5180	3.99	18.00	-
				5240	4.07	18.00	-
	UNII 3		5745	17.42	30.00	30.00	
		5825	17.44	30.00	30.00		
ax	MCS 0	UNII 1	5180	3.63	18.00	-	
			5240	3.80	18.00	-	
		UNII 3	5745	17.37	30.00	30.00	
	5825		17.31	30.00	30.00		
	MCS 11	UNII 1	5180	4.31	18.00	-	
			5240	4.37	18.00	-	
UNII 3		5745	17.86	30.00	30.00		
	5825	17.75	30.00	30.00			

Bandwidth (MHz)	Mode	Data rate	Band	Channel frequency (MHz)	Measured Conducted power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
40	n	MCS 0	UNII 1	5190	4.18	18.00	-
				5230	3.94	18.00	-
		UNII 3	5755	15.45	30.00	30.00	
			5795	15.10	30.00	30.00	
		MCS 7	UNII 1	5190	4.21	18.00	-
				5230	3.95	18.00	-
	UNII 3	5755	15.58	30.00	30.00		
		5795	15.22	30.00	30.00		
	ac	MCS 0	UNII 1	5190	4.06	18.00	-
				5230	3.96	18.00	-
		UNII 3	5755	17.48	30.00	30.00	
			5795	17.08	30.00	30.00	
		MCS 9	UNII 1	5190	4.25	18.00	-
				5230	4.00	18.00	-
	UNII 3	5755	17.62	30.00	30.00		
		5795	17.27	30.00	30.00		
	ax	MCS 0	UNII 1	5190	3.98	18.00	-
				5230	3.88	18.00	-
		UNII 3	5755	17.65	30.00	30.00	
			5795	17.30	30.00	30.00	
		MCS 11	UNII 1	5190	4.33	18.00	-
				5230	4.01	18.00	-
	UNII 3	5755	17.89	30.00	30.00		
		5795	17.57	30.00	30.00		

Bandwidth (MHz)	Mode	Data rate	Band	Channel frequency (MHz)	Measured Conducted power (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
80	ac	MCS0	UNII 1	5210	3.56	18.00	-
			UNII 3	5775	12.49	30.00	30.00
		MCS9	UNII 1	5210	3.62	18.00	-
			UNII 3	5775	12.73	30.00	30.00
80	ax	MCS0	UNII 1	5210	3.64	18.00	-
			UNII 3	5775	12.79	30.00	30.00
		MCS11	UNII 1	5210	3.70	18.00	-
			UNII 3	5775	12.26	30.00	30.00

**Note:**

1. This is Fixed Point-point AP Application
2. The frequency band 5150MHz to 5250MHz is only for FCC Use
3. The duty cycle correction factor is added in the final test data
4. The antenna gain is 35dBi, The device employed cyclic delay diversity (CDD) for 802.11 MIMO Transmitting per KDB 662911D01 Multiple transmitter output v02r01, for power measurements on IEEE 802.11 devices. Array Gain =0dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

So,  
Directional gain =35dBi

### 7.3 Maximum Power Spectral Density

**Result**

**Pass**

Test Specification	FCC part 15 Subpart E 15.407 (a) & RSS-247 Issue 3 Clause 6.2.1 & 6.2.4
Test Method	Subclause 12.5 of ANSI C63.10
Measurement Bandwidth	300kHz/1 MHz
Detector	Average sample detector
Port of testing	Antenna port
Requirement for FCC & IC	Please Refer the below the limit

**Limits:**

For FCC 15.407(a):

1. For an outdoor access point operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
2. For fixed point-to-point access points operating in the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U–NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U–NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.



3. For the band 5.725–5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U–NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U–NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations

**According to RSS 247 Issue 3 Clause 6.2**

**Frequency band: 5150MHz to 5250MHz**

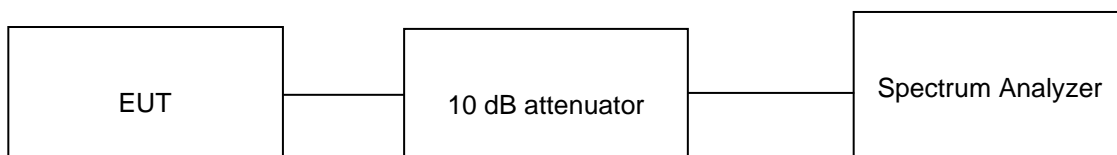
For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or  $1.76 + 10 \log_{10} B$ , dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or  $10 + 10 \log_{10} B$ , dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

**Frequency band: 5725MHz to 5850MHz**

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information

**Test Method:**



**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 34 von 137**  
Page 34 of 137

**The following procedure shall be used:**

1. Set center frequency to the nominal EUT channel center frequency
2. Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal
3. Set RBW = 1MHz (5.15-5.25 GHz band) / 500kHz (5.725-5.85 GHz band)
4. Set VBW  $\geq 3 \times$  RBW
5. Number of points in sweep  $\geq 2 \times$  span / RBW. (This ensures that bin-to-bin spacing is  $\leq$  RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto
7. Detector = power averaging (rms), if available. Otherwise, use sample detector mode
8. Do not use sweep triggering. Allow the sweep to "free run."
9. Trace average at least 100 traces and Compute power by integrating the spectrum across the EBW
10. Add  $10 \log (1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission)
11. If measurements are performed using a reduced resolution bandwidth ( $< 1$  MHz, or  $< 500$  kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:
  - a. Set RBW = 300 kHz
  - b. Set VBW  $\geq 3 \times$  RBW
  - c. If measurement bandwidth of Maximum PSD is specified in 500 kHz

$$\text{PSD bandwidth correction Factor} = 10 * \log (500 \text{ kHz} / \text{RBW})$$

**Test Condition:**

**Normal Test Condition:**

Temperature (Norm) = + 22.6 °C      Voltage = 56VDC through POE Injector      Relative humidity: 62 %

**KDB Guidelines applied:**

Measurements were made as per section F in KDB 789033 D02 General UNII Test Procedures New Rules v02r01

**Test results:**

**Note:**

1. All the losses are included during measurement and final values are mentioned in the test report
  2. Duty cycle correction factor is considered in Final Average power
- Duty cycle Correction factor =  $10 * \text{LOG} (1/X)$  Where X is Duty Cycle

**Note: Refer Attached Appendix for test Plots**

**Antenna Type & Antenna Gain:** Omni Antenna & 12dBi

**Bandwidth: 20MHz**

Mode	Data rate	Channel Frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty correction Factor (dB)	BW correction Factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
a	6	5180	-5.21	-4.27	-5.21	-5.28	0.27	-	1.32	5.00	-
		5240	-3.66	-4.64	-6.24	-3.46	0.27	-	1.92	5.00	-
		5745	-8.47	-9.30	-8.78	-8.61	0.27	2.21	-0.28	24.00	24
		5825	-8.04	-8.16	-7.54	-7.10	0.27	2.21	0.81	24.00	24
n	MCS0	5180	-10.60	-7.77	-8.78	-7.93	0.60	-	-2.01	5.00	-
		5240	-9.23	-6.03	-9.52	-8.55	0.60	-	-1.47	5.00	-
		5745	-12.99	-12.23	-17.40	-10.76	0.60	2.21	-3.92	24.00	24
		5825	-15.27	-12.77	-14.24	-14.72	0.60	2.21	-5.32	24.00	24
ac	MCS0	5180	-6.98	-9.14	-8.37	-8.16	0.59	-	-1.48	5.00	-
		5240	-7.33	-6.28	-8.50	-7.77	0.59	-	-0.78	5.00	-
		5745	-14.14	-11.46	-16.13	-11.94	0.59	2.21	-4.23	24.00	24
		5825	-14.73	-14.23	-14.30	-12.25	0.59	2.21	-4.94	24.00	24
ax	MCS0	5180	-5.44	-4.81	-5.75	-4.54	0.24	-	1.15	5.00	-
		5240	-3.06	-4.26	-4.47	-4.67	0.24	-	2.19	5.00	-
		5745	-10.39	-8.43	-9.68	-8.98	0.24	2.21	-0.84	24.00	24
		5825	-10.47	-9.58	-11.12	-8.66	0.24	2.21	-1.39	24.00	24

**Bandwidth: 40MHz**

Mode	Data rate	Channel Frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty correction Factor (dB)	BW correction Factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
n	MCS0	5190	-18.62	-15.02	-18.39	-17.49	0.58	-	-10.53	5.00	-
		5230	-16.74	-18.45	-17.72	-17.39	0.58	-	-10.93	5.00	-
		5755	-13.73	-15.77	-17.93	-16.15	0.58	2.21	-6.83	24.00	24
		5795	-14.33	-17.10	-16.91	-14.47	0.58	2.21	-6.7	24.00	24
ac	MCS0	5190	-17.96	-18.26	-18.69	-15.63	0.59	-	-10.85	5.00	-
		5230	-16.97	-17.53	-16.65	-15.90	0.59	-	-10.11	5.00	-
		5755	-16.08	-16.60	-16.20	-16.17	0.59	2.21	-7.44	24.00	24
		5795	-16.59	-15.25	-17.69	-15.64	0.59	2.21	-7.37	24.00	24
ax	MCS0	5190	-13.13	-11.77	-13.70	-13.40	0.59	-	-6.32	5.00	-
		5230	-12.69	-12.28	-13.79	-13.68	0.59	-	-6.45	5.00	-
		5755	-12.36	-12.35	-12.31	-11.60	0.59	2.21	-3.32	24.00	24
		5795	-12.58	-13.64	-14.70	-11.15	0.59	2.21	-4.00	24.00	24

**Bandwidth: 80MHz**

Mode	Data rate	Channel Frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty correction Factor (dB)	BW Correction Factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
ac	MCS0	5210	-26.76	-21.77	-24.46	-23.46	0.60	-	-17.13	5.00	-
		5775	-15.07	-15.61	-14.92	-15.15	0.60	2.21	-6.35	24.00	24
ax	MCS0	5210	-20.14	-20.89	-22.79	-24.82	0.24	-	-15.55	5.00	-
		5775	-9.23	-8.97	-12.41	-13.73	0.24	2.21	-2.16	24.00	24

**Note:**

The Maximum antenna gain is 12dBi in 5GHz band. The device employed cyclic delay diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for Power Spectral Density (PSD) measurements on the devices:

Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB

So: Directional Gain = GANT + Array Gain = 12dBi +  $10 \log(4/1)$  = 18dBi

**Antenna type & Antenna Gain:** Integrated Panel Antenna & 19dBi

**Bandwidth: 20MHz**

Mode	Data Rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction factor (dB)	Bandwidth Correction Factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
a	6	5180	-0.51	1.9	2.35	1.53	0.27	-	7.73	15	-
		5240	1.34	3.26	2.27	2.78	0.27	-	8.76	15	-
		5745	0.16	0.03	-0.73	-1.24	0.27	2.21	8.09	30	30
		5825	-0.31	-0.28	-1.03	-0.32	0.27	2.21	8.03	30	30
n	MCS0	5180	0.61	1.93	1.6	1.07	0.6	-	7.95	15	-
		5240	1.26	2.4	1.57	-7.13	0.6	-	7.32	15	-
		5745	-0.92	-0.16	-1.61	-1.44	0.6	2.21	7.84	30	30
		5825	-1.81	-0.73	-1.06	-1.07	0.6	2.21	7.68	30	30
ac	MCS0	5180	0.55	2.08	1.33	-4.1	0.59	-	7.12	15	-
		5240	0.99	2.04	1.37	-0.87	0.59	-	7.62	15	-
		5745	-1.42	-0.003	2.96	-5	0.59	2.21	8.84	30	30
		5825	-1.16	-0.32	3.13	-6.55	0.59	2.21	8.79	30	30
ax	MCS0	5180	1.27	2.19	2.08	-4.23	0.24	-	7.22	15	-
		5240	1.54	2.47	2.38	-0.92	0.24	-	7.82	15	-
		5745	-0.76	0.45	-0.95	-4	0.24	2.21	7.43	30	30
		5825	-1.23	-0.86	-1.23	-5.88	0.24	2.21	6.58	30	30

**Bandwidth: 40MHz**

Mode	Data Rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction factor (dB)	Band width Correction factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
n	MCS0	5190	-10.52	-11.68	-12.02	-11.63	0.58	-	-4.82	15	-
		5230	-7.03	-6.81	-6.57	-6.95	0.58	-	-0.24	15	-
		5755	-12.36	-11.25	-11.08	-10.85	0.58	2.21	-2.54	30	30
		5795	-10.2	-10.22	-10.58	-10.35	0.58	2.21	-1.52	30	30
ac	MCS0	5190	-11.37	-11.28	-12.24	-11.81	0.58	-	-5.06	15	-
		5230	-6.61	-6.92	-6.86	-7.13	0.58	-	-0.28	15	-
		5755	-12.87	-10.79	-11.41	-10.81	0.58	2.21	-2.58	30	30
		5795	-10.31	-10.1	-10.17	-10.48	0.58	2.21	-1.45	30	30
ax	MCS0	5190	-11.45	-10.97	-11.47	-11.81	0.59	-	-4.80	15	-
		5230	-6.44	-5.99	-6.25	-6.39	0.59	-	0.35	15	-
		5755	-11.08	-10.77	-10.65	-10.89	0.59	2.21	-2.02	30	30
		5795	-9.8	-9.67	-9.85	-11.12	0.59	2.21	-1.25	30	30

**Bandwidth: 80MHz**

Mode	Data Rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction factor (dB)	Band width correction factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
ac	MCS0	5210	-16.18	-16.21	-16.32	-16.84	0.6	-	-9.76	17	-
		5775	-29.10	-19.29	-19.44	-19.89	0.6	2.21	2.95	30	30
ax	MCS0	5210	-14.91	-15.04	-15.42	-15.05	0.24	-	-8.84	17	-
		5775	-24.17	-18.58	-18.66	-18.9	0.24	2.21	2.62	30	30

**Antenna Type & Antenna Gain:** Sector Antenna & 21dBi

**Bandwidth: 20MHz**

Mode	Data rate	Channel Frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty correction Factor (dB)	BW Correction Factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
a	6	5180	-2.57	-5.07	-5.57	-4.34	0.27	-	2.06	17	-
		5240	-2.93	-4.50	-5.22	-3.75	0.27	-	2.27	17	-
		5745	-2.49	-6.1	-5.45	-3.77	0.27	2.21	4.28	30	30
		5825	-7.46	-8.97	-9.4	1.23	0.27	2.21	4.91	30	30
n	MCS0	5180	-2.34	-5.38	-6.58	-4.04	0.60	-	2.32	17	-
		5240	-4.62	-5.45	-5.87	-4.50	0.60	-	1.55	17	-
		5745	-5.87	-8.24	-7.45	-5.48	0.27	2.21	1.88	30	30
ac	MCS0	5825	-8.17	-9.64	-10.94	-8.47	0.27	2.21	-0.67	30	30
		5180	-2.60	-5.34	-6.48	-4.55	0.59	-	2.11	17	-
		5240	-3.11	-5.79	-6.33	-5.19	0.59	-	1.69	17	-
		5745	-5.74	-9.27	-8.85	-6.4	0.27	2.21	1.20	30	30
ax	MCS 11	5825	-7.86	-9.92	-10.51	-8.23	0.27	2.21	-0.49	30	30
		5180	-2.09	-4.45	-5.82	-3.69	0.24	-	2.46	17	-
		5240	-2.80	-4.60	-5.35	-4.26	0.24	-	2.11	17	-
		5745	-5.99	-9.37	-9.25	-6.75	0.27	2.21	0.92	30	30
		5825	-10.43	-12.89	-14.19	-10.81	0.27	2.21	-3.32	30	30

**Bandwidth:40MHz**

Mode	Data rate	Channel Frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty correction Factor (dB)	BW Correction Factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
n	MCS7	5190	-7.72	-10.09	-11.58	-8.68	0.58	-	-2.68	17.00	-
		5230	-5.93	-7.77	-9.25	-7.22	0.58	-	-0.78	17.00	-
		5755	-9.68	-13.25	-12.75	-10.49	0.27	2.21	-2.79	30.00	30
		5795	-12.39	-15.05	-15.68	-12.19	0.27	2.21	-5.06	30.00	30
ac	MCS0	5190	-6.12	-8.67	-10.30	-7.66	0.59	-	-1.32	17.00	-
		5230	-5.06	-8.15	-8.70	-7.61	0.59	-	-0.53	17.00	-
		5755	-8.67	-11.99	-12.08	-9	0.27	2.21	-1.64	30.00	30
		5795	-10.39	-13.31	-12.99	-10.38	0.27	2.21	-3.05	30.00	30
ax	MCS0	5190	-8.08	-9.25	-10.30	-8.08	0.59	-	-2.22	17.00	-
		5230	-6.55	-7.67	-8.70	-7.22	0.59	-	-0.86	17.00	-
		5755	-11.07	-12.95	-12.08	-9.65	0.27	2.21	-2.76	30.00	30
		5795	-11.18	-12.69	-12.99	-10.01	0.27	2.21	-3.05	30.00	30

**Bandwidth: 80MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction Factor (dB)	BW correction factor (dB)	Measured Total PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
ac	MCS0	5210	-11.63	-13.33	-14.03	-12.66	0.60	-	-6.20	17.00	-
		5775	-19.58	-20.96	-21.55	-19.08	0.60	2.21	-11.35	30.00	30
ax	MCS0	5210	-10.95	-12.41	-13.68	-11.70	0.24	-	-5.81	17.00	-
		5775	-18.08	-19.91	-19.54	-17.60	0.24	2.21	-10.2	30.00	30

**Note:**

The Maximum antenna gain is 21dBi in 5GHz band. Two sets of identical sector antenna should be installed. Each sector antenna has two cross polarized antennas per KDB. The device employed cyclic delay diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for Power Spectral Density (PSD) measurements on the devices:

- b) *Sectorized antenna systems.* In sectorized antenna systems in which each antenna is used to transmit different data in a different direction from the other antennas, directional gain is equal to the gain of an individual sector antenna.
- c) *Cross-polarized antennas.* For a system in which the antennas have fixed orientations relative to one another that ensure that the antennas are cross-polarized regardless of any user actions, the directional gain is computed as follows.
  - (i) *Cross-polarized antennas with  $N_{ANT} = 2$ .* In the case of a transmitter with only two outputs driving a pair of antennas that are cross-polarized (*e.g.*, vertical and horizontal or left-circular and right-circular), directional gain is the gain of an individual antenna. If the two antennas have different gains, the larger gain applies.

So: Directional Gain = GANT = 21dBi

**Antenna Type & Antenna Gain:** Panel Antenna & 28dBi

**Bandwidth: 20MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction Factor (dB)	BW Correction factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
a	6	5180	-6.72	-9.06	-8.88	-8.53	0.27	-	-1.90	12	-
		5240	-7.19	-8.41	-9.11	-9.22	0.27	-	-2.11	12	-
		5745	-2.49	-6.1	-5.45	-3.77	0.27	2.21	4.28	30	30
		5825	-10.58	-11.82	-11.34	-11.57	0.27	2.21	-2.80	30	30
n	MCS0	5180	-12.94	-15.63	-15.63	-13.22	0.6	-	-7.55	12	-
		5240	-12.33	-13.97	-16.36	-16.58	0.6	-	-7.83	12	-
		5745	-13.49	-18.12	-16.27	-15.15	0.6	2.21	-6.61	30	30
		5825	-14.55	-17.4	-17.22	-15.53	0.6	2.21	-7.18	30	30
ac	MCS8	5180	-10.6	-13.92	-16.01	-15.16	0.59	-	-6.78	12	-
		5240	-13.84	-12.56	-14.94	-13.08	0.59	-	-6.90	12	-
		5745	-16.97	-16.55	-15.59	-16.6	0.59	2.21	-7.58	30	30
		5825	-14.37	-15.37	-13.36	-14.61	0.59	2.21	-5.55	30	30
ax	MCS 11	5180	-7.61	-10.32	-10.36	-8.65	0.24	-	-2.82	12	-
		5240	-6.96	-8.84	-11.36	-10.9	0.24	-	-2.89	12	-
		5745	-9.06	-12.75	-12.22	-10.7	0.24	2.21	-2.47	30	30
		5825	-11.37	-11.1	-12.91	-10.89	0.24	2.21	-3.03	30	30

**Bandwidth: 40MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction Factor (dB)	BW Correction factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
n	MCS0	5190	-18.12	-15.51	-18.91	-16.33	0.58	-	-10.41	12	-
		5230	-14.91	-16.38	-18.35	-18.01	0.58	-	-10.09	12	-
		5755	-18.52	-19.98	-18.97	-16.96	0.58	2.21	-9.66	30	30
		5795	-18.21	-19.24	-20.51	-16.97	0.58	2.21	-9.73	30	30
ac	MCS9	5190	-13.78	-16.54	-16.28	-17.36	0.59	-	-9.16	12	-
		5230	-15.38	-15.74	-15.84	-16.61	0.59	-	-9.26	12	-
		5755	-17.65	-23.59	-20.28	-18.32	0.59	2.21	-10.61	30	30
		5795	-19.54	-20.16	-18.6	-19.54	0.59	2.21	-10.60	30	30
ax	MCS0	5190	-10.32	-11.45	-13.12	-13	0.59	-	-5.20	12	-
		5230	-9.88	-10.82	-13.14	-12.37	0.59	-	-4.76	12	-
		5755	-13.37	-15.57	-16.78	-13.86	0.59	2.21	-5.87	30	30
		5795	-14.43	-15.95	-15.69	-13.77	0.59	2.21	-6.05	30	30

**Bandwidth: 80MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction Factor (dB)	BW Correction factor (dB)	Measured Final PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
ac	MCS9	5210	-18.55	-19.58	-20.6	-19.33	0.24	-	-13.19	12	-
		5775	-24.2	-28.94	-26.68	-27.28	0.24	2.21	-22.38	30	30
ax	MCS11	5210	-13.01	-15.61	-15.1	-14.76	0.24	-	-8.24	12	-
		5775	-22.92	-23.25	-21.6	-21.71	0.24	2.21	-18.26	30	30

**Note:**

1. This is fixed Point to point AP application and the UNII-1 Band(5150MHz to 5250MHz) only for FCC
2. The Maximum antenna gain is 28dBi in UNII-1 & UNII-3 band. Two sets of identical antenna should be installed to transmit different data in a different directions from the other antennas, each antenna set has two cross polarized antennas The device employed cyclic delay diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for Power Spectral Density (PSD) measurements on the devices:

- b) *Sectorized antenna systems.* In sectorized antenna systems in which each antenna is used to transmit different data in a different direction from the other antennas, directional gain is equal to the gain of an individual sector antenna.
- c) *Cross-polarized antennas.* For a system in which the antennas have fixed orientations relative to one another that ensure that the antennas are cross-polarized regardless of any user actions, the directional gain is computed as follows.
- (i) *Cross-polarized antennas with  $N_{ANT} = 2$ .* In the case of a transmitter with only two outputs driving a pair of antennas that are cross-polarized (e.g., vertical and horizontal or left-circular and right-circular), directional gain is the gain of an individual antenna. If the two antennas have different gains, the larger gain applies.

So: Directional Gain = GANT = 28dBi



**Antenna Type & Antenna Gain: Dish Antenna & 35dBi**

**Bandwidth: 20MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction Factor (dB)	BW Corretion factor (dB)	Total PSD (dBm)	FCC Limit (dBm)	ISED Limit (dBm)
a	6Mbps	5180	-14.15	-14.36	-14.67	-14.99	0.27	-	-8.24	5	-
		5240	-13.88	-14.21	-14.85	-14.65	0.27	-	-8.09	5	-
		5745	-13.78	-10.04	-9.63	-9.03	0.27	2.21	-1.78	30	30
		5825	-10.48	-12.27	-12.05	-11.2	0.27	2.21	-2.94	30	30
n	MCS0	5180	-15.01	-15.01	-15.53	-15.23	0.6	-	-8.57	5	-
		5240	-14.64	-14.64	-15.64	-15.2	0.6	-	-8.39	5	-
		5745	-17.7	-14.94	-15.39	-15.14	0.6	2.21	-6.83	30	30
		5825	-14.56	-16.97	-17.98	-18.22	0.6	2.21	-7.84	30	30
ac	MCS0	5180	-14.55	-15.28	-15.36	-14.58	0.59	-	-8.32	5	-
		5240	-14.43	-14.67	-15.48	-16.08	0.59	-	-8.51	5	-
		5745	-16.15	-15.43	-15.33	-14.18	0.59	2.21	-6.39	30	30
		5825	-13.98	-18.47	-15.78	-16.82	0.59	2.21	-7.14	30	30
ax	MCS0	5180	-14.68	-14.81	-16.24	-15.3	0.24	-	-8.96	5	-
		5240	-14.37	-15.51	-15.31	-15.3	0.24	-	-8.84	5	-
		5745	-12.41	-10.66	-10.65	-10.04	0.24	2.21	-2.38	30	30
		5825	-13.44	-13.05	-10.9	-14.68	0.24	2.21	-4.32	30	30

**Bandwidth: 40MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction Factor (dB)	BW Corretion factor (dB)	Total PSD (dBm)	FCC limit (dBm)	ISED limit (dBm)
n	MCS0	5190	-17.33	-17.58	-17.45	-17.35	0.58	-	-10.83	5	-
		5230	-17.39	-17.54	-18.32	-17.6	0.58	-	-11.10	5	-
		5755	-18.34	-17.25	-17.57	-16.73	0.58	2.21	-8.62	30	30
		5795	-17.34	-18.38	-17.7	-18.43	0.58	2.21	-9.13	30	30
ac	MCS0	5190	-16.84	-17.22	-17.65	-17.28	0.59	-	-10.63	5	-
		5230	-17.22	-17.86	-18.28	-17.92	0.59	-	-11.19	5	-
		5755	-19.26	-16.77	-18.71	-16.18	0.59	2.21	-8.72	30	30
		5795	-18.85	-17.57	-19.06	-21.23	0.59	2.21	-10.17	30	30
ax	MCS0	5190	-17.23	-17.49	-17.68	-17.81	0.59	-	-10.94	5	-
		5230	-17.13	-17.54	-18.12	-17.9	0.59	-	-11.05	5	-
		5755	-15.96	-14.24	-13.71	-12.66	0.59	2.21	-5.16	30	30
		5795	-14.50	-14	-15.45	-15.58	0.59	2.21	-6.01	30	30

**Bandwidth:80MHz**

Mode	Data rate	Channel frequency (MHz)	Measured PSD Chain-1 (dBm)	Measured PSD Chain-2 (dBm)	Measured PSD Chain-3 (dBm)	Measured PSD Chain-4 (dBm)	Duty Correction factor (dB)	BW Corretion factor (dB)	Total PSD (dBm)	FCC limit (dBm)	ISED limit (dBm)
ac	MCS0	5210	-20.37	-21.28	-21.24	-21.05	0.6	-	-14.35	5	-
		5775	-28.24	-26.73	-26.78	-22.96	0.6	2.21	-16.86	30	30
ax	MCS0	5210	-19.8	-20.81	-20.92	-20.77	0.24	-	-14.29	5	-
		5775	-23.18	-21.79	-23.33	-20.78	0.24	2.21	-13.67	30	30

**Note:**

1. This is fixed Point to point AP application and the UNII-1 Band(5150MHz to 5250MHz) only for FCC
2. The Maximum antenna gain is 35dBi in UNII-1 & UNII-3 band. Two sets of identical antenna should be installed to transmit different data in a different directions from the other antennas, each antenna set has two cross polarized antennas The device employed cyclic delay diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for Power Spectral Density (PSD) measurements on the devices:

- b) *Sectorized antenna systems.* In sectorized antenna systems in which each antenna is used to transmit different data in a different direction from the other antennas, directional gain is equal to the gain of an individual sector antenna.
- c) *Cross-polarized antennas.* For a system in which the antennas have fixed orientations relative to one another that ensure that the antennas are cross-polarized regardless of any user actions, the directional gain is computed as follows.
  - (i) *Cross-polarized antennas with  $N_{ANT} = 2$ .* In the case of a transmitter with only two outputs driving a pair of antennas that are cross-polarized (e.g., vertical and horizontal or left-circular and right-circular), directional gain is the gain of an individual antenna. If the two antennas have different gains, the larger gain applies.

So: Directional Gain = GANT = 35dBi

**7.4 Spurious Radiated Emissions & Restricted Bands of Operation**  
*Result* *Pass*

Test Specification	FCC part 15 Subpart E Section 15.407 (b) (15.205 & 15.209) & RSS 247 Issue 3 Section 6.2.1 & 6.2.4 / RSS Gen Issue 5 Section 8.9 & 8.10
Test Method	ANSI C63.10 – 2013
Measurement Bandwidth	100kHz for below 1GHz 1MHz for above 1GHz
Measurement Location	Semi Anechoic Chamber 30MHz - 1 GHz Fully Anechoic Chamber 1 GHz - 40GHz
Measuring Distance	3 m
Detector	Refer Remark
Requirement	As per the limits mentioned in the below table
Test setup	Refer TEST METHODOLOGY

**Limit:**

**Table 7: Undesirable emission limits**

**As per FCC Part15 Subaprt E 15.407(b)**

- (1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (2) For transmitters operating solely in the 5.725–5.850 GHz band:
  - (i) All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
  - (ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
- (3) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (4) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.

**Prüfbericht - Nr.:**  
*Test Report No.:*

**IN23HH4B 001**

**Seite 44 von 137**  
*Page 44 of 137*

**According to RSS-247 Clause 6.2**

**Frequency range 5150MHz to 5250MHz**

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

**Frequency range 5745MHz to 5850MHz**

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

- a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
- b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
- c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
- d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

**Table 8: Transmitter limits for Radiated emission**

Frequency (MHz)	Field strength ( $\mu\text{V/m}$ )	Field strength ( $\text{dB}\mu\text{V/m}$ )	Distance of Measurement (m)
0.009 – 0.490	2400/F(kHz)	48.50 – 13.80	300*
0.490 – 1.705	24000/F(kHz)	33.80 – 23.00	30*
1.705 -30	30	29.54	30*
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Remark: \* The limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 128.51 – 93.80, 73.80 – 62.96 and 69.54  $\text{dB}\mu\text{V/m}$  at 3m range by extrapolation calculation and the measurement of loop antenna.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

**Test Condition:**

**Normal Test Condition:**

Temperature (Norm) = + 23.2 °C

Voltage = 56VDC through POE Injector

Relative humidity: 62 %

**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 46 von 137**

Test Report No.:

Page 46 of 137

**Test results:**

Note: All the losses are included during measurement and final values are mentioned in the test report. Refer TEST METHODOLOGY for more details

**Test results for Frequency range : 9kHz – 30MHz**

No Emissions found in the frequency range 9kHz – 30MHz

**Test results for frequency range 30MHz – 1GHz**

Antenna Polarization	Mesaured Frequency (MHz)	Measured Spurious emission (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
Vertical	41.37(QP)	15.85	40.00	-24.15
	46.884(QP)	23.81	40.00	-16.19
	52.35(QP)	11.12	40.00	-28.88
	57.078(QP)	23.50	40.00	-16.50
	372.71(Pk)	38.50	46.00	-7.50
	452.21(Pk)	26.90	46.00	-19.10
	711.14(Pk)	36.70	46.00	-9.30
	847.85(Pk)	35.20	46.00	-10.80
Horizontal	40.098(QP)	25.51	40.00	-14.49
	57.072(QP)	32.33	40.00	-7.67
	124.782(QP)	8.67	43.50	-34.83
	370.028(QP)	33.72	46.00	-12.28
	372.734(QP)	39.62	46.00	-6.38
	377.594(QP)	42.04	46.00	-3.96
	384.026(QP)	35.61	46.00	-10.39
	709.85(QP)	35.10	46.00	-10.90
846.404(QP)	34.14	46.00	-11.86	

**Test results for frequency range – 1GHz to 40 GHz**

**Antenna Type & Antenna Gain:** Omni Antenna & 12dBi

**Modulation:** 802.11a  
**Data rate:** 54Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	105.76	-	-
	5180 (Av)		90.16	-	-
	5150 (Pk)		49.79	74.00*	-24.21
	5150 (Av)		34.70	54.00*	-19.30
	10360 (Pk)		52.20	68.23	-16.03
	10360 (Av)		39.44	54.00	-14.56
	15540 (Pk)		53.70	68.23	-14.53
	15540 (Av)		41.14	54.00	-12.86
	5180 (Pk)	Horizontal	95.04	-	-
	5180 (Av)		79.97	-	-
	5150 (Pk)		42.86	74.00*	-31.14
	5150 (Av)		30.62	54.00*	-23.38
	10360 (Pk)		51.51	68.23	-16.72
	10360 (Av)		39.62	54.00	-14.38
	15540 (Pk)		53.37	68.23	-14.86
	15540 (Av)		41.08	54.00	-12.92
5240	5240 (Pk)	Vertical	106.08	-	-
	5240 (Av)		90.62	-	-
	5350 (Pk)		45.91	74.00*	-28.09
	5350 (Av)		32.59	54.00*	-21.41
	10480 (Pk)		52.65	68.23	-15.58
	10480 (Av)		40.09	54.00	-13.91
	15720 (Pk)		52.93	68.23	-15.30
	15720 (Av)		40.68	54.00	-13.32
	5240 (Pk)	Horizontal	93.71	-	-
	5240 (Av)		78.08	-	-
	5350 (Pk)		42.53	74.00*	-31.47
	5350 (Av)		29.47	54.00*	-24.53
	10480 (Pk)		53.03	68.23	-15.20
	10480 (Av)		41.76	54.00	-12.24
	15720 (Pk)		53.45	68.23	-14.78
	15720 (Av)		40.64	54.00	-13.36

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	106.00	-	-
	5745 (Av)		89.97	-	-
	5650(Pk)		45.64	68.23*	-22.59
	5700(Pk)		47.83	105.23*	-57.40
	5720(Pk)		49.14	110.83*	-61.69
	5725(Pk)		56.74	122.23*	-65.49
	11490 (Pk)		55.55	68.23	-12.68
	11490 (Av)		43.35	54.00	-10.65
	17235 (Pk)		58.19	68.23	-10.04
	17235 (Av)		44.65	54.00	-9.35
	5745 (Pk)	Horizontal	91.86	-	-
	5745 (Av)		76.10	-	-
	5650(Pk)		42.00	68.23*	-26.23
	5700(Pk)		42.57	105.23*	-62.66
	5720(Pk)		42.86	110.83*	-67.97
	5725(Pk)		44.62	122.23*	-77.61
	11490 (Pk)		54.50	68.23	-13.73
	11490 (Av)		42.95	54.00	-11.05
	17235 (Pk)		56.65	68.23	-11.58
	17235 (Av)		44.62	54.00	-9.38
5825	5825 (Pk)	Vertical	104.52	-	-
	5825 (Av)		88.55	-	-
	5850 (Pk)		49.08	122.23*	-73.15
	5855 (Pk)		48.38	110.83*	-62.45
	5875 (Pk)		45.72	105.23*	-59.51
	5925 (Pk)		44.93	68.23*	-23.3
	11650 (Pk)		56.05	68.23	-12.18
	11650 (Av)		44.57	54.00	-9.43
	17475 (Pk)		59.05	68.23	-9.18
	17475 (Av)		46.46	54.00	-7.54
	5825 (Pk)	Horizontal	92.56	-	-
	5825 (Av)		76.75	-	-
	5850 (Pk)		43.21	122.23*	-79.02
	5855 (Pk)		43.48	110.83*	-67.35
	5875 (Pk)		43.00	105.23*	-62.23
	5925 (Pk)		43.38	68.23*	-24.85
	11650 (Pk)		58.80	68.23	-9.43
	11650 (Av)		43.30	54.00	-10.70
	17475 (Pk)		58.42	68.23	-9.81
	17475 (Pk)		46.14	54.00	-7.86



**Modulation: n-20MHz**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	107.10	-	-
	5180 (Av)		95.01	-	-
	5150 (Pk)		51.33	74.00*	-22.67
	5150 (Av)		36.95	54.00*	-17.05
	10360 (Pk)		51.85	68.23	-16.38
	10360 (Av)		39.42	54.00	-14.58
	15540 (Pk)		53.08	68.23	-15.15
	15540 (Av)		41.16	54.00	-12.84
	5180 (Pk)	Horizontal	95.31	-	-
	5180 (Av)		82.70	-	-
	5150 (Pk)		43.39	74.00*	-30.61
	5150 (Av)		30.88	54.00*	-23.12
	10360 (Pk)		51.67	68.23	-16.56
	10360 (Av)		39.44	54.00	-14.56
	15540 (Pk)		53.50	68.23	-14.73
	15540 (Av)		41.13	54.00	-12.87
5240	5240 (Pk)	Vertical	107.02	-	-
	5240 (Av)		94.71	-	-
	5350 (Pk)		45.91	74.00*	-28.09
	5350 (Av)		33.39	54.00*	-20.61
	10480 (Pk)		52.67	68.23	-15.56
	10480 (Av)		40.19	54.00	-13.81
	15720 (Pk)		52.83	68.23	-15.40
	15720 (Av)		40.69	54.00	-13.31
	5240 (Pk)	Horizontal	95.17	-	-
	5240 (Av)		83.09	-	-
	5350 (Pk)		42.20	74.00*	-31.80
	5350 (Av)		30.07	54.00*	-23.93
	10480 (Pk)		52.18	68.23	-16.05
	10480 (Av)		39.99	54.00	-14.01
	15720 (Pk)		53.35	68.23	-14.88
	15720 (Av)		40.69	54.00	-13.31

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	106.87	-	-
	5745 (Av)		93.98	-	-
	5650(Pk)		46.44	68.23*	-21.79
	5700(Pk)		48.46	105.23*	-56.77
	5720(Pk)		52.84	110.83*	-57.99
	5725(Pk)		59.96	122.23*	-62.27
	11490 (Pk)		56.94	68.23	-11.29
	11490 (Av)		44.24	54.00	-9.76
	17235 (Pk)		56.78	68.23	-11.45
	17235 (Av)		44.69	54.00	-9.31
	5745 (Pk)	Horizontal	92.69	-	-
	5745 (Av)		80.46	-	-
	5650(Pk)		42.74	68.23*	-25.49
	5700(Pk)		43.72	105.23*	-61.51
	5720(Pk)		42.74	110.83*	-68.09
	5725(Pk)		44.81	122.23*	-77.42
	11490 (Pk)		56.21	68.23	-12.02
	11490 (Av)		42.72	54.00	-11.28
	17235 (Pk)		56.83	68.23	-11.40
	17235 (Av)		44.69	54.00	-9.31
5825	5825 (Pk)	Vertical	104.09	-	-
	5825 (Av)		92.33	-	-
	5850 (Pk)		50.07	122.23*	-72.16
	5855 (Pk)		48.30	110.83*	-62.53
	5875 (Pk)		46.11	105.23*	-59.12
	5925 (Pk)		44.99	68.23*	-23.24
	11650 (Pk)		55.20	68.23	-13.03
	11650 (Av)		43.08	54.00	-10.92
	17475 (Pk)		58.69	68.23	-9.54
	17475 (Av)		46.50	54.00	-7.50
	5825 (Pk)	Horizontal	93.43	-	-
	5825 (Av)		81.54	-	-
	5850 (Pk)		43.54	122.23*	-78.69
	5855 (Pk)		43.40	110.83*	-67.43
	5875 (Pk)		43.49	105.23*	-61.74
	5925 (Pk)		44.00	68.23*	-24.23
	11650 (Pk)		57.38	68.23	-10.85
	11650 (Av)		44.13	54.00	-9.87
	17475 (Pk)		58.98	68.23	-9.25
	17475 (Pk)		46.43	54.00	-7.57

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 51 von 137**  
Page 51 of 137

**Modulation: ac-20MHz**

**Data rate: MCS8**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	107.26	-	-
	5180 (Av)		95.25	-	-
	5150 (Pk)		50.64	74.00*	-23.36
	5150 (Av)		36.89	54.00*	-17.11
	10360 (Pk)		51.28	68.23	-16.95
	10360 (Av)		39.50	54.00	-14.50
	15540 (Pk)		53.33	68.23	-14.90
	15540 (Av)		41.18	54.00	-12.82
	5180 (Pk)	Horizontal	79.61	-	-
	5180 (Av)		68.00	-	-
	5150 (Pk)		42.39	74.00*	-31.61
	5150 (Av)		29.80	54.00*	-24.20
	10360 (Pk)		52.08	68.23	-16.15
	10360 (Av)		39.50	54.00	-14.50
	15540 (Pk)		53.93	68.23	-14.30
	15540 (Av)		41.20	54.00	-12.80
5240	5240 (Pk)	Vertical	106.79	-	-
	5240 (Av)		94.55	-	-
	5350 (Pk)		46.76	74.00*	-27.24
	5350 (Av)		33.48	54.00*	-20.52
	10480 (Pk)		52.59	68.23	-15.64
	10480 (Av)		40.72	54.00	-13.28
	15720 (Pk)		52.71	68.23	-15.52
	15720 (Av)		40.74	54.00	-13.26
	5240 (Pk)	Horizontal	95.44	-	-
	5240 (Av)		83.24	-	-
	5350 (Pk)		42.63	74.00*	-31.37
	5350 (Av)		30.15	54.00*	-23.85
	10480 (Pk)		51.88	68.23	-16.35
	10480 (Av)		40.02	54.00	-13.98
	15720 (Pk)		52.84	68.23	-15.39
	15720 (Av)		40.73	54.00	-13.27

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	106.24	-	-
	5745 (Av)		93.58	-	-
	5650(Pk)		45.63	68.23*	-22.6
	5700(Pk)		48.26	105.23*	-56.97
	5720(Pk)		51.85	110.83*	-58.98
	5725(Pk)		58.06	122.23*	-64.17
	11490 (Pk)		58.13	68.23	-10.1
	11490 (Av)		44.01	54.00	-9.99
	17235 (Pk)		56.63	68.23	-11.6
	17235 (Av)		44.82	54.00	-9.18
	5745 (Pk)	Horizontal	92.27	-	-
	5745 (Av)		79.59	-	-
	5650(Pk)		42.9	68.23*	-25.33
	5700(Pk)		43.14	105.23*	-62.09
	5720(Pk)		42.78	110.83*	-68.05
	5725(Pk)		44.99	122.23*	-77.24
	11490 (Pk)		55.02	68.23	-13.21
	11490 (Av)		42.81	54.00	-11.19
	17235 (Pk)		57.22	68.23	-11.01
	17235 (Av)		44.86	54.00	-9.14
5825	5825 (Pk)	Vertical	104.34	-	-
	5825 (Av)		92.3	-	-
	5850 (Pk)		49.38	122.23*	-72.85
	5855 (Pk)		48.36	110.83*	-62.47
	5875 (Pk)		45.79	105.23*	-59.44
	5925 (Pk)		45.30	68.23*	-22.93
	11650 (Pk)		56.66	68.23	-11.57
	11650 (Av)		44.43	54.00	-9.57
	17475 (Pk)		58.6	68.23	-9.63
	17475 (Av)		46.57	54.00	-7.43
	5825 (Pk)	Horizontal	92.44	-	-
	5825 (Av)		80.24	-	-
	5850 (Pk)		43.8	122.23*	-78.43
	5855 (Pk)		43.45	110.83*	-67.38
	5875 (Pk)		43.10	105.23*	-62.13
	5925 (Pk)		43.21	68.23*	-25.02
	11650 (Pk)		59.06	68.23	-9.17
	11650 (Av)		45.01	54.00	-8.99
	17475 (Pk)		58.83	68.23	-9.40
	17475 (Pk)		46.58	54.00	-7.42

**Modulation: ax-20MHz**

**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	107.93	-	-
	5180 (Av)		95.40	-	-
	5150 (Pk)		52.76	74.00*	-21.24
	5150 (Av)		38.54	54.00*	-15.46
	10360 (Pk)		53.03	68.23	-15.20
	10360 (Av)		39.49	54.00	-14.51
	15540 (Pk)		52.90	68.23	-15.33
	15540 (Av)		41.17	54.00	-12.83
	5180 (Pk)	Horizontal	95.81	-	-
	5180 (Av)		83.68	-	-
	5150 (Pk)		43.30	74.00*	-30.70
	5150 (Av)		31.21	54.00*	-22.79
	10360 (Pk)		51.80	68.23	-16.43
	10360 (Av)		39.59	54.00	-14.41
	15540 (Pk)		52.92	68.23	-15.31
	15540 (Av)		41.22	54.00	-12.78
5240	5240 (Pk)	Vertical	107.78	-	-
	5240 (Av)		95.24	-	-
	5350 (Pk)		46.06	74.00*	-27.94
	5350 (Av)		33.60	54.00*	-20.40
	10480 (Pk)		52.02	68.23	-16.21
	10480 (Av)		40.06	54.00	-13.94
	15720 (Pk)		53.64	68.23	-14.59
	15720 (Av)		40.81	54.00	-13.19
	5240 (Pk)	Horizontal	95.70	-	-
	5240 (Av)		83.78	-	-
	5350 (Pk)		42.99	74.00*	-31.01
	5350 (Av)		30.14	54.00*	-23.86
	10480 (Pk)		52.39	68.23	-15.84
	10480 (Av)		40.08	54.00	-13.92
	15720 (Pk)		53.38	68.23	-14.85
	15720 (Av)		40.78	54.00	-13.22

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	106.87	-	-
	5745 (Av)		94.35	-	-
	5650(Pk)		46.46	68.23*	-21.77
	5700(Pk)		48.77	105.23*	-56.46
	5720(Pk)		57.22	110.83*	-53.61
	5725(Pk)		62.26	122.23*	-59.97
	11490 (Pk)		58.50	68.23	-9.73
	11490 (Av)		44.48	54.00	-9.52
	17235 (Pk)		56.32	68.23	-11.91
	17235 (Av)		44.85	54.00	-9.15
	5745 (Pk)	Horizontal	92.73	-	-
	5745 (Av)		80.77	-	-
	5650(Pk)		43.15	68.23*	-25.08
	5700(Pk)		42.37	105.23*	-62.86
	5720(Pk)		43.03	110.83*	-67.8
	5725(Pk)		46.94	122.23*	-75.29
	11490 (Pk)		54.18	68.23	-14.05
	11490 (Av)		42.57	54.00	-11.43
	17235 (Pk)		55.74	68.23	-12.49
	17235 (Av)		44.84	54.00	-9.16
5825	5825 (Pk)	Vertical	104.83	-	-
	5825 (Av)		92.43	-	-
	5850 (Pk)		50.02	122.23*	-72.21
	5855 (Pk)		48.15	110.83*	-62.68
	5875 (Pk)		46.21	105.23*	-59.02
	5925 (Pk)		45.37	68.23*	-22.86
	11650 (Pk)		54.80	68.23	-13.43
	11650 (Av)		43.16	54.00	-10.84
	17475 (Pk)		58.99	68.23	-9.24
	17475 (Av)		46.61	54.00	-7.39
	5825 (Pk)	Horizontal	94.52	-	-
	5825 (Av)		82.15	-	-
	5850 (Pk)		44.02	122.23*	-78.21
	5855 (Pk)		43.5	110.83*	-67.33
	5875 (Pk)		43.43	105.23*	-61.8
	5925 (Pk)		44.21	68.23*	-24.02
	11650 (Pk)		59.26	68.23	-8.97
	11650 (Av)		44.65	54.00	-9.35
	17475 (Pk)		59.38	68.23	-8.85
	17475 (Pk)		46.56	54.00	-7.44

**Note:**

\* : Indicate restricted band frequency in 15.205

Pk: Peak Detector; Av: Average Detector

**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 55 von 137**

Test Report No.:

Page 55 of 137

**Modulation: 802.11n-40MHz**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	99.53	-	-
	5190 (Av)		87.08	-	-
	5150 (Pk)		51.70	74.00*	-22.30
	5150 (Av)		37.21	54.00*	-16.79
	10380 (Pk)		52.04	68.23	-16.19
	10380 (Av)		39.63	54.00	-14.37
	15570 (Pk)		53.84	68.23	-14.39
	15570 (Av)		40.80	54.00	-13.20
	5190 (Pk)	Horizontal	87.69	-	-
	5190 (Av)		75.33	-	-
	5150 (Pk)		43.17	74.00*	-30.83
	5150 (Av)		30.74	54.00*	-23.26
	10380 (Pk)		52.77	68.23	-15.46
	10380 (Av)		39.66	54.00	-14.34
	15570 (Pk)		53.78	68.23	-14.45
	15570 (Av)		40.82	54.00	-13.18
5230	5230 (Pk)	Vertical	98.73	-	-
	5230 (Av)		86.30	-	-
	5350 (Pk)		43.94	74.00*	-30.06
	5350 (Av)		31.68	54.00*	-22.32
	10460 (Pk)		52.06	68.23	-16.17
	10460 (Av)		40.18	54.00	-13.82
	15690 (Pk)		52.93	68.23	-15.30
	15690 (Av)		40.76	54.00	-13.24
	5230 (Pk)	Horizontal	87.39	-	-
	5230 (Av)		75.17	-	-
	5150 (Pk)		42.13	74.00*	-31.87
	5150 (Av)		29.75	54.00*	-24.25
	10460 (Pk)		51.93	68.23	-16.30
	10460 (Av)		39.99	54.00	-14.01
	15690 (Pk)		53.72	68.23	-14.51
	15690 (Av)		40.80	54.00	-13.20

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	103.17	-	-
	5755 (Av)		91.03	-	-
	5650 (Pk)		46.33	68.23*	-21.9
	5700 (Pk)		47.91	105.23*	-57.32
	5720 (Pk)		57.26	110.83*	-53.57
	5725 (Pk)		65.02	122.23*	-57.21
	11510 (Pk)		56.16	68.23	-12.07
	11510 (Av)		43.48	54.00	-10.52
	17265 (Pk)		55.96	68.23	-12.27
	17265 (Av)		44.47	54.00	-9.53
	5755 (Pk)	Horizontal	89.10	-	-
	5755 (Av)		76.51	-	-
	5650 (Pk)		43.03	68.23*	-25.2
	5700 (Pk)		42.53	105.23*	-62.7
	5720 (Pk)		45.26	110.83*	-65.57
	5725 (Pk)		51.50	122.23*	-70.73
	11510 (Pk)		55.11	68.23	-13.12
	11510 (Av)		42.88	54.00	-11.12
	17265 (Pk)		56.97	68.23	-11.26
	17265 (Av)		44.60	54.00	-9.40
5795	5795 (Pk)	Vertical	102.57	-	-
	5795 (Av)		89.88	-	-
	5850 (Pk)		48.32	122.23*	-73.91
	5855 (Pk)		47.34	110.83*	-63.49
	5875 (Pk)		44.72	105.23*	-60.51
	5925 (Pk)		44.60	68.23*	-23.63
	11590 (Pk)		54.51	68.23	-13.72
	11590 (Av)		42.45	54.00	-11.55
	17385 (Pk)		57.03	68.23	-11.20
	17385 (Av)		45.34	54.00	-8.66
	5795 (Pk)	Horizontal	90.09	-	-
	5795 (Av)		77.50	-	-
	5850 (Pk)		42.98	122.23*	-79.25
	5855 (Pk)		43.20	110.83*	-67.63
	5875 (Pk)		42.87	105.23*	-62.36
	5925 (Pk)		43.32	68.23*	-24.91
	11590 (Pk)		54.54	68.23	-13.69
	11590 (Av)		42.60	54.00	-11.40
	17385 (Pk)		57.03	68.23	-11.20
	17385 (Pk)		44.53	54.00	-9.47



**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 57 von 137**

Test Report No.:

Page 57 of 137

**Modulation: 802.11ac-40MHz**

**Data rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	99.16	-	-
	5190 (Av)		86.80	-	-
	5150 (Pk)		50.06	74.00*	-23.94
	5150 (Av)		36.85	54.00*	-17.15
	10380 (Pk)		52.68	68.23	-15.55
	10380 (Av)		39.68	54.00	-14.32
	15570 (Pk)		52.92	68.23	-15.31
	15570 (Av)		40.78	54.00	-13.22
	5190 (Pk)	Horizontal	87.29	-	-
	5190 (Av)		74.98	-	-
	5150 (Pk)		43.13	74.00*	-30.87
	5150 (Av)		31.47	54.00*	-22.53
	10380 (Pk)		51.89	68.23	-16.34
	10380 (Av)		39.76	54.00	-14.24
	15570 (Pk)		52.53	68.23	-15.70
	15570 (Av)		40.74	54.00	-13.26
5230	5230 (Pk)	Vertical	99.02	-	-
	5230 (Av)		86.51	-	-
	5350 (Pk)		44.27	74.00*	-29.73
	5350 (Av)		31.61	54.00*	-22.39
	10460 (Pk)		52.06	68.23	-16.17
	10460 (Av)		39.98	54.00	-14.02
	15690 (Pk)		52.96	68.23	-15.27
	15690 (Av)		40.79	54.00	-13.21
	5230 (Pk)	Horizontal	87.19	-	-
	5230 (Av)		74.60	-	-
	5150 (Pk)		41.94	74.00*	-32.06
	5150 (Av)		29.60	54.00*	-24.40
	10460 (Pk)		52.07	68.23	-16.16
	10460 (Av)		40.23	54.00	-13.77
	15690 (Pk)		52.45	68.23	-15.78
	15690 (Av)		40.74	54.00	-13.26

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	102.93	-	-
	5755 (Av)		90.12	-	-
	5650 (Pk)		46.98	68.23*	-21.25
	5700 (Pk)		47.34	105.23*	-57.89
	5720 (Pk)		57.31	110.83*	-53.52
	5725 (Pk)		63.76	122.23*	-58.47
	11510 (Pk)		56.61	68.23	-11.62
	11510 (Av)		43.59	54.00	-10.41
	17265 (Pk)		56.67	68.23	-11.56
	17265 (Av)		44.57	54.00	-9.43
	5755 (Pk)	Horizontal	89.29	-	-
	5755 (Av)		76.79	-	-
	5650 (Pk)		42.78	68.23*	-25.45
	5700 (Pk)		42.89	105.23*	-62.34
	5720 (Pk)		44.87	110.83*	-65.96
	5725 (Pk)		50.78	122.23*	-71.45
	11510 (Pk)		55.75	68.23	-12.48
	11510 (Av)		43.09	54.00	-10.91
	17265 (Pk)		57.24	68.23	-10.99
	17265 (Av)		44.61	54.00	-9.39
5795	5795 (Pk)	Vertical	102.13	-	-
	5795 (Av)		89.60	-	-
	5850 (Pk)		48.63	122.23*	-73.6
	5855 (Pk)		46.96	110.83*	-63.87
	5875 (Pk)		44.74	105.23*	-60.49
	5925 (Pk)		44.12	68.23*	-24.11
	11590 (Pk)		54.27	68.23	-13.96
	11590 (Av)		43.26	54.00	-10.74
	17385 (Pk)		57.33	68.23	-10.90
	17385 (Av)		45.30	54.00	-8.70
	5795 (Pk)	Horizontal	89.03	-	-
	5795 (Av)		76.58	-	-
	5850 (Pk)		42.77	122.23*	-79.46
	5855 (Pk)		43.62	110.83*	-67.21
	5875 (Pk)		42.90	105.23*	-62.33
	5925 (Pk)		43.53	68.23*	-24.70
	11590 (Pk)		55.33	68.23	-12.90
	11590 (Av)		43.14	54.00	-10.86
	17385 (Pk)		57.78	68.23	-10.45
	17385 (Pk)		45.32	54.00	-8.68

**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 59 von 137**

Test Report No.:

Page 59 of 137

**Modulation: 802.11ax-40MHz**

**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	100.13	-	-
	5190 (Av)		87.54	-	-
	5150 (Pk)		52.11	74.00*	-21.89
	5150 (Av)		38.17	54.00*	-15.83
	10380 (Pk)		51.82	68.23	-16.41
	10380 (Av)		39.70	54.00	-14.30
	15570 (Pk)		53.15	68.23	-15.08
	15570 (Av)		40.81	54.00	-13.19
	5190 (Pk)	Horizontal	88.46	-	-
	5190 (Av)		75.81	-	-
	5150 (Pk)		42.91	74.00*	-31.09
	5150 (Av)		30.93	54.00*	-23.07
	10380 (Pk)		51.89	68.23	-16.34
	10380 (Av)		39.67	54.00	-14.33
	15570 (Pk)		53.61	68.23	-14.62
	15570 (Av)		40.78	54.00	-13.22
5230	5230 (Pk)	Vertical	100.63	-	-
	5230 (Av)		86.76	-	-
	5350 (Pk)		43.96	74.00*	-30.04
	5350 (Av)		31.86	54.00*	-22.14
	10460 (Pk)		52.92	68.23	-15.31
	10460 (Av)		40.98	54.00	-13.02
	15690 (Pk)		52.77	68.23	-15.46
	15690 (Av)		40.84	54.00	-13.16
	5230 (Pk)	Horizontal	87.50	-	-
	5230 (Av)		74.76	-	-
	5150 (Pk)		42.56	74.00*	-31.44
	5150 (Av)		29.66	54.00*	-24.34
	10460 (Pk)		52.03	68.23	-16.20
	10460 (Av)		40.07	54.00	-13.93
	15690 (Pk)		52.70	68.23	-15.53
	15690 (Av)		40.85	54.00	-13.15

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	103.74	-	-
	5755 (Av)		90.75	-	-
	5650 (Pk)		46.25	68.23*	-21.98
	5700 (Pk)		49.24	105.23*	-55.99
	5720 (Pk)		57.82	110.83*	-53.01
	5725 (Pk)		64.21	122.23*	-58.02
	11510 (Pk)		56.85	68.23	-11.38
	11510 (Av)		43.61	54.00	-10.39
	17265 (Pk)		56.91	68.23	-11.32
	17265 (Av)		44.57	54.00	-9.43
	5755 (Pk)	Horizontal	89.55	-	-
	5755 (Av)		77.08	-	-
	5650 (Pk)		42.86	68.23*	-25.37
	5700 (Pk)		42.45	105.23*	-62.78
	5720 (Pk)		44.39	110.83*	-66.44
	5725 (Pk)		50.68	122.23*	-71.55
	11510 (Pk)		54.59	68.23	-13.64
	11510 (Av)		42.93	54.00	-11.07
	17265 (Pk)		56.96	68.23	-11.27
	17265 (Av)		44.58	54.00	-9.42
5795	5795 (Pk)	Vertical	102.57	-	-
	5795 (Av)		90.31	-	-
	5850 (Pk)		47.83	122.23*	-74.4
	5855 (Pk)		48.26	110.83*	-62.57
	5875 (Pk)		46.37	105.23*	-58.86
	5925 (Pk)		44.54	68.23*	-23.69
	11590 (Pk)		56.97	68.23	-11.26
	11590 (Av)		43.25	54.00	-10.75
	17385 (Pk)		57.39	68.23	-10.84
	17385 (Av)		45.27	54.00	-8.73
	5795 (Pk)	Horizontal	90.47	-	-
	5795 (Av)		78.12	-	-
	5850 (Pk)		43.07	122.23*	-79.16
	5855 (Pk)		43.35	110.83*	-67.48
	5875 (Pk)		43.15	105.23*	-62.08
	5925 (Pk)		42.99	68.23*	-25.24
	11590 (Pk)		57.04	68.23	-11.19
	11590 (Av)		43.08	54.00	-10.92
	17385 (Pk)		57.16	68.23	-11.07
	17385 (Pk)		45.30	54.00	-8.70

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 61 von 137**  
Page 61 of 137

**Modulation: 802.11ac-80MHz**  
**Data rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	91.43	-	-
	5210 (Av)		78.49	-	-
	5150 (Pk)		45.85	74.00*	-28.15
	5150 (Av)		32.77	54.00*	-21.23
	10420 (Pk)		51.73	68.23	-16.50
	10420 (Av)		39.88	54.00	-14.12
	15630 (Pk)		52.91	68.23	-15.32
	15630 (Av)		40.80	54.00	-13.20
	5210 (Pk)	Horizontal	79.02	-	-
	5210 (Av)		66.87	-	-
	5150 (Pk)		42.93	74.00*	-31.07
	5150 (Av)		30.12	54.00*	-23.88
	10420 (Pk)		51.90	68.23	-16.33
	10420 (Av)		39.92	54.00	-14.08
	15630 (Pk)		52.92	68.23	-15.31
	15630 (Av)		40.80	54.00	-13.20
5775	5775 (Pk)	Vertical	101.36	-	-
	5775 (Pk)		89.35	-	-
	5850 (Pk)		48.61	122.23*	-73.62
	5855 (Pk)		47.40	110.83*	-63.43
	5875 (Pk)		46.38	105.23*	-58.85
	5925 (Pk)		44.80	68.23*	-23.43
	11550 (Pk)		54.18	68.23	-14.05
	11550 (Av)		43.46	54.00	-10.54
	17325 (Pk)		57.15	68.23	-11.08
	17325 (Av)		44.92	54.00	-9.08
	5775 (Pk)	Horizontal	100.43	-	-
	5775 (Pk)		89.09	-	-
	5850 (Pk)		51.43	122.23*	-70.8
	5855 (Pk)		50.11	110.83*	-60.72
	5875 (Pk)		48.78	105.23*	-56.45
	5925 (Pk)		47.60	68.23*	-20.63
	11550 (Pk)		54.58	68.23	-13.65
	11550 (Av)		42.72	54.00	-11.28
17325 (Pk)	57.45	68.23	-10.78		
17325 (Av)	44.92	54.00	-9.08		

**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 62 von 137**

Test Report No.:

Page 62 of 137

**Modulation: 802.11ax-80MHz**

**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	95.55	-	-
	5210 (Av)		83.84	-	-
	5150 (Pk)		45.88	74.00*	-28.12
	5150 (Av)		33.83	54.00*	-20.17
	10420 (Pk)		53.22	68.23	-15.01
	10420 (Av)		39.85	54.00	-14.15
	15630 (Pk)		52.68	68.23	-15.55
	15630 (Av)		40.76	54.00	-13.24
	5210 (Pk)	Horizontal	96.47	-	-
	5210 (Av)		84.74	-	-
	5150 (Pk)		44.79	74.00*	-29.21
	5150 (Av)		32.11	54.00*	-21.89
	10420 (Pk)		52.39	68.23	-15.84
	10420 (Av)		40.01	54.00	-13.99
	15630 (Pk)		52.86	68.23	-15.37
	15630 (Av)		40.76	54.00	-13.24
5775	5775 (Pk)	Vertical	101.45	-	-
	5775 (Pk)		89.34	-	-
	5850 (Pk)		48.98	122.23*	-73.25
	5855 (Pk)		48.93	110.83*	-61.9
	5875 (Pk)		45.99	105.23*	-59.24
	5925 (Pk)		44.81	68.23*	-23.42
	11550 (Pk)		54.32	68.23	-13.91
	11550 (Av)		42.95	54.00	-11.05
	17325 (Pk)		56.89	68.23	-11.34
	17325 (Av)		44.95	54.00	-9.05
	5775 (Pk)	Horizontal	102.47	-	-
	5775 (Pk)		90.01	-	-
	5850 (Pk)		51.00	122.23*	-71.23
	5855 (Pk)		50.67	110.83*	-60.16
	5875 (Pk)		48.89	105.23*	-56.34
	5925 (Pk)		46.56	68.23*	-21.67
	11550 (Pk)		54.59	68.23	-13.64
	11550 (Av)		42.67	54.00	-11.33
	17325 (Pk)		57.26	68.23	-10.97
	17325 (Av)		44.92	54.00	-9.08

**Antenna Type & Antenna Gain: Integrated Panel Antenna & 19dBi**

**Modulation: 802.11a**

**Data Rate: 6Mbps**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	118.82	-	-
	5180 (Av)		108.92	-	-
	5150 (Pk)		66.19	74.00*	-7.81
	5150 (Av)		48.54	54.00*	-5.46
	10360 (Pk)		52.58	68.23	-15.65
	10360 (Av)		40.87	54.00	-13.13
	15540 (Pk)		53.20	68.23	-15.03
	15540 (Av)		41.54	54.00	-12.46
	5180 (Pk)	Horizontal	116.27	-	-
	5180 (Av)		107.63	-	-
	5150 (Pk)		64.86	74.00*	-9.14
	5150 (Av)		48.26	54.00*	-5.74
	10360 (Pk)		52.27	68.23	-15.96
	10360 (Av)		40.22	54.00	-13.78
	15540 (Pk)		53.48	68.23	-14.75
	15540 (Av)		41.48	54.00	-12.52
5240	5240 (Pk)	Vertical	119.59	-	-
	5240 (Av)		109.89	-	-
	5350 (Pk)		55.79	74.00*	-18.21
	5350 (Av)		42.25	54.00*	-11.75
	10480 (Pk)		52.95	68.23	-15.28
	10480 (Av)		41.29	54.00	-12.71
	15720 (Pk)		52.97	68.23	-15.26
	15720 (Av)		41.13	54.00	-12.87
	5240 (Pk)	Horizontal	117.90	-	-
	5240 (Av)		108.72	-	-
	5350 (Pk)		53.99	74.00*	-20.01
	5350 (Av)		41.72	54.00*	-12.28
	10480 (Pk)		53.43	68.23	-14.80
	10480 (Av)		40.86	54.00	-13.14
	15720 (Pk)		53.07	68.23	-15.16
	15720 (Av)		41.16	54.00	-12.84

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	120.98	-	-
	5745 (Av)		112.16	-	-
	5725 (Pk)		95.77	122.23*	-26.46
	5720 (Pk)		75.94	110.83*	-34.89
	5700 (Pk)		65.89	105.23*	-39.34
	5650 (Pk)		62.70	68.23*	-5.53
	11490 (Pk)		56.37	68.23	-11.86
	11490 (Av)		44.08	54.00	-9.92
	17235 (Pk)		53.13	68.23	-15.10
	17235 (Av)		41.20	54.00	-12.80
	5745 (Pk)	Horizontal	121.76	-	-
	5745 (Av)		112.59	-	-
	5725 (Pk)		87.09	122.23*	-35.14
	5720 (Pk)		75.07	110.83*	-35.76
	5700 (Pk)		64.88	105.23*	-40.35
	5650 (Pk)		58.19	68.23*	-10.04
	11490 (Pk)		56.15	68.23	-12.08
	11490 (Av)		43.85	54.00	-10.15
	17235 (Pk)		53.53	68.23	-14.70
	17235 (Av)		41.17	54.00	-12.83
5825	5825 (Pk)	Vertical	121.60	-	-
	5825 (Av)		112.36	-	-
	5850 (Pk)		75.53	122.23*	-46.7
	5855 (Pk)		73.96	110.83*	-36.87
	5875 (Pk)		69.47	105.23*	-35.76
	5925 (Pk)		57.32	68.23*	-10.91
	11650 (Pk)		55.85	68.23	-12.38
	11650 (Av)		43.32	54.00	-10.68
	17475 (Pk)		54.93	68.23	-13.30
	17475 (Av)		42.88	54.00	-11.12
	5825 (Pk)	Horizontal	121.78	-	-
	5825 (Av)		112.81	-	-
	5850 (Pk)		77.47	122.23*	-44.76
	5855 (Pk)		73.59	110.83*	-37.24
	5875 (Pk)		66.85	105.23*	-38.38
	5925 (Pk)		58.51	68.23*	-9.72
	11650 (Pk)		54.56	68.23	-13.67
	11650 (Av)		42.98	54.00	-11.02
	17475 (Pk)		55.47	68.23	-12.76
	17475 (Pk)		42.86	54.00	-11.14



**Modulation: 802.11n-20MHz**

**Data Rate: MCS0**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	119.13	-	-
	5180 (Av)		108.40	-	-
	5150 (Pk)		66.76	74.00*	-7.24
	5150 (Av)		48.62	54.00*	-5.38
	10360 (Pk)		55.83	68.23	-12.40
	10360 (Av)		42.55	54.00	-11.45
	15540 (Pk)		53.55	68.23	-14.68
	15540 (Av)		41.29	54.00	-12.71
	5180 (Pk)	Horizontal	117.51	-	-
	5180 (Av)		106.93	-	-
	5150 (Pk)		67.37	74.00*	-6.63
	5150 (Av)		50.96	54.00*	-3.04
	10360 (Pk)		53.74	68.23	-14.49
	10360 (Av)		41.62	54.00	-12.38
	15540 (Pk)		53.62	68.23	-14.61
	15540 (Av)		41.30	54.00	-12.70
5240	5240 (Pk)	Vertical	117.75	-	-
	5240 (Av)		107.62	-	-
	5350 (Pk)		55.04	74.00*	-18.96
	5350 (Av)		42.14	54.00*	-11.86
	10480 (Pk)		56.62	68.23	-11.61
	10480 (Av)		43.26	54.00	-10.74
	15720 (Pk)		52.95	68.23	-15.28
	15720 (Av)		41.00	54.00	-13.00
	5240 (Pk)	Horizontal	118.23	-	-
	5240 (Av)		107.56	-	-
	5350 (Pk)		53.51	74.00*	-20.49
	5350 (Av)		41.07	54.00*	-12.93
	10480 (Pk)		57.05	68.23	-11.18
	10480 (Av)		43.28	54.00	-10.72
	15720 (Pk)		53.08	68.23	-15.15
	15720 (Av)		40.96	54.00	-13.04

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	121.01	-	-
	5745 (Av)		110.83	-	-
	5725 (Pk)		97.69	122.23*	-24.54
	5720 (Pk)		86.52	110.83*	-24.31
	5700 (Pk)		69.40	105.23*	-35.83
	5650 (Pk)		61.73	68.23*	-6.5
	11490 (Pk)		55.51	68.23	-12.72
	11490 (Av)		43.85	54.00	-10.15
	17235 (Pk)		53.27	68.23	-14.96
	17235 (Av)		41.19	54.00	-12.81
	5745 (Pk)	Horizontal	122.01	-	-
	5745 (Av)		111.55	-	-
	5725 (Pk)		96.14	122.23*	-26.09
	5720 (Pk)		84.99	110.83*	-25.84
	5700 (Pk)		70.37	105.23*	-34.86
	5650 (Pk)		58.51	68.23*	-9.72
	11490 (Pk)		56.54	68.23	-11.69
	11490 (Av)		43.93	54.00	-10.07
	17235 (Pk)		53.51	68.23	-14.72
	17235 (Av)		41.14	54.00	-12.86
5825	5825 (Pk)	Vertical	121.58	-	-
	5825 (Av)		111.86	-	-
	5850 (Pk)		79.83	122.23*	-42.40
	5855 (Pk)		74.84	110.83*	-35.99
	5875 (Pk)		69.39	105.23*	-35.84
	5925 (Pk)		58.89	68.23*	-9.34
	11650 (Pk)		54.77	68.23	-13.46
	11650 (Av)		43.61	54.00	-10.39
	17475 (Pk)		55.79	68.23	-12.44
	17475 (Av)		42.88	54.00	-11.12
	5825 (Pk)	Horizontal	122.27	-	-
	5825 (Av)		111.83	-	-
	5850 (Pk)		75.83	122.23*	-46.40
	5855 (Pk)		72.31	110.83*	-38.52
	5875 (Pk)		66.28	105.23*	-38.95
	5925 (Pk)		56.99	68.23*	-11.24
	11650 (Pk)		56.59	68.23	-11.64
	11650 (Av)		43.25	54.00	-10.75
	17475 (Pk)		55.43	68.23	-12.80
	17475 (Pk)		42.86	54.00	-11.14

**Modulation: 802.11ac-20MHz**

**Data Rate: MCS8**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	119.69	-	-
	5180 (Av)		107.89	-	-
	5150 (Pk)		67.10	74.00*	-6.90
	5150 (Av)		49.65	54.00*	-4.35
	10360 (Pk)		54.72	68.23	-13.51
	10360 (Av)		41.18	54.00	-12.82
	15540 (Pk)		54.16	68.23	-14.07
	15540 (Av)		41.27	54.00	-12.73
	5180 (Pk)	Horizontal	118.54	-	-
	5180 (Av)		107.33	-	-
	5150 (Pk)		67.83	74.00*	-6.17
	5150 (Av)		52.01	54.00*	-1.99
	10360 (Pk)		56.08	68.23	-12.15
	10360 (Av)		42.68	54.00	-11.32
	15540 (Pk)		53.94	68.23	-14.29
	15540 (Av)		41.29	54.00	-12.71
5240	5240 (Pk)	Vertical	121.87	-	-
	5240 (Av)		110.61	-	-
	5350 (Pk)		59.18	74.00*	-14.82
	5350 (Av)		46.67	54.00*	-7.33
	10480 (Pk)		63.62	68.23	-4.61
	10480 (Av)		48.38	54.00	-5.62
	15720 (Pk)		53.82	68.23	-14.41
	15720 (Av)		40.96	54.00	-13.04
	5240 (Pk)	Horizontal	121.02	-	-
	5240 (Av)		109.89	-	-
	5350 (Pk)		58.34	74.00*	-15.66
	5350 (Av)		44.59	54.00*	-9.41
	10480 (Pk)		63.99	68.23	-4.24
	10480 (Av)		47.71	54.00	-6.29
	15720 (Pk)		53.31	68.23	-14.92
	15720 (Av)		40.93	54.00	-13.07

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	122.26	-	-
	5745 (Av)		111.27	-	-
	5725 (Pk)		95.55	122.23*	-26.68
	5720 (Pk)		85.02	110.83*	-25.81
	5700 (Pk)		68.87	105.23*	-36.36
	5650 (Pk)		61.70	68.23*	-6.53
	11490 (Pk)		55.64	68.23	-12.59
	11490 (Av)		44.00	54.00	-10.00
	17235 (Pk)		53.80	68.23	-14.43
	17235 (Av)		41.13	54.00	-12.87
	5745 (Pk)	Horizontal	123.12	-	-
	5745 (Av)		111.92	-	-
	5725 (Pk)		96.30	122.23*	-25.93
	5720 (Pk)		88.38	110.83*	-22.45
	5700 (Pk)		68.35	105.23*	-36.88
	5650 (Pk)		59.38	68.23*	-8.85
	11490 (Pk)		56.40	68.23	-11.83
	11490 (Av)		43.90	54.00	-10.10
	17235 (Pk)		53.53	68.23	-14.70
	17235 (Av)		41.12	54.00	-12.88
5825	5825 (Pk)	Vertical	121.96	-	-
	5825 (Av)		111.32	-	-
	5850 (Pk)		89.91	122.23*	-32.32
	5855 (Pk)		74.99	110.83*	-35.84
	5875 (Pk)		66.67	105.23*	-38.56
	5925 (Pk)		60.71	68.23*	-7.52
	11650 (Pk)		55.00	68.23	-13.23
	11650 (Av)		43.22	54.00	-10.78
	17475 (Pk)		54.56	68.23	-13.67
	17475 (Av)		42.85	54.00	-11.15
	5825 (Pk)	Horizontal	123.66	-	-
	5825 (Av)		112.75	-	-
	5850 (Pk)		79.08	122.23*	-43.15
	5855 (Pk)		71.65	110.83*	-39.18
	5875 (Pk)		64.57	105.23*	-40.66
	5925 (Pk)		59.14	68.23*	-9.09
	11650 (Pk)		55.25	68.23	-12.98
	11650 (Av)		42.86	54.00	-11.14
	17475 (Pk)		55.39	68.23	-12.84
	17475 (Pk)		42.88	54.00	-11.12

**Modulation: 802.11ax-20MHz**

**Data Rate: MCS0**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	120.74	-	-
	5180 (Av)		108.30	-	-
	5150 (Pk)		67.88	74.00*	-6.12
	5150 (Av)		51.65	54.00*	-2.35
	10360 (Pk)		52.69	68.23	-15.54
	10360 (Av)		41.69	54.00	-12.31
	15540 (Pk)		53.69	68.23	-14.54
	15540 (Av)		41.21	54.00	-12.79
	5180 (Pk)	Horizontal	118.26	-	-
	5180 (Av)		105.06	-	-
	5150 (Pk)		64.69	74.00*	-9.31
	5150 (Av)		48.68	54.00*	-5.32
	10360 (Pk)		56.65	68.23	-11.58
	10360 (Av)		42.54	54.00	-11.46
	15540 (Pk)		54.18	68.23	-14.05
	15540 (Av)		41.25	54.00	-12.75
5240	5240 (Pk)	Vertical	123.02	-	-
	5240 (Av)		111.11	-	-
	5350 (Pk)		56.03	74.00*	-17.97
	5350 (Av)		43.70	54.00*	-10.30
	10480 (Pk)		60.84	68.23	-7.39
	10480 (Av)		46.44	54.00	-7.56
	15720 (Pk)		52.56	68.23	-15.67
	15720 (Av)		40.97	54.00	-13.03
	5240 (Pk)	Horizontal	120.94	-	-
	5240 (Av)		108.44	-	-
	5350 (Pk)		55.82	74.00*	-18.18
	5350 (Av)		43.31	54.00*	-10.69
	10480 (Pk)		66.98	68.23	-1.25
	10480 (Av)		49.94	54.00	-4.06
	15720 (Pk)		53.28	68.23	-14.95
	15720 (Av)		40.97	54.00	-13.03

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	122.88	-	-
	5745 (Av)		110.42	-	-
	5725 (Pk)		91.46	122.23*	-30.77
	5720 (Pk)		80.51	110.83*	-30.32
	5700 (Pk)		66.97	105.23*	-38.26
	5650 (Pk)		59.36	68.23*	-8.87
	11490 (Pk)		56.31	68.23	-11.92
	11490 (Av)		44.04	54.00	-9.96
	17235 (Pk)		54.10	68.23	-14.13
	17235 (Av)		41.11	54.00	-12.89
	5745 (Pk)	Horizontal	121.10	-	-
	5745 (Av)		109.32	-	-
	5725 (Pk)		91.62	122.23*	-30.61
	5720 (Pk)		92.97	110.83*	-17.86
	5700 (Pk)		67.79	105.23*	-37.44
	5650 (Pk)		55.45	68.23*	-12.78
	11490 (Pk)		57.01	68.23	-11.22
	11490 (Av)		43.81	54.00	-10.19
	17235 (Pk)		53.57	68.23	-14.66
	17235 (Av)		41.14	54.00	-12.86
5825	5825 (Pk)	Vertical	121.74	-	-
	5825 (Av)		109.23	-	-
	5850 (Pk)		82.75	122.23*	-39.48
	5855 (Pk)		72.33	110.83*	-38.50
	5875 (Pk)		65.21	105.23*	-40.02
	5925 (Pk)		55.87	68.23*	-12.36
	11650 (Pk)		55.19	68.23	-13.04
	11650 (Av)		43.24	54.00	-10.76
	17475 (Pk)		55.18	68.23	-13.05
	17475 (Av)		42.89	54.00	-11.11
	5825 (Pk)	Horizontal	122.53	-	-
	5825 (Av)		110.37	-	-
	5850 (Pk)		76.63	122.23*	-45.60
	5855 (Pk)		68.54	110.83*	-42.29
	5875 (Pk)		60.95	105.23*	-44.28
	5925 (Pk)		57.68	68.23*	-10.55
	11650 (Pk)		55.37	68.23	-12.86
	11650 (Av)		42.89	54.00	-11.11
	17475 (Pk)		54.91	68.23	-13.32
	17475 (Pk)		42.87	54.00	-11.13

**Modulation: 802.11n-40MHz**

**Data Rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	113.51	-	-
	5190 (Av)		101.02	-	-
	5150 (Pk)		68.38	74.00*	-5.62
	5150 (Av)		51.07	54.00*	-2.93
	10380 (Pk)		52.30	68.23	-15.93
	10380 (Av)		40.63	54.00	-13.37
	15570 (Pk)		53.32	68.23	-14.91
	15570 (Av)		41.23	54.00	-12.77
	5190 (Pk)	Horizontal	110.47	-	-
	5190 (Av)		99.31	-	-
	5150 (Pk)		64.10	74.00*	-9.90
	5150 (Av)		48.98	54.00*	-5.02
	10380 (Pk)		52.51	68.23	-15.72
	10380 (Av)		40.72	54.00	-13.28
	15570 (Pk)		53.61	68.23	-14.62
	15570 (Av)		41.18	54.00	-12.82
5230	5230 (Pk)	Vertical	116.11	-	-
	5230 (Av)		104.85	-	-
	5350 (Pk)		65.52	74.00*	-8.48
	5350 (Av)		44.52	54.00*	-9.48
	10460 (Pk)		56.89	68.23	-11.34
	10460 (Av)		43.08	54.00	-10.92
	15690 (Pk)		53.01	68.23	-15.22
	15690 (Av)		40.92	54.00	-13.08
	5230 (Pk)	Horizontal	114.98	-	-
	5230 (Av)		104.18	-	-
	5150 (Pk)		65.27	74.00*	-8.73
	5150 (Av)		44.19	54.00*	-9.81
	10460 (Pk)		59.06	68.23	-9.17
	10460 (Av)		43.10	54.00	-10.90
	15690 (Pk)		52.80	68.23	-15.43
	15690 (Av)		40.91	54.00	-13.09

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	115.28	-	-
	5755 (Av)		104.51	-	-
	5725 (Pk)		83.62	122.23*	-38.61
	5720 (Pk)		80.82	110.83*	-30.01
	5700 (Pk)		65.71	105.23*	-39.52
	5650 (Pk)		57.65	68.23*	-10.58
	11510 (Pk)		55.83	68.23	-12.40
	11510 (Av)		43.79	54.00	-10.21
	17265 (Pk)		52.70	68.23	-15.53
	17265 (Av)		40.96	54.00	-13.04
	5755 (Pk)	Horizontal	115.60	-	-
	5755 (Av)		103.42	-	-
	5725 (Pk)		81.75	122.23*	-40.48
	5720 (Pk)		82.99	110.83*	-27.84
	5700 (Pk)		65.09	105.23*	-40.14
	5650 (Pk)		54.87	68.23*	-13.36
	11510 (Pk)		56.51	68.23	-11.72
	11510 (Av)		43.80	54.00	-10.20
	17265 (Pk)		53.55	68.23	-14.68
	17265 (Av)		41.01	54.00	-12.99
5795	5795 (Pk)	Vertical	114.86	-	-
	5795 (Av)		104.13	-	-
	5850 (Pk)		64.50	122.23*	-57.73
	5855 (Pk)		62.88	110.83*	-47.95
	5875 (Pk)		57.59	105.23*	-47.64
	5925 (Pk)		52.64	68.23*	-15.59
	11590 (Pk)		54.80	68.23	-13.43
	11590 (Av)		42.93	54.00	-11.07
	17385 (Pk)		53.44	68.23	-14.79
	17385 (Pk)		41.36	54.00	-12.64
	5795 (Pk)	Horizontal	115.31	-	-
	5795 (Av)		103.45	-	-
	5850 (Pk)		65.89	122.23*	-56.34
	5855 (Pk)		64.70	110.83*	-46.13
	5875 (Pk)		59.53	105.23*	-45.70
	5925 (Pk)		53.73	68.23*	-14.5
	11590 (Pk)		55.79	68.23	-12.44
	11590 (Av)		42.95	54.00	-11.05
	17385 (Pk)		53.66	68.23	-14.57
	17385 (Pk)		41.34	54.00	-12.66



**Modulation: 802.11ac-40MHz**

**Data Rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	111.84	-	-
	5190 (Av)		101.18	-	-
	5150 (Pk)		66.14	74.00*	-7.86
	5150 (Av)		51.04	54.00*	-2.96
	10380 (Pk)		53.69	68.23	-14.54
	10380 (Av)		40.75	54.00	-13.25
	15570 (Pk)		53.21	68.23	-15.02
	15570 (Av)		41.17	54.00	-12.83
	5190 (Pk)	Horizontal	109.58	-	-
	5190 (Av)		98.29	-	-
	5150 (Pk)		64.85	74.00*	-9.15
	5150 (Av)		48.62	54.00*	-5.38
	10380 (Pk)		53.23	68.23	-15.00
	10380 (Av)		40.76	54.00	-13.24
	15570 (Pk)		53.08	68.23	-15.15
	15570 (Av)		41.18	54.00	-12.82
5230	5230 (Pk)	Vertical	115.09	-	-
	5230 (Av)		104.36	-	-
	5350 (Pk)		65.29	74.00*	-8.71
	5350 (Av)		44.03	54.00*	-9.97
	10460 (Pk)		53.86	68.23	-14.37
	10460 (Av)		40.98	54.00	-13.02
	15690 (Pk)		52.54	68.23	-15.69
	15690 (Av)		40.91	54.00	-13.09
	5230 (Pk)	Horizontal	113.41	-	-
	5230 (Av)		102.26	-	-
	5150 (Pk)		64.74	74.00*	-9.26
	5150 (Av)		41.37	54.00*	-12.63
	10460 (Pk)		57.39	68.23	-10.84
	10460 (Av)		43.07	54.00	-10.93
	15690 (Pk)		53.05	68.23	-15.18
	15690 (Av)		40.90	54.00	-13.10

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	114.82	-	-
	5755 (Av)		104.16	-	-
	5725(Pk)		81.64	122.23*	-40.59
	5720(Pk)		80.27	110.83*	-30.56
	5700(Pk)		63.36	105.23*	-41.87
	5650(Pk)		57.39	68.23*	-10.84
	11510 (Pk)		55.78	68.23	-12.45
	11510 (Av)		43.77	54.00	-10.23
	17265 (Pk)		52.87	68.23	-15.36
	17265 (Av)		41.00	54.00	-13.00
	5755 (Pk)	Horizontal	114.58	-	-
	5755 (Av)		103.33	-	-
	5725(Pk)		81.67	122.23*	-40.56
	5720(Pk)		80.57	110.83*	-30.26
	5700(Pk)		63.33	105.23*	-41.9
	5650(Pk)		54.59	68.23*	-13.64
	11510 (Pk)		55.85	68.23	-12.38
	11510 (Av)		43.79	54.00	-10.21
	17265 (Pk)		54.02	68.23	-14.21
	17265 (Av)		40.96	54.00	-13.04
5795	5795 (Pk)	Vertical	114.65	-	-
	5795 (Av)		104.08	-	-
	5850 (Pk)		63.12	122.23*	-59.11
	5855(Pk)		61.57	110.83*	-49.26
	5875(Pk)		59.99	105.23*	-45.24
	5925 (Pk)		54.18	68.23*	-14.05
	11590 (Pk)		55.59	68.23	-12.64
	11590 (Av)		43.09	54.00	-10.91
	17385 (Pk)		53.74	68.23	-14.49
	17385 (Pk)		41.34	54.00	-12.66
	5795 (Pk)	Horizontal	115.02	-	-
	5795 (Av)		103.30	-	-
	5850 (Pk)		64.70	122.23*	-57.53
	5855(Pk)		63.15	110.83*	-47.68
	5875(Pk)		59.69	105.23*	-45.54
	5925 (Pk)		52.66	68.23*	-15.57
	11590 (Pk)		55.66	68.23	-12.57
	11590 (Av)		42.96	54.00	-11.04
	17385 (Pk)		53.29	68.23	-14.94
	17385 (Pk)		41.34	54.00	-12.66

**Modulation: 802.11ax-40MHz**

**Data Rate: MCS0**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	115.22	-	-
	5190 (Av)		102.19	-	-
	5150 (Pk)		68.32	74.00*	-5.68
	5150 (Av)		51.79	54.00*	-2.21
	10380 (Pk)		52.49	68.23	-15.74
	10380 (Av)		40.62	54.00	-13.38
	15570 (Pk)		53.53	68.23	-14.70
	15570 (Av)		41.22	54.00	-12.78
	5190 (Pk)	Horizontal	112.18	-	-
	5190 (Av)		98.81	-	-
	5150 (Pk)		62.93	74.00*	-11.07
	5150 (Av)		48.63	54.00*	-5.37
	10380 (Pk)		52.84	68.23	-15.39
	10380 (Av)		40.66	54.00	-13.34
	15570 (Pk)		53.11	68.23	-15.12
	15570 (Av)		41.22	54.00	-12.78
5230	5230 (Pk)	Vertical	117.53	-	-
	5230 (Av)		105.28	-	-
	5350 (Pk)		65.51	74.00*	-8.49
	5350 (Av)		42.20	54.00*	-11.80
	10460 (Pk)		58.13	68.23	-10.10
	10460 (Av)		43.25	54.00	-10.75
	15690 (Pk)		52.70	68.23	-15.53
	15690 (Av)		40.95	54.00	-13.05
	5230 (Pk)	Horizontal	115.59	-	-
	5230 (Av)		102.89	-	-
	5150 (Pk)		64.76	74.00*	-9.24
	5150 (Av)		41.24	54.00*	-12.76
	10460 (Pk)		56.29	68.23	-11.94
	10460 (Av)		43.11	54.00	-10.89
	15690 (Pk)		52.87	68.23	-15.36
	15690 (Av)		40.98	54.00	-13.02

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	117.80	-	-
	5755 (Av)		104.95	-	-
	5725(Pk)		81.77	122.23*	-40.46
	5720(Pk)		79.48	110.83*	-31.35
	5700(Pk)		65.57	105.23*	-39.66
	5650(Pk)		55.71	68.23*	-12.52
	11510 (Pk)		56.29	68.23	-11.94
	11510 (Av)		43.94	54.00	-10.06
	17265 (Pk)		53.98	68.23	-14.25
	17265 (Av)		40.95	54.00	-13.05
	5755 (Pk)	Horizontal	117.17	-	-
	5755 (Av)		103.85	-	-
	5725(Pk)		78.66	122.23*	-43.57
	5720(Pk)		78.80	110.83*	-32.03
	5700(Pk)		62.25	105.23*	-42.98
	5650(Pk)		54.04	68.23*	-14.19
	11510 (Pk)		56.24	68.23	-11.99
	11510 (Av)		43.96	54.00	-10.04
	17265 (Pk)		52.96	68.23	-15.27
	17265 (Av)		40.97	54.00	-13.03
5795	5795 (Pk)	Vertical	117.11	-	-
	5795 (Av)		104.66	-	-
	5850 (Pk)		63.78	122.23*	-58.45
	5855(Pk)		59.98	110.83*	-50.85
	5875(Pk)		55.97	105.23*	-49.26
	5925 (Pk)		53.66	68.23*	-14.57
	11590 (Pk)		54.85	68.23	-13.38
	11590 (Av)		43.10	54.00	-10.90
	17385 (Pk)		53.70	68.23	-14.53
	17385 (Pk)		41.37	54.00	-12.63
	5795 (Pk)	Horizontal	116.68	-	-
	5795 (Av)		104.03	-	-
	5850 (Pk)		66.46	122.23*	-55.77
	5855(Pk)		62.09	110.83*	-48.74
	5875(Pk)		56.25	105.23*	-48.98
	5925 (Pk)		52.48	68.23*	-15.75
	11590 (Pk)		54.65	68.23	-13.58
	11590 (Av)		42.92	54.00	-11.08
	17385 (Pk)		53.95	68.23	-14.28
	17385 (Pk)		41.40	54.00	-12.60

**Modulation: 802.11ac-80MHz**

**Data Rate: MCS0**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	109.30	-	-
	5210 (Av)		98.11	-	-
	5150 (Pk)		69.33	74.00*	-4.67
	5150 (Av)		51.64	54.00*	-2.36
	10420 (Pk)		52.56	68.23	-15.67
	10420 (Av)		40.76	54.00	-13.24
	15630 (Pk)		53.01	68.23	-15.22
	15630 (Av)		40.92	54.00	-13.08
	5210 (Pk)	Horizontal	107.72	-	-
	5210 (Av)		96.76	-	-
	5150 (Pk)		65.14	74.00*	-8.86
	5150 (Av)		49.76	54.00*	-4.24
	10420 (Pk)		52.82	68.23	-15.41
	10420 (Av)		40.77	54.00	-13.23
	15630 (Pk)		53.52	68.23	-14.71
	15630 (Av)		40.90	54.00	-13.10
5775	5775 (Pk)	Vertical	109.22	-	-
	5775 (Pk)		99.19	-	-
	5850 (Pk)		67.48	122.23*	-54.75
	5855 (Pk)		65.08	110.83*	-45.75
	5875 (Pk)		58.93	105.23*	-46.3
	5925 (Pk)		50.81	68.23*	-17.42
	11550 (Pk)		55.51	68.23	-12.72
	11550 (Av)		43.63	54.00	-10.37
	17325 (Pk)		53.08	68.23	-15.15
	17325 (Av)		41.16	54.00	-12.84
	5775 (Pk)	Horizontal	104.74	-	-
	5775 (Pk)		94.31	-	-
	5850 (Pk)		53.22	122.23*	-69.01
	5855 (Pk)		51.05	110.83*	-59.78
	5875 (Pk)		48.68	105.23*	-56.55
	5925 (Pk)		46.88	68.23*	-21.35
	11550 (Av)		55.05	68.23	-13.18
	11550 (Pk)		43.37	54.00	-10.63
17325 (Pk)	53.38	68.23	-14.85		
17325 (Av)	41.14	54.00	-12.86		

**Modulation: 802.11ax-80MHz**

**Data Rate: MCS0**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	109.88	-	-
	5210 (Av)		97.05	-	-
	5150 (Pk)		65.99	74.00*	-8.01
	5150 (Av)		49.53	54.00*	-4.47
	10420 (Pk)		52.84	68.23	-15.39
	10420 (Av)		40.77	54.00	-13.23
	15630 (Pk)		54.09	68.23	-14.14
	15630 (Av)		41.15	54.00	-12.85
	5210 (Pk)	Horizontal	112.55	-	-
	5210 (Av)		98.17	-	-
	5150 (Pk)		65.63	74.00*	-8.37
	5150 (Av)		48.83	54.00*	-5.17
	10420 (Pk)		52.85	68.23	-15.38
	10420 (Av)		40.78	54.00	-13.22
	15630 (Pk)		53.19	68.23	-15.04
	15630 (Av)		41.12	54.00	-12.88
5775	5775 (Pk)	Vertical	110.34	-	-
	5775 (Pk)		97.46	-	-
	5850 (Pk)		59.50	122.23*	-62.73
	5855 (Pk)		60.55	110.83*	-50.28
	5875 (Pk)		57.43	105.23*	-47.8
	5925 (Pk)		50.22	68.23*	-18.01
	11550 (Pk)		55.86	68.23	-12.37
	11550 (Av)		43.64	54.00	-10.36
	17325 (Pk)	52.74	68.23	-15.49	
	17325 (Av)	41.18	54.00	-12.82	
	5775 (Pk)	Horizontal	113.18	-	-
	5775 (Pk)		100.30	-	-
	5850 (Pk)		68.35	122.23*	-53.88
	5855 (Pk)		67.61	110.83*	-43.22
	5875 (Pk)		59.05	105.23*	-46.18
	5925 (Pk)		52.10	68.23*	-16.13
11550 (Av)	55.68		68.23	-12.55	
11550 (Pk)	43.39		54.00	-10.61	
17325 (Pk)	53.51	68.23	-14.72		
17325 (Av)	41.18	54.00	-12.82		

**Antenna Type & Antenna Gain: Sector Antenna & 21dBi**

Modulation: 802.11a

Data rate: 6Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	110.62	-	-
	5180 (Av)		101.90	-	-
	5150 (Pk)		51.71	74.00*	-22.29
	5150 (Av)		39.04	54.00*	-14.96
	10360 (Pk)		51.16	68.23	-17.07
	10360 (Av)		39.06	54.00	-14.94
	15540 (Pk)		49.10	68.23	-19.13
	15540 (Av)		36.90	54.00	-17.10
	5180 (Pk)	Horizontal	113.12	-	-
	5180 (Av)		103.41	-	-
	5150 (Pk)		56.30	74.00*	-17.70
	5150 (Av)		40.95	54.00*	-13.05
	10360 (Pk)		50.80	68.23	-17.43
	10360 (Av)		39.41	54.00	-14.59
	15540 (Pk)		49.24	68.23	-18.99
	15540 (Av)		36.81	54.00	-17.19
5240	5240 (Pk)	Vertical	111.28	-	-
	5240 (Av)		101.65	-	-
	5350 (Pk)		47.70	74.00*	-26.30
	5350 (Av)		34.96	54.00*	-19.04
	10480 (Pk)		51.89	68.23	-16.34
	10480 (Av)		39.55	54.00	-14.45
	15720 (Pk)		49.47	68.23	-18.76
	15720 (Av)		36.78	54.00	-17.22
	5240 (Pk)	Horizontal	112.74	-	-
	5240 (Av)		103.43	-	-
	5350 (Pk)		48.02	74.00*	-25.98
	5350 (Av)		36.49	54.00*	-17.51
	10480 (Pk)		51.56	68.23	-16.67
	10480 (Av)		39.56	54.00	-14.44
	15720 (Pk)		50.19	68.23	-18.04
	15720 (Av)		36.77	54.00	-17.23

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	106.74	-	-
	5745 (Av)		96.80	-	-
	5725(Pk)		52.42	122.23*	-69.81
	5720(Pk)		48.48	110.83*	-62.35
	5700(Pk)		45.51	105.23*	-59.72
	5650(Pk)		46.06	68.23*	-22.17
	11490 (Pk)		61.07	68.23	-7.16
	11490 (Av)		47.86	54.00	-6.14
	17235 (Pk)		56.23	68.23	-12.00
	17235 (Av)		44.11	54.00	-9.89
	5745 (Pk)	Horizontal	111.66	-	-
	5745 (Av)		102.35	-	-
	5725(Pk)		57.82	122.23*	-64.41
	5720(Pk)		50.93	110.83*	-59.90
	5700(Pk)		50.93	105.23*	-54.30
	5650(Pk)		49.23	68.23*	-19.00
	11490 (Pk)		66.19	68.23	-2.04
	11490 (Av)		52.30	54.00	-1.70
	17235 (Pk)		56.52	68.23	-11.71
	17235 (Av)		44.20	54.00	-9.80
5825	5825 (Pk)	Vertical	105.32	-	-
	5825 (Av)		94.93	-	-
	5850 (Pk)		46.80	122.23*	-75.43
	5855 (Pk)		46.90	110.83*	-63.93
	5875(Pk)		46.01	105.23*	-59.22
	5925(Pk)		45.75	68.23*	-22.48
	11650 (Pk)		62.52	68.23	-5.71
	11650 (Av)		48.03	54.00	-5.97
	17475 (Pk)		58.93	68.23	-9.30
	17475 (Av)		46.25	54.00	-7.75
	5825 (Pk)	Horizontal	107.64	-	-
	5825 (Av)		98.28	-	-
	5850 (Pk)		47.65	122.23*	-74.58
	5855 (Pk)		47.52	110.83*	-63.31
	5875(Pk)		46.74	105.23*	-58.49
	5925(Pk)		46.89	68.23*	-21.34
	11650 (Pk)		67.20	68.23	-1.03
	11650 (Av)		53.41	54.00	-0.59
	17475 (Pk)		59.28	68.23	-8.95
	17475 (Pk)		46.38	54.00	-7.62



**Modulation: 802.11n**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	111.81	-	-
	5180 (Av)		101.50	-	-
	5150 (Pk)		54.28	74.00*	-19.72
	5150 (Av)		41.44	54.00*	-12.56
	10360 (Pk)		51.50	68.23	-16.73
	10360 (Av)		39.37	54.00	-14.63
	15540 (Pk)		53.14	68.23	-15.09
	15540 (Av)		41.13	54.00	-12.87
	5180 (Pk)	Horizontal	113.05	-	-
	5180 (Av)		101.41	-	-
	5150 (Pk)		53.30	74.00*	-20.70
	5150 (Av)		41.42	54.00*	-12.58
	10360 (Pk)		50.98	68.23	-17.25
	10360 (Av)		39.28	54.00	-14.72
	15540 (Pk)		53.49	68.23	-14.74
	15540 (Av)		41.17	54.00	-12.83
5240	5240 (Pk)	Vertical	113.61	-	-
	5240 (Av)		101.66	-	-
	5350 (Pk)		49.47	74.00*	-24.53
	5350 (Av)		36.64	54.00*	-17.36
	10480 (Pk)		51.97	68.23	-16.26
	10480 (Av)		40.18	54.00	-13.82
	15720 (Pk)		52.30	68.23	-15.93
	15720 (Av)		40.82	54.00	-13.18
	5240 (Pk)	Horizontal	114.23	-	-
	5240 (Av)		103.14	-	-
	5350 (Pk)		52.11	74.00*	-21.89
	5350 (Av)		39.11	54.00*	-14.89
	10480 (Pk)		51.82	68.23	-16.41
	10480 (Av)		39.98	54.00	-14.02
	15720 (Pk)		53.13	68.23	-15.10
	15720 (Av)		40.81	54.00	-13.19

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	105.95	-	-
	5745 (Av)		94.41	-	-
	5725(Pk)		54.97	122.23*	-67.26
	5720(Pk)		47.49	110.83*	-63.34
	5700(Pk)		48.30	105.23*	-56.93
	5650(Pk)		48.24	68.23*	-19.99
	11490 (Pk)		58.56	68.23	-9.67
	11490 (Av)		45.01	54.00	-8.99
	17235 (Pk)		56.38	68.23	-11.85
	17235 (Av)		44.38	54.00	-9.62
	5745 (Pk)	Horizontal	110.34	-	-
	5745 (Av)		98.74	-	-
	5725(Pk)		64.90	122.23*	-57.33
	5720(Pk)		56.79	110.83*	-54.04
	5700(Pk)		49.12	105.23*	-56.11
	5650(Pk)		50.91	68.23*	-17.32
	11490 (Pk)		63.89	68.23	-4.34
	11490 (Av)		48.78	54.00	-5.22
	17235 (Pk)		56.20	68.23	-12.03
	17235 (Av)		44.37	54.00	-9.63
5825	5825 (Pk)	Vertical	106.32	-	-
	5825 (Av)		94.66	-	-
	5850 (Pk)		47.57	122.23*	-74.66
	5855 (Pk)		47.78	110.83*	-63.05
	5875(Pk)		46.22	105.23*	-59.01
	5925(Pk)		46.06	68.23*	-22.17
	11650 (Pk)		62.16	68.23	-6.07
	11650 (Av)		47.12	54.00	-6.88
	17475 (Pk)		58.64	68.23	-9.59
	17475 (Av)		46.04	54.00	-7.96
	5825 (Pk)	Horizontal	110.09	-	-
	5825 (Av)		99.05	-	-
	5850 (Pk)		56.11	122.23*	-66.12
	5855 (Pk)		53.01	110.83*	-57.82
	5875(Pk)		51.27	105.23*	-53.96
	5925(Pk)		50.00	68.23*	-18.23
	11650 (Pk)		66.27	68.23	-1.96
	11650 (Av)		51.16	54.00	-2.84
	17475 (Pk)		59.47	68.23	-8.76
	17475 (Pk)		46.08	54.00	-7.92

**Modulation: 802.11ac-VHT20**  
**Data rate: MCS8**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	109.39	-	-
	5180 (Av)		97.97	-	-
	5150 (Pk)		50.37	74.00*	-23.63
	5150 (Av)		37.96	54.00*	-16.04
	10360 (Pk)		52.13	68.23	-16.10
	10360 (Av)		39.41	54.00	-14.59
	15540 (Pk)		54.09	68.23	-14.14
	15540 (Av)		41.33	54.00	-12.67
	5180 (Pk)	Horizontal	114.48	-	-
	5180 (Av)		102.78	-	-
	5150 (Pk)		57.01	74.00*	-16.99
	5150 (Av)		42.83	54.00*	-11.17
	10360 (Pk)		51.60	68.23	-16.63
	10360 (Av)		39.46	54.00	-14.54
	15540 (Pk)		53.06	68.23	-15.17
	15540 (Av)		41.31	54.00	-12.69
5240	5240 (Pk)	Vertical	106.50	-	-
	5240 (Av)		95.56	-	-
	5350 (Pk)		45.31	74.00*	-28.69
	5350 (Av)		32.37	54.00*	-21.63
	10480 (Pk)		52.12	68.23	-16.11
	10480 (Av)		40.17	54.00	-13.83
	15720 (Pk)		53.46	68.23	-14.77
	15720 (Av)		40.91	54.00	-13.09
	5240 (Pk)	Horizontal	114.48	-	-
	5240 (Av)		102.90	-	-
	5350 (Pk)		48.95	74.00*	-25.05
	5350 (Av)		36.50	54.00*	-17.50
	10480 (Pk)		52.33	68.23	-15.90
	10480 (Av)		40.39	54.00	-13.61
	15720 (Pk)		54.31	68.23	-13.92
	15720 (Av)		40.93	54.00	-13.07

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	104.75	-	-
	5745 (Av)		94.00	-	-
	5725(Pk)		49.86	122.23*	-72.37
	5720(Pk)		45.51	110.83*	-65.32
	5700(Pk)		44.59	105.23*	-60.64
	5650(Pk)		46.09	68.23*	-22.14
	11490 (Pk)		57.29	68.23	-10.94
	11490 (Av)		43.80	54.00	-10.20
	17235 (Pk)		57.13	68.23	-11.10
	17235 (Av)		44.46	54.00	-9.54
	5745 (Pk)	Horizontal	108.54	-	-
	5745 (Av)		97.86	-	-
	5725(Pk)		54.23	122.23*	-68.00
	5720(Pk)		50.09	110.83*	-60.74
	5700(Pk)		48.88	105.23*	-56.35
	5650(Pk)		50.06	68.23*	-18.17
	11490 (Pk)		61.21	68.23	-7.02
	11490 (Av)		46.76	54.00	-7.24
	17235 (Pk)		56.18	68.23	-12.05
	17235 (Av)		44.48	54.00	-9.52
5825	5825 (Pk)	Vertical	106.75	-	-
	5825 (Av)		95.93	-	-
	5850 (Pk)		46.87	122.23*	-75.36
	5855 (Pk)		46.74	110.83*	-64.09
	5875(Pk)		45.39	105.23*	-59.84
	5925(Pk)		45.73	68.23*	-22.5
	11650 (Pk)		57.38	68.23	-10.85
	11650 (Av)		44.84	54.00	-9.16
	17475 (Pk)		58.33	68.23	-9.90
	17475 (Av)		46.01	54.00	-7.99
	5825 (Pk)	Horizontal	109.51	-	-
	5825 (Av)		98.87	-	-
	5850 (Pk)		49.78	122.23*	-72.45
	5855 (Pk)		49.94	110.83*	-60.89
	5875(Pk)		46.63	105.23*	-58.6
	5925(Pk)		48.51	68.23*	-19.72
	11650 (Pk)		64.37	68.23	-3.86
	11650 (Av)		47.98	54.00	-6.02
	17475 (Pk)		57.89	68.23	-10.34
	17475 (Pk)		46.09	54.00	-7.91

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 85 von 137**  
Page 85 of 137

**Modulation: 802.11ax-VHT20**  
**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	110.40	-	-
	5180 (Av)		98.36	-	-
	5150 (Pk)		51.23	74.00*	-22.77
	5150 (Av)		38.80	54.00*	-15.20
	10360 (Pk)		51.30	68.23	-16.93
	10360 (Av)		39.41	54.00	-14.59
	15540 (Pk)		53.51	68.23	-14.72
	15540 (Av)		41.30	54.00	-12.70
	5180 (Pk)	Horizontal	116.13	-	-
	5180 (Av)		103.39	-	-
	5150 (Pk)		62.74	74.00*	-11.26
	5150 (Av)		46.00	54.00*	-8.00
	10360 (Pk)		51.58	68.23	-16.65
	10360 (Av)		39.49	54.00	-14.51
	15540 (Pk)		55.13	68.23	-13.10
	15540 (Av)		41.32	54.00	-12.68
5240	5240 (Pk)	Vertical	110.38	-	-
	5240 (Av)		97.45	-	-
	5350 (Pk)		46.93	74.00*	-27.07
	5350 (Av)		35.25	54.00*	-18.75
	10480 (Pk)		51.78	68.23	-16.45
	10480 (Av)		40.18	54.00	-13.82
	15720 (Pk)		53.73	68.23	-14.50
	15720 (Av)		40.91	54.00	-13.09
	5240 (Pk)	Horizontal	114.34	-	-
	5240 (Av)		102.31	-	-
	5350 (Pk)		52.13	74.00*	-21.87
	5350 (Av)		39.15	54.00*	-14.85
	10480 (Pk)		52.03	68.23	-16.20
	10480 (Av)		40.16	54.00	-13.84
	15720 (Pk)		53.36	68.23	-14.87
	15720 (Av)		40.92	54.00	-13.08

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	108.27	-	-
	5745 (Av)		95.83	-	-
	5725(Pk)		54.12	122.23*	-68.11
	5720(Pk)		49.32	110.83*	-61.51
	5700(Pk)		46.21	105.23*	-59.02
	5650(Pk)		45.64	68.23*	-22.59
	11490 (Pk)		57.51	68.23	-10.72
	11490 (Av)		43.77	54.00	-10.23
	17235 (Pk)		56.49	68.23	-11.74
	17235 (Av)		44.42	54.00	-9.58
	5745 (Pk)	Horizontal	110.49	-	-
	5745 (Av)		97.84	-	-
	5725(Pk)		64.11	122.23*	-68.11
	5720(Pk)		60.09	110.83*	-61.51
	5700(Pk)		49.44	105.23*	-59.02
	5650(Pk)		51.14	68.23*	-22.59
	11490 (Pk)		62.34	68.23	-5.89
	11490 (Av)		47.46	54.00	-6.54
	17235 (Pk)		56.47	68.23	-11.76
	17235 (Av)		44.44	54.00	-9.56
5825	5825 (Pk)	Vertical	109.65	-	-
	5825 (Av)		97.07	-	-
	5850 (Pk)		48.43	122.23*	-68.11
	5855 (Pk)		48.29	110.83*	-61.51
	5875(Pk)		46.51	105.23*	-59.02
	5925(Pk)		46.32	68.23*	-22.59
	11650 (Pk)		57.16	68.23	-11.07
	11650 (Av)		43.91	54.00	-10.09
	17475 (Pk)		57.79	68.23	-10.44
	17475 (Av)		46.01	54.00	-7.99
	5825 (Pk)	Horizontal	111.02	-	-
	5825 (Av)		98.72	-	-
	5850 (Pk)		54.99	122.23*	-68.11
	5855 (Pk)		51.83	110.83*	-61.51
	5875(Pk)		49.09	105.23*	-59.02
	5925(Pk)		49.85	68.23*	-22.59
	11650 (Pk)		63.00	68.23	-5.23
	11650 (Av)		48.17	54.00	-5.83
	17475 (Pk)		58.05	68.23	-10.18
	17475 (Pk)		46.01	54.00	-7.99

**Modulation: 802.11n-40MHz**  
**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	104.95	-	-
	5190 (Av)		93.97	-	-
	5150 (Pk)		55.42	74.00*	-18.58
	5150 (Av)		41.53	54.00*	-12.47
	10380 (Pk)		52.36	68.23	-15.87
	10380 (Av)		39.56	54.00	-14.44
	15570 (Pk)		51.88	68.23	-16.35
	15570 (Av)		39.23	54.00	-14.77
	5190 (Pk)	Horizontal	111.46	-	-
	5190 (Av)		99.42	-	-
	5150 (Pk)		66.54	74.00*	-7.46
	5150 (Av)		50.79	54.00*	-3.21
	10380 (Pk)		52.13	68.23	-16.10
	10380 (Av)		40.96	54.00	-13.04
	15570 (Pk)		50.96	68.23	-17.27
	15570 (Av)		39.27	54.00	-14.73
5230	5230 (Pk)	Vertical	106.29	-	-
	5230 (Av)		95.19	-	-
	5350 (Pk)		54.73	74.00*	-19.27
	5350 (Av)		34.23	54.00*	-19.77
	10460 (Pk)		51.81	68.23	-16.42
	10460 (Av)		40.07	54.00	-13.93
	15690 (Pk)		50.16	68.23	-18.07
	15690 (Av)		38.27	54.00	-15.73
	5230 (Pk)	Horizontal	112.77	-	-
	5230 (Av)		100.97	-	-
	5150 (Pk)		53.57	74.00*	-20.43
	5150 (Av)		40.79	54.00*	-13.21
	10460 (Pk)		51.72	68.23	-16.51
	10460 (Av)		39.85	54.00	-14.15
	15690 (Pk)		50.42	68.23	-17.81
	15690 (Av)		38.30	54.00	-15.70

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	101.72	-	-
	5755 (Av)		89.95	-	-
	5725(Pk)		60.68	122.23*	-61.55
	5750(Pk)		51.13	110.83*	-59.7
	5700(Pk)		44.70	105.23*	-60.53
	5650(Pk)		55.24	68.23*	-12.99
	11510 (Pk)		55.07	68.23	-13.16
	11510 (Av)		43.34	54.00	-10.66
	17265(Pk)		54.65	68.23	-13.58
	17265(Av)		42.61	54.00	-11.39
	5755 (Pk)	Horizontal	108.16	-	-
	5755 (Av)		96.62	-	-
	5725(Pk)		67.51	122.23*	-54.72
	5750(Pk)		61.72	110.83*	-49.11
	5700(Pk)		50.07	105.23*	-55.16
	5650(Pk)		51.70	68.23*	-16.53
	11510 (Pk)		61.85	68.23	-6.38
	11510 (Av)		47.12	54.00	-6.88
	17265(Pk)		54.46	68.23	-13.77
	17265(Av)		42.60	54.00	-11.40
5795	5795 (Pk)	Vertical	102.96	-	-
	5795 (Av)		91.03	-	-
	5850 (Pk)		47.45	122.23*	-74.78
	5855 (Pk)		48.07	110.83*	-62.76
	5875(Pk)		47.43	105.23*	-57.8
	5925(Pk)		45.92	68.23*	-22.31
	11590 (Pk)		54.10	68.23	-14.13
	11590 (Av)		42.74	54.00	-11.26
	17385 (Pk)		55.59	68.23	-12.64
	17385 (Av)		43.33	54.00	-10.67
	5795 (Pk)	Horizontal	107.50	-	-
	5795 (Av)		95.60	-	-
	5850 (Pk)		50.96	122.23*	-71.27
	5855 (Pk)		51.42	110.83*	-59.41
	5875(Pk)		48.84	105.23*	-56.39
	5925(Pk)		47.91	68.23*	-20.32
	11590 (Pk)		59.78	68.23	-8.45
	11590 (Av)		46.07	54.00	-7.93
	17385 (Pk)		56.14	68.23	-12.09
	17385 (Pk)		43.30	54.00	-10.70



**Modulation: 802.11ac-40MHz**

**Data rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	105.38	-	-
	5190 (Av)		93.98	-	-
	5150 (Pk)		56.77	74.00*	-17.23
	5150 (Av)		42.82	54.00*	-11.18
	10380 (Pk)		51.84	68.23	-16.39
	10380 (Av)		39.73	54.00	-14.27
	15570 (Pk)		51.58	68.23	-16.65
	15570 (Av)		39.15	54.00	-14.85
	5190 (Pk)	Horizontal	110.09	-	-
	5190 (Av)		98.25	-	-
	5150 (Pk)		64.34	74.00*	-9.66
	5150 (Av)		47.57	54.00*	-6.43
	10380 (Pk)		52.08	68.23	-16.15
	10380 (Av)		39.58	54.00	-14.42
	15570 (Pk)		52.19	68.23	-16.04
	15570 (Av)		39.14	54.00	-14.86
5230	5230 (Pk)	Vertical	106.98	-	-
	5230 (Av)		95.41	-	-
	5350 (Pk)		53.87	74.00*	-20.13
	5350 (Av)		34.56	54.00*	-19.44
	10460 (Pk)		51.91	68.23	-16.32
	10460 (Av)		40.03	54.00	-13.97
	15690 (Pk)		51.32	68.23	-16.91
	15690 (Av)		39.22	54.00	-14.78
	5230 (Pk)	Horizontal	111.80	-	-
	5230 (Av)		101.06	-	-
	5150 (Pk)		53.54	74.00*	-20.46
	5150 (Av)		40.67	54.00*	-13.33
	10460 (Pk)		53.22	68.23	-15.01
	10460 (Av)		40.19	54.00	-13.81
	15690 (Pk)		51.41	68.23	-16.82
	15690 (Av)		39.26	54.00	-14.74

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	102.58	-	-
	5755 (Av)		90.68	-	-
	5725(Pk)		62.47	122.23*	-59.76
	5750(Pk)		53.28	110.83*	-57.55
	5700(Pk)		44.97	105.23*	-60.26
	5650(Pk)		46.43	68.23*	-21.80
	11510 (Pk)		54.53	68.23	-13.70
	11510 (Av)		43.06	54.00	-10.94
	17265(Pk)		56.52	68.23	-11.71
	17265(Av)		44.26	54.00	-9.74
	5755 (Pk)	Horizontal	108.08	-	-
	5755 (Av)		97.19	-	-
	5725(Pk)		66.69	122.23*	-55.54
	5750(Pk)		60.68	110.83*	-50.15
	5700(Pk)		49.37	105.23*	-55.86
	5650(Pk)		50.63	68.23*	-17.60
	11510 (Pk)		61.80	68.23	-6.43
	11510 (Av)		47.65	54.00	-6.35
	17265(Pk)		56.33	68.23	-11.90
	17265(Av)		44.28	54.00	-9.72
5795	5795 (Pk)	Vertical	102.23	-	-
	5795 (Av)		90.90	-	-
	5850 (Pk)		47.65	122.23*	-74.58
	5855 (Pk)		48.43	110.83*	-62.4
	5875(Pk)		47.84	105.23*	-57.39
	5925(Pk)		46.31	68.23*	-21.92
	11590 (Pk)		57.47	68.23	-10.76
	11590 (Av)		43.94	54.00	-10.06
	17385 (Pk)		57.34	68.23	-10.89
	17385 (Av)		45.08	54.00	-8.92
	5795 (Pk)	Horizontal	107.04	-	-
	5795 (Av)		95.57	-	-
	5850 (Pk)		51.92	122.23*	-70.31
	5855 (Pk)		51.35	110.83*	-59.48
	5875(Pk)		50.56	105.23*	-54.67
	5925(Pk)		47.99	68.23*	-20.24
	11590 (Pk)		64.86	68.23	-3.37
	11590 (Av)		49.44	54.00	-4.56
	17385 (Pk)		57.21	68.23	-11.02
	17385 (Pk)		45.10	54.00	-8.90

**Modulation:** 802.11ax-40MHz  
**Data rate:** MCS11

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	105.24	-	-
	5190 (Av)		92.54	-	-
	5150 (Pk)		53.51	74.00*	-20.49
	5150 (Av)		40.45	54.00*	-13.55
	10380 (Pk)		51.80	68.23	-16.43
	10380 (Av)		39.95	54.00	-14.05
	15570 (Pk)		51.15	68.23	-17.08
	15570 (Av)		39.14	54.00	-14.86
	5190 (Pk)	Horizontal	111.03	-	-
	5190 (Av)		98.58	-	-
	5150 (Pk)		66.60	74.00*	-7.40
	5150 (Av)		50.44	54.00*	-3.56
	10380 (Pk)		51.81	68.23	-16.42
	10380 (Av)		40.04	54.00	-13.96
	15570 (Pk)		51.75	68.23	-16.48
	15570 (Av)		39.15	54.00	-14.85
5230	5230 (Pk)	Vertical	108.19	-	-
	5230 (Av)		95.88	-	-
	5350 (Pk)		52.85	74.00*	-21.15
	5350 (Av)		34.60	54.00*	-19.40
	10460 (Pk)		52.65	68.23	-15.58
	10460 (Av)		40.10	54.00	-13.90
	15690 (Pk)		51.74	68.23	-16.49
	15690 (Av)		39.26	54.00	-14.74
	5230 (Pk)	Horizontal	113.36	-	-
	5230 (Av)		101.32	-	-
	5150 (Pk)		53.73	74.00*	-20.27
	5150 (Av)		41.09	54.00*	-12.91
	10460 (Pk)		52.41	68.23	-15.82
	10460 (Av)		40.02	54.00	-13.98
	15690 (Pk)		51.41	68.23	-16.82
	15690 (Av)		39.26	54.00	-14.74

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	103.42	-	-
	5755 (Av)		90.49	-	-
	5725(Pk)		60.10	122.23*	-62.13
	5750(Pk)		52.16	110.83*	-58.67
	5700(Pk)		45.40	105.23*	-59.83
	5650(Pk)		44.14	68.23*	-24.09
	11510 (Pk)		54.82	68.23	-13.41
	11510 (Av)		43.09	54.00	-10.91
	17265(Pk)		56.77	68.23	-11.46
	17265(Av)		44.33	54.00	-9.67
	5755 (Pk)	Horizontal	108.36	-	-
	5755 (Av)		96.68	-	-
	5725(Pk)		66.38	122.23*	-55.85
	5750(Pk)		59.18	110.83*	-51.65
	5700(Pk)		49.21	105.23*	-56.02
	5650(Pk)		51.03	68.23*	-17.2
	11510 (Pk)		63.46	68.23	-4.77
	11510 (Av)		48.38	54.00	-5.62
	17265(Pk)		56.54	68.23	-11.69
	17265(Av)		44.28	54.00	-9.72
5795	5795 (Pk)	Vertical	104.16	-	-
	5795 (Av)		91.76	-	-
	5850 (Pk)		50.34	122.23*	-71.89
	5855 (Pk)		50.10	110.83*	-60.73
	5875(Pk)		48.43	105.23*	-56.8
	5925(Pk)		45.82	68.23*	-22.41
	11590 (Pk)		53.59	68.23	-14.64
	11590 (Av)		42.46	54.00	-11.54
	17385 (Pk)		57.32	68.23	-10.91
	17385 (Av)		45.01	54.00	-8.99
	5795 (Pk)	Horizontal	108.87	-	-
	5795 (Av)		96.29	-	-
	5850 (Pk)		52.16	122.23*	-70.07
	5855 (Pk)		51.55	110.83*	-59.28
	5875(Pk)		50.66	105.23*	-54.57
	5925(Pk)		47.08	68.23*	-21.15
	11590 (Pk)		64.37	68.23	-3.86
	11590 (Av)		48.18	54.00	-5.82
	17385 (Pk)		56.61	68.23	-11.62
	17385 (Pk)		45.03	54.00	-8.97

Modulation:802.11ac-80MHz

Data Rate: MCS9

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	101.20	-	-
	5210 (Av)		89.52	-	-
	5150 (Pk)		56.06	74.00*	-17.94
	5150 (Av)		43.75	54.00*	-10.25
	10420 (Pk)		51.59	68.23	-16.64
	10420 (Av)		39.71	54.00	-14.29
	15630 (Pk)		52.26	68.23	-15.97
	15630 (Av)		39.49	54.00	-14.51
	5210 (Pk)	Horizontal	107.70	-	-
	5210 (Av)		95.41	-	-
	5150 (Pk)		64.83	74.00*	-9.17
	5150 (Av)		51.88	54.00*	-2.12
	10420 (Pk)		52.32	68.23	-15.91
	10420 (Av)		40.32	54.00	-13.68
	15630 (Pk)		52.25	68.23	-15.98
	15630 (Av)		39.58	54.00	-14.42
5775	5775 (Pk)	Vertical	100.36	-	-
	5775 (Pk)		88.89	-	-
	5850 (Pk)		50.03	122.23*	-72.20
	5855 (Pk)		49.38	110.83*	-61.45
	5875(Pk)		48.16	105.23*	-57.07
	5925(Pk)		46.55	68.23*	-21.68
	11550 (Pk)		55.01	68.23	-13.22
	11550 (Av)		43.06	54.00	-10.94
	17325 (Pk)		57.08	68.23	-11.15
	17325 (Av)		44.95	54.00	-9.05
	5775 (Pk)	Horizontal	105.78	-	-
	5775 (Pk)		94.12	-	-
	5850 (Pk)		53.04	122.23*	-69.19
	5855 (Pk)		52.48	110.83*	-58.35
	5875(Pk)		52.04	105.23*	-53.19
	5925(Pk)		48.14	68.23*	-20.09
	11550 (Pk)		60.94	68.23	-7.29
	11550 (Av)		47.03	54.00	-6.97
	17325 (Pk)		56.74	68.23	-11.49
	17325 (Av)		44.93	54.00	-9.07

Modulation:802.11ax-80MHz

Data Rate: MCS11

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	102.36	-	-
	5210 (Av)		90.20	-	-
	5150 (Pk)		53.06	74.00*	-20.94
	5150 (Av)		40.28	54.00*	-13.72
	10420 (Pk)		51.98	68.23	-16.25
	10420 (Av)		40.04	54.00	-13.96
	15630 (Pk)		53.19	68.23	-15.04
	15630 (Av)		39.51	54.00	-14.49
	5210 (Pk)	Horizontal	107.52	-	-
	5210 (Av)		95.48	-	-
	5150 (Pk)		66.13	74.00*	-7.87
	5150 (Av)		51.42	54.00*	-2.58
	10420 (Pk)		52.66	68.23	-15.57
	10420 (Av)		39.66	54.00	-14.34
	15630 (Pk)		51.88	68.23	-16.35
	15630 (Av)		39.47	54.00	-14.53
5775	5775 (Pk)	Vertical	101.65	-	-
	5775 (Pk)		89.67	-	-
	5850 (Pk)		52.61	122.23*	-69.62
	5855 (Pk)		51.04	110.83*	-59.79
	5875(Pk)		50.17	105.23*	-55.06
	5925(Pk)		47.43	68.23*	-20.8
	11550 (Pk)		55.34	68.23	-12.89
	11550 (Av)		43.43	54.00	-10.57
	17325 (Pk)		57.00	68.23	-11.23
	17325 (Av)		45.11	54.00	-8.89
	5775 (Pk)	Horizontal	106.46	-	-
	5775 (Pk)		94.30	-	-
	5850 (Pk)		54.93	122.23*	-67.3
	5855 (Pk)		54.27	110.83*	-56.56
	5875(Pk)		54.64	105.23*	-50.59
	5925(Pk)		47.57	68.23*	-20.66
	11550 (Pk)		65.59	68.23	-2.64
	11550 (Av)		47.88	54.00	-6.12
	17325 (Pk)		57.42	68.23	-10.81
	17325 (Av)		45.09	54.00	-8.91

**Antenna Model & Antenna Gain:** Panel Antenna & 28dBi

**Modulation:** 802.11a-20MHz

**Data rate:** 6Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	104.56	-	-
	5180 (Av)		93.64	-	-
	5150 (Pk)		46.09	74.00*	-27.91
	5150 (Av)		33.61	54.00*	-20.39
	10360 (Pk)		51.75	68.23	-16.48
	10360 (Av)		39.49	54.00	-14.51
	15540 (Pk)		49.10	68.23	-19.13
	15540 (Av)		36.77	54.00	-17.23
	5180 (Pk)	Horizontal	100.39	-	-
	5180 (Av)		90.74	-	-
	5150 (Pk)		44.88	74.00*	-29.12
	5150 (Av)		32.80	54.00*	-21.20
	10360 (Pk)		51.82	68.23	-16.41
	10360 (Av)		39.46	54.00	-14.54
	15540 (Pk)		49.47	68.23	-18.76
	15540 (Av)		36.83	54.00	-17.17
5240	5240 (Pk)	Vertical	103.85	-	-
	5240 (Av)		92.65	-	-
	5350 (Pk)		46.33	74.00*	-27.67
	5350 (Av)		34.31	54.00*	-19.69
	10480 (Pk)		52.08	68.23	-16.15
	10480 (Av)		40.12	54.00	-13.88
	15720 (Pk)		48.66	68.23	-19.57
	15720 (Av)		36.18	54.00	-17.82
	5240 (Pk)	Horizontal	101.45	-	-
	5240 (Av)		91.11	-	-
	5350 (Pk)		44.70	74.00*	-29.30
	5350 (Av)		32.78	54.00*	-21.22
	10480 (Pk)		53.02	68.23	-15.21
	10480 (Av)		40.12	54.00	-13.88
	15720 (Pk)		48.03	68.23	-20.20
	15720 (Av)		36.20	54.00	-17.80

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	100.46	-	-
	5745 (Av)		90.16	-	-
	5650(Pk)		46.04	68.23*	-22.19
	5700(Pk)		44.33	105.23*	-60.9
	5720(Pk)		45.29	110.83*	-65.54
	5725(Pk)		46.50	122.23*	-75.73
	11490 (Pk)		55.04	68.23	-13.19
	11490 (Av)		42.58	54.00	-11.42
	17235 (Pk)		57.45	68.23	-10.78
	17235 (Av)		44.95	54.00	-9.05
	5745 (Pk)	Horizontal	97.77	-	-
	5745 (Av)		88.06	-	-
	5650(Pk)		45.68	68.23*	-22.55
	5700(Pk)		44.34	105.23*	-60.89
	5720(Pk)		44.27	110.83*	-66.56
	5725(Pk)		45.98	122.23*	-76.25
	11490 (Pk)		54.73	68.23	-13.50
	11490 (Av)		42.68	54.00	-11.32
	17235 (Pk)		56.70	68.23	-11.53
	17235 (Av)		44.93	54.00	-9.07
5825	5825 (Pk)	Vertical	102.97	-	-
	5825 (Av)		92.50	-	-
	5850 (Pk)		46.56	122.23*	-75.67
	5855 (Pk)		47.47	110.83*	-63.36
	5875 (Pk)		45.89	105.23*	-59.34
	5925 (Pk)		47.90	68.23*	-20.33
	11650 (Pk)		53.69	68.23	-14.54
	11650 (Av)		42.20	54.00	-11.80
	17475 (Pk)		58.61	68.23	-9.62
	17475 (Av)		46.85	54.00	-7.15
	5825 (Pk)	Horizontal	96.43	-	-
	5825 (Av)		87.38	-	-
	5850 (Pk)		45.68	122.23*	-76.55
	5855 (Pk)		45.53	110.83*	-65.3
	5875 (Pk)		45.09	105.23*	-60.14
	5925 (Pk)		46.16	68.23*	-22.07
	11650 (Pk)		53.43	68.23	-14.80
	11650 (Av)		41.83	54.00	-12.17
	17475 (Pk)		58.90	68.23	-9.33
	17475 (Pk)		46.85	54.00	-7.15



**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 97 von 137**  
Page 97 of 137

**Modulation: 802.11n-20MHz**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	104.81	-	-
	5180 (Av)		92.74	-	-
	5150 (Pk)		45.70	74.00*	-28.30
	5150 (Av)		33.86	54.00*	-20.14
	10360 (Pk)		51.40	68.23	-16.83
	10360 (Av)		39.42	54.00	-14.58
	15540 (Pk)		48.47	68.23	-19.76
	15540 (Av)		36.73	54.00	-17.27
	5180 (Pk)	Horizontal	99.40	-	-
	5180 (Av)		88.07	-	-
	5150 (Pk)		45.92	74.00*	-28.08
	5150 (Av)		32.71	54.00*	-21.29
	10360 (Pk)		52.22	68.23	-16.01
	10360 (Av)		39.39	54.00	-14.61
	15540 (Pk)		49.36	68.23	-18.87
	15540 (Av)		36.76	54.00	-17.24
5240	5240 (Pk)	Vertical	105.13	-	-
	5240 (Av)		93.79	-	-
	5350 (Pk)		46.61	74.00*	-27.39
	5350 (Av)		33.75	54.00*	-20.25
	10480 (Pk)		52.21	68.23	-16.02
	10480 (Av)		40.23	54.00	-13.77
	15720 (Pk)		48.12	68.23	-20.11
	15720 (Av)		36.15	54.00	-17.85
	5240 (Pk)	Horizontal	101.70	-	-
	5240 (Av)		89.89	-	-
	5350 (Pk)		45.02	74.00*	-28.98
	5350 (Av)		32.56	54.00*	-21.44
	10480 (Pk)		52.46	68.23	-15.77
	10480 (Av)		40.02	54.00	-13.98
	15720 (Pk)		48.37	68.23	-19.86
	15720 (Av)		36.16	54.00	-17.84

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	103.06	-	-
	5745 (Av)		92.02	-	-
	5650(Pk)		48.24	68.23*	-19.99
	5700(Pk)		47.13	105.23*	-58.1
	5720(Pk)		47.10	110.83*	-63.73
	5725(Pk)		53.20	122.23*	-69.03
	11490 (Pk)		55.18	68.23	-13.05
	11490 (Av)		42.48	54.00	-11.52
	17235 (Pk)		57.24	68.23	-10.99
	17235 (Av)		44.82	54.00	-9.18
	5745 (Pk)	Horizontal	98.23	-	-
	5745 (Av)		86.83	-	-
	5650(Pk)		46.50	68.23*	-21.73
	5700(Pk)		45.86	105.23*	-59.37
	5720(Pk)		45.27	110.83*	-65.56
	5725(Pk)		49.85	122.23*	-72.38
	11490 (Pk)		55.15	68.23	-13.08
	11490 (Av)		42.53	54.00	-11.47
	17235 (Pk)		57.17	68.23	-11.06
	17235 (Av)		44.82	54.00	-9.18
5825	5825 (Pk)	Vertical	101.01	-	-
	5825 (Av)		90.14	-	-
	5850 (Pk)		47.10	122.23*	-75.13
	5855 (Pk)		46.92	110.83*	-63.91
	5875 (Pk)		46.05	105.23*	-59.18
	5925 (Pk)		46.87	68.23*	-21.36
	11650 (Pk)		55.09	68.23	-13.14
	11650 (Av)		42.28	54.00	-11.72
	17475 (Pk)		58.87	68.23	-9.36
	17475 (Av)		46.78	54.00	-7.22
	5825 (Pk)	Horizontal	97.55	-	-
	5825 (Av)		86.25	-	-
	5850 (Pk)		45.49	122.23*	-76.74
	5855 (Pk)		45.14	110.83*	-65.69
	5875 (Pk)		45.28	105.23*	-59.95
	5925 (Pk)		46.17	68.23*	-22.06
	11650 (Pk)		53.60	68.23	-14.63
	11650 (Av)		41.68	54.00	-12.32
	17475 (Pk)		58.87	68.23	-9.36
	17475 (Pk)		46.81	54.00	-7.19

**Modulation:** 802.11ac-20MHz  
**Data rate:** MCS8

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	103.03	-	-
	5180 (Av)		91.49	-	-
	5150 (Pk)		45.84	74.00*	-28.16
	5150 (Av)		33.81	54.00*	-20.19
	10360 (Pk)		52.46	68.23	-15.77
	10360 (Av)		39.35	54.00	-14.65
	15540 (Pk)		48.71	68.23	-19.52
	15540 (Av)		36.76	54.00	-17.24
	5180 (Pk)	Horizontal	100.37	-	-
	5180 (Av)		88.07	-	-
	5150 (Pk)		45.53	74.00*	-28.47
	5150 (Av)		32.80	54.00*	-21.20
	10360 (Pk)		52.00	68.23	-16.23
	10360 (Av)		39.38	54.00	-14.62
	15540 (Pk)		48.22	68.23	-20.01
	15540 (Av)		36.74	54.00	-17.26
5240	5240 (Pk)	Vertical	105.53	-	-
	5240 (Av)		93.80	-	-
	5350 (Pk)		46.43	74.00*	-27.57
	5350 (Av)		33.82	54.00*	-20.18
	10480 (Pk)		52.60	68.23	-15.63
	10480 (Av)		40.14	54.00	-13.86
	15720 (Pk)		48.01	68.23	-20.22
	15720 (Av)		36.17	54.00	-17.83
	5240 (Pk)	Horizontal	101.44	-	-
	5240 (Av)		89.73	-	-
	5350 (Pk)		44.91	74.00*	-29.09
	5350 (Av)		32.51	54.00*	-21.49
	10480 (Pk)		52.52	68.23	-15.71
	10480 (Av)		40.29	54.00	-13.71
	15720 (Pk)		47.88	68.23	-20.35
	15720 (Av)		36.17	54.00	-17.83

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	102.61	-	-
	5745 (Av)		91.06	-	-
	5650(Pk)		47.58	68.23*	-20.65
	5700(Pk)		46.27	105.23*	-58.96
	5720(Pk)		47.19	110.83*	-63.64
	5725(Pk)		53.33	122.23*	-68.90
	11490 (Pk)		55.19	68.23	-13.04
	11490 (Av)		42.58	54.00	-11.42
	17235 (Pk)		56.97	68.23	-11.26
	17235 (Av)		44.84	54.00	-9.16
	5745 (Pk)	Horizontal	98.46	-	-
	5745 (Av)		86.75	-	-
	5650(Pk)		45.96	68.23*	-22.27
	5700(Pk)		45.56	105.23*	-59.67
	5720(Pk)		44.89	110.83*	-65.94
	5725(Pk)		48.13	122.23*	-74.1
	11490 (Pk)		55.38	68.23	-12.85
	11490 (Av)		42.43	54.00	-11.57
	17235 (Pk)		56.44	68.23	-11.79
	17235 (Av)		44.79	54.00	-9.21
5825	5825 (Pk)	Vertical	102.58	-	-
	5825 (Av)		91.86	-	-
	5850 (Pk)		47.64	122.23*	-74.59
	5855 (Pk)		47.92	110.83*	-62.91
	5875 (Pk)		47.11	105.23*	-58.12
	5925 (Pk)		47.69	68.23*	-20.54
	11650 (Pk)		53.84	68.23	-14.39
	11650 (Av)		41.68	54.00	-12.32
	17475 (Pk)		59.08	68.23	-9.15
	17475 (Av)		46.81	54.00	-7.19
	5825 (Pk)	Horizontal	98.21	-	-
	5825 (Av)		86.42	-	-
	5850 (Pk)		45.72	122.23*	-76.51
	5855 (Pk)		45.15	110.83*	-65.68
	5875 (Pk)		46.00	105.23*	-59.23
	5925 (Pk)		46.41	68.23*	-21.82
	11650 (Pk)		53.69	68.23	-14.54
	11650 (Av)		41.74	54.00	-12.26
	17475 (Pk)		58.96	68.23	-9.27
	17475 (Pk)		46.76	54.00	-7.24

**Modulation:** 802.11ax-20MHz  
**Data rate:** MCS11

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	105.37	-	-
	5180 (Av)		92.76	-	-
	5150 (Pk)		48.86	74.00*	-25.14
	5150 (Av)		33.91	54.00*	-20.09
	10360 (Pk)		51.39	68.23	-16.84
	10360 (Av)		39.37	54.00	-14.63
	15540 (Pk)		49.29	68.23	-18.94
	15540 (Av)		36.72	54.00	-17.28
	5180 (Pk)	Horizontal	101.31	-	-
	5180 (Av)		89.23	-	-
	5150 (Pk)		45.93	74.00*	-28.07
	5150 (Av)		32.81	54.00*	-21.19
	10360 (Pk)		51.21	68.23	-17.02
	10360 (Av)		39.39	54.00	-14.61
	15540 (Pk)		50.72	68.23	-17.51
	15540 (Av)		36.79	54.00	-17.21
5240	5240 (Pk)	Vertical	105.81	-	-
	5240 (Av)		93.89	-	-
	5350 (Pk)		45.96	74.00*	-28.04
	5350 (Av)		33.91	54.00*	-20.09
	10480 (Pk)		51.96	68.23	-16.27
	10480 (Av)		40.05	54.00	-13.95
	15720 (Pk)		48.43	68.23	-19.80
	15720 (Av)		36.18	54.00	-17.82
	5240 (Pk)	Horizontal	103.10	-	-
	5240 (Av)		90.86	-	-
	5350 (Pk)		45.45	74.00*	-28.55
	5350 (Av)		32.74	54.00*	-21.26
	10480 (Pk)		51.74	68.23	-16.49
	10480 (Av)		40.02	54.00	-13.98
	15720 (Pk)		48.34	68.23	-19.89
	15720 (Av)		36.19	54.00	-17.81

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	104.81	-	-
	5745 (Av)		92.00	-	-
	5650(Pk)		47.49	68.23*	-20.74
	5700(Pk)		46.54	105.23*	-58.69
	5720(Pk)		48.45	110.83*	-62.38
	5725(Pk)		52.81	122.23*	-69.42
	11490 (Pk)		54.81	68.23	-13.42
	11490 (Av)		42.54	54.00	-11.46
	17235 (Pk)		57.49	68.23	-10.74
	17235 (Av)		44.82	54.00	-9.18
	5745 (Pk)	Horizontal	100.37	-	-
	5745 (Av)		88.15	-	-
	5650(Pk)		46.86	68.23*	-21.37
	5700(Pk)		45.88	105.23*	-59.35
	5720(Pk)		45.71	110.83*	-65.12
	5725(Pk)		49.39	122.23*	-72.84
	11490 (Pk)		54.08	68.23	-14.15
	11490 (Av)		42.51	54.00	-11.49
	17235 (Pk)		56.91	68.23	-11.32
	17235 (Av)		44.85	54.00	-9.15
5825	5825 (Pk)	Vertical	104.44	-	-
	5825 (Av)		92.17	-	-
	5850 (Pk)		46.68	122.23*	-75.55
	5855 (Pk)		47.44	110.83*	-63.39
	5875 (Pk)		45.62	105.23*	-59.61
	5925 (Pk)		48.97	68.23*	-19.26
	11650 (Pk)		54.16	68.23	-14.07
	11650 (Av)		42.07	54.00	-11.93
	17475 (Pk)		58.98	68.23	-9.25
	17475 (Av)		46.77	54.00	-7.23
	5825 (Pk)	Horizontal	98.77	-	-
	5825 (Av)		87.29	-	-
	5850 (Pk)		45.70	122.23*	-76.53
	5855 (Pk)		45.11	110.83*	-65.72
	5875 (Pk)		45.62	105.23*	-59.61
	5925 (Pk)		45.43	68.23*	-22.80
	11650 (Pk)		54.49	68.23	-13.74
	11650 (Av)		41.83	54.00	-12.17
	17475 (Pk)		59.05	68.23	-9.18
	17475 (Pk)		46.79	54.00	-7.21

**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 103 von 137**

Test Report No.:

Page 103 of 137

**Modulation: 802.11n-40MHz**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	101.16	-	-
	5190 (Av)		89.09	-	-
	5150 (Pk)		46.68	74.00*	-27.32
	5150 (Av)		34.41	54.00*	-19.59
	10380 (Pk)		51.74	68.23	-16.49
	10380 (Av)		39.56	54.00	-14.44
	15570 (Pk)		48.52	68.23	-19.71
	15570 (Av)		36.17	54.00	-17.83
	5190 (Pk)	Horizontal	98.21	-	-
	5190 (Av)		86.37	-	-
	5150 (Pk)		46.75	74.00*	-27.25
	5150 (Av)		33.81	54.00*	-20.19
	10380 (Pk)		51.48	68.23	-16.75
	10380 (Av)		39.54	54.00	-14.46
	15570 (Pk)		48.79	68.23	-19.44
	15570 (Av)		36.19	54.00	-17.81
5230	5230 (Pk)	Vertical	101.42	-	-
	5230 (Av)		89.40	-	-
	5350 (Pk)		49.85	74.00*	-24.15
	5350 (Av)		34.20	54.00*	-19.80
	10460 (Pk)		51.84	68.23	-16.39
	10460 (Av)		39.89	54.00	-14.11
	15690 (Pk)		48.30	68.23	-19.93
	15690 (Av)		35.78	54.00	-18.22
	5230 (Pk)	Horizontal	99.09	-	-
	5230 (Av)		86.62	-	-
	5150 (Pk)		53.67	74.00*	-20.33
	5150 (Av)		32.75	54.00*	-21.25
	10460 (Pk)		52.07	68.23	-16.16
	10460 (Av)		39.88	54.00	-14.12
	15690 (Pk)		48.36	68.23	-19.87
	15690 (Av)		35.74	54.00	-18.26

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	100.79	-	-
	5755 (Av)		88.96	-	-
	5650(Pk)		47.21	68.23*	-21.02
	5700(Pk)		45.97	105.23*	-59.26
	5720(Pk)		51.57	110.83*	-59.26
	5725(Pk)		60.68	122.23*	-61.55
	11510 (Pk)		55.47	68.23	-12.76
	11510 (Av)		42.49	54.00	-11.51
	17265(Pk)		56.29	68.23	-11.94
	17265(Av)		44.55	54.00	-9.45
	5755 (Pk)	Horizontal	95.86	-	-
	5755 (Av)		84.11	-	-
	5650(Pk)		46.03	68.23*	-22.2
	5700(Pk)		45.51	105.23*	-59.72
	5720(Pk)		48.62	110.83*	-62.21
	5725(Pk)		56.76	122.23*	-65.47
	11510 (Pk)		54.85	68.23	-13.38
	11510 (Av)		42.48	54.00	-11.52
	17265(Pk)		56.80	68.23	-11.43
	17265(Av)		44.54	54.00	-9.46
5795	5795 (Pk)	Vertical	101.40	-	-
	5795 (Av)		88.48	-	-
	5850 (Pk)		46.95	122.23*	-75.28
	5855Pk)		46.57	110.83*	-64.26
	5875(Pk)		46.35	105.23*	-58.88
	5925(Pk)		46.52	68.23*	-21.71
	11590 (Pk)		54.02	68.23	-14.21
	11590 (Av)		41.77	54.00	-12.23
	17385 (Pk)		56.92	68.23	-11.31
	17385 (Av)		45.12	54.00	-8.88
	5795 (Pk)	Horizontal	95.21	-	-
	5795 (Av)		83.40	-	-
	5850 (Pk)		44.91	122.23*	-77.32
	5855Pk)		44.68	110.83*	-66.15
	5875(Pk)		45.24	105.23*	-59.99
	5925(Pk)		45.43	68.23*	-22.8
	11590 (Pk)		53.94	68.23	-14.29
	11590 (Av)		41.89	54.00	-12.11
	17385 (Pk)		57.71	68.23	-10.52
	17385 (Pk)		45.08	54.00	-8.92



**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 105 von 137**

Test Report No.:

Page 105 of 137

**Modulation: 802.11ac-40MHz**

**Data rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	100.60	-	-
	5190 (Av)		89.18	-	-
	5150 (Pk)		47.22	74.00*	-26.78
	5150 (Av)		34.47	54.00*	-19.53
	10380 (Pk)		51.85	68.23	-16.38
	10380 (Av)		39.55	54.00	-14.45
	15570 (Pk)		48.58	68.23	-19.65
	15570 (Av)		36.17	54.00	-17.83
	5190 (Pk)	Horizontal	97.26	-	-
	5190 (Av)		86.46	-	-
	5150 (Pk)		46.58	74.00*	-27.42
	5150 (Av)		33.62	54.00*	-20.38
	10380 (Pk)		51.54	68.23	-16.69
	10380 (Av)		39.54	54.00	-14.46
	15570 (Pk)		48.78	68.23	-19.45
	15570 (Av)		36.16	54.00	-17.84
5230	5230 (Pk)	Vertical	102.70	-	-
	5230 (Av)		90.04	-	-
	5350 (Pk)		47.99	74.00*	-26.01
	5350 (Av)		34.27	54.00*	-19.73
	10460 (Pk)		51.52	68.23	-16.71
	10460 (Av)		40.10	54.00	-13.90
	15690 (Pk)		47.87	68.23	-20.36
	15690 (Av)		35.74	54.00	-18.26
	5230 (Pk)	Horizontal	98.02	-	-
	5230 (Av)		86.57	-	-
	5150 (Pk)		51.35	74.00*	-22.65
	5150 (Av)		32.71	54.00*	-21.29
	10460 (Pk)		51.89	68.23	-16.34
	10460 (Av)		39.92	54.00	-14.08
	15690 (Pk)		48.06	68.23	-20.17
	15690 (Av)		35.17	54.00	-18.83

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	100.06	-	-
	5755 (Av)		89.17	-	-
	5650(Pk)		60.76	68.23*	-7.47
	5700(Pk)		52.17	105.23*	-53.06
	5720(Pk)		46.42	110.83*	-64.41
	5725(Pk)		48.52	122.23*	-73.71
	11510 (Pk)		53.97	68.23	-14.26
	11510 (Av)		42.48	54.00	-11.52
	17265(Pk)		56.71	68.23	-11.52
	17265(Av)		44.54	54.00	-9.46
	5755 (Pk)	Horizontal	96.31	-	-
	5755 (Av)		83.91	-	-
	5650(Pk)		45.77	68.23*	-22.46
	5700(Pk)		45.20	105.23*	-60.03
	5720(Pk)		47.69	110.83*	-63.14
	5725(Pk)		56.05	122.23*	-66.18
	11510 (Pk)		53.84	68.23	-14.39
	11510 (Av)		42.60	54.00	-11.40
	17265(Pk)		57.19	68.23	-11.04
	17265(Av)		44.52	54.00	-9.48
5795	5795 (Pk)	Vertical	100.05	-	-
	5795 (Av)		88.94	-	-
	5850 (Pk)		46.60	122.23*	-75.63
	5855Pk)		46.63	110.83*	-64.2
	5875(Pk)		46.10	105.23*	-59.13
	5925(Pk)		45.53	68.23*	-22.7
	11590 (Pk)		54.34	68.23	-13.89
	11590 (Av)		41.86	54.00	-12.14
	17385 (Pk)		57.49	68.23	-10.74
	17385 (Av)		45.10	54.00	-8.90
	5795 (Pk)	Horizontal	94.83	-	-
	5795 (Av)		83.20	-	-
	5850 (Pk)		45.20	122.23*	-77.03
	5855Pk)		45.24	110.83*	-65.59
	5875(Pk)		45.37	105.23*	-59.86
	5925(Pk)		45.05	68.23*	-23.18
	11590 (Pk)		54.12	68.23	-14.11
	11590 (Av)		41.88	54.00	-12.12
	17385 (Pk)		57.03	68.23	-11.20
	17385 (Pk)		45.09	54.00	-8.91

**Modulation: 802.11ax-40MHz**  
**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	102.66	-	-
	5190 (Av)		89.82	-	-
	5150 (Pk)		48.60	74.00*	-25.40
	5150 (Av)		35.06	54.00*	-18.94
	10380 (Pk)		51.25	68.23	-16.98
	10380 (Av)		39.60	54.00	-14.40
	15570 (Pk)		48.66	68.23	-19.57
	15570 (Av)		36.16	54.00	-17.84
	5190 (Pk)	Horizontal	99.04	-	-
	5190 (Av)		86.46	-	-
	5150 (Pk)		47.02	74.00*	-26.98
	5150 (Av)		34.14	54.00*	-19.86
	10380 (Pk)		51.92	68.23	-16.31
	10380 (Av)		39.49	54.00	-14.51
	15570 (Pk)		47.85	68.23	-20.38
	15570 (Av)		36.14	54.00	-17.86
5230	5230 (Pk)	Vertical	102.45	-	-
	5230 (Av)		90.31	-	-
	5350 (Pk)		50.51	74.00*	-23.49
	5350 (Av)		34.32	54.00*	-19.68
	10460 (Pk)		52.22	68.23	-16.01
	10460 (Av)		40.11	54.00	-13.89
	15690 (Pk)		48.58	68.23	-19.65
	15690 (Av)		35.72	54.00	-18.28
	5230 (Pk)	Horizontal	99.22	-	-
	5230 (Av)		87.36	-	-
	5150 (Pk)		44.81	74.00*	-29.19
	5150 (Av)		32.72	54.00*	-21.28
	10460 (Pk)		52.63	68.23	-15.60
	10460 (Av)		39.87	54.00	-14.13
	15690 (Pk)		47.71	68.23	-20.52
	15690 (Av)		35.75	54.00	-18.25

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	101.93	-	-
	5755 (Av)		89.75	-	-
	5650(Pk)		48.30	68.23*	-19.93
	5700(Pk)		46.76	105.23*	-58.47
	5720(Pk)		51.43	110.83*	-59.4
	5725(Pk)		61.61	122.23*	-60.62
	11510 (Pk)		54.25	68.23	-13.98
	11510 (Av)		42.55	54.00	-11.45
	17265(Pk)		56.28	68.23	-11.95
	17265(Av)		44.52	54.00	-9.48
	5755 (Pk)	Horizontal	96.70	-	-
	5755 (Av)		84.75	-	-
	5650(Pk)		45.74	68.23*	-22.49
	5700(Pk)		45.51	105.23*	-59.72
	5720(Pk)		47.33	110.83*	-63.5
	5725(Pk)		57.15	122.23*	-65.08
	11510 (Pk)		54.65	68.23	-13.58
	11510 (Av)		42.45	54.00	-11.55
	17265(Pk)		55.95	68.23	-12.28
	17265(Av)		44.51	54.00	-9.49
5795	5795 (Pk)	Vertical	101.75	-	-
	5795 (Av)		89.37	-	-
	5850 (Pk)		47.74	122.23*	-74.49
	5855Pk)		47.78	110.83*	-63.05
	5875(Pk)		47.51	105.23*	-57.72
	5925(Pk)		46.73	68.23*	-21.5
	11590 (Pk)		53.83	68.23	-14.40
	11590 (Av)		41.82	54.00	-12.18
	17385 (Pk)		57.78	68.23	-10.45
	17385 (Av)		45.13	54.00	-8.87
	5795 (Pk)	Horizontal	96.25	-	-
	5795 (Av)		83.76	-	-
	5850 (Pk)		45.30	122.23*	-76.93
	5855Pk)		45.40	110.83*	-65.43
	5875(Pk)		45.43	105.23*	-59.8
	5925(Pk)		45.58	68.23*	-22.65
	11590 (Pk)		53.86	68.23	-14.37
	11590 (Av)		41.71	54.00	-12.29
	17385 (Pk)		56.78	68.23	-11.45
	17385 (Pk)		45.08	54.00	-8.92

**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 109 von 137**  
Page 109 of 137

**Modulation: 802.11ac-80MHz**

**Data rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	99.20	-	-
	5210 (Av)		87.13	-	-
	5150 (Pk)		49.77	74.00*	-24.23
	5150 (Av)		35.71	54.00*	-18.29
	10420 (Pk)		52.42	68.23	-15.81
	10420 (Av)		39.70	54.00	-14.30
	15630 (Pk)		47.78	68.23	-20.45
	15630 (Av)		35.97	54.00	-18.03
	5210 (Pk)	Horizontal	94.70	-	-
	5210 (Av)		83.41	-	-
	5150 (Pk)		46.81	74.00*	-27.19
	5150 (Av)		34.71	54.00*	-19.29
	10420 (Pk)		52.13	68.23	-16.10
	10420 (Av)		39.71	54.00	-14.29
	15630 (Pk)		48.13	68.23	-20.10
	15630 (Av)		35.97	54.00	-18.03
5775	5775 (Pk)	Vertical	97.80	-	-
	5775 (Pk)		86.04	-	-
	5850 (Pk)		47.32	122.23*	-74.91
	5855Pk)		47.79	110.83*	-63.04
	5875(Pk)		46.51	105.23*	-58.72
	5925(Pk)		46.07	68.23*	-22.16
	11550 (Pk)		54.58	68.23	-13.65
	11550 (Av)		42.29	54.00	-11.71
	17325 (Pk)	56.80	68.23	-11.43	
	17325 (Av)	44.81	54.00	-9.19	
	5775 (Pk)	Horizontal	92.23	-	-
	5775 (Pk)		80.65	-	-
	5850 (Pk)		45.25	122.23*	-76.98
	5855Pk)		45.43	110.83*	-65.4
	5875(Pk)		45.57	105.23*	-59.66
	5925(Pk)		45.45	68.23*	-22.78
11550 (Pk)	54.57		68.23	-13.66	
11550 (Av)	42.19		54.00	-11.81	
17325 (Pk)	57.60	68.23	-10.63		
17325 (Av)	44.84	54.00	-9.16		

**Modulation: 802.11ax-80MHz**

**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	100.01	-	-
	5210 (Av)		87.72	-	-
	5150 (Pk)		50.02	74.00*	-23.98
	5150 (Av)		35.94	54.00*	-18.06
	10420 (Pk)		51.90	68.23	-16.33
	10420 (Av)		39.83	54.00	-14.17
	15630 (Pk)		48.31	68.23	-19.92
	15630 (Av)		35.94	54.00	-18.06
	5210 (Pk)	Horizontal	95.75	-	-
	5210 (Av)		84.53	-	-
	5150 (Pk)		47.98	74.00*	-26.02
	5150 (Av)		35.17	54.00*	-18.83
	10420 (Pk)		52.82	68.23	-15.41
	10420 (Av)		39.67	54.00	-14.33
	15630 (Pk)		48.04	68.23	-20.19
	15630 (Av)		35.94	54.00	-18.06
5775	5775 (Pk)	Vertical	98.39	-	-
	5775 (Pk)		86.39	-	-
	5850 (Pk)		47.07	122.23*	-75.16
	5855Pk		47.33	110.83*	-63.5
	5875(Pk)		46.45	105.23*	-58.78
	5925(Pk)		45.54	68.23*	-22.69
	11550 (Pk)		54.30	68.23	-13.93
	11550 (Av)		42.16	54.00	-11.84
	17325 (Pk)		56.15	68.23	-12.08
	17325 (Av)		44.83	54.00	-9.17
	5775 (Pk)	Horizontal	93.32	-	-
	5775 (Pk)		81.45	-	-
	5850 (Pk)		45.05	122.23*	-77.18
	5855Pk		45.32	110.83*	-65.51
	5875(Pk)		46.60	105.23*	-58.63
	5925(Pk)		46.41	68.23*	-21.82
	11550 (Pk)		54.39	68.23	-13.84
	11550 (Av)		42.39	54.00	-11.61
17325 (Pk)	57.14	68.23	-11.09		
17325 (Av)	44.82	54.00	-9.18		

**Antenna type & Antenna Gain:** Dish Antenna & 35dBi

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	107.13	-	-
	5180 (Av)		91.55	-	-
	5150 (Pk)		50.05	74.00*	-23.95
	5150 (Av)		35.90	54.00*	-18.10
	10360 (Pk)		51.81	68.23	-16.42
	10360 (Av)		39.53	54.00	-14.47
	15540 (Pk)		53.90	68.23	-14.33
	15540 (Av)		41.51	54.00	-12.49
	5180 (Pk)	Horizontal	103.68	-	-
	5180 (Av)		88.46	-	-
	5150 (Pk)		45.39	74.00*	-28.61
	5150 (Av)		32.42	54.00*	-21.58
	10360 (Pk)		52.55	68.23	-15.68
	10360 (Av)		39.48	54.00	-14.52
	15540 (Pk)		53.36	68.23	-14.87
	15540 (Av)		41.50	54.00	-12.50
5240	5240 (Pk)	Vertical	106.20	-	-
	5240 (Av)		90.84	-	-
	5350 (Pk)		46.27	74.00*	-27.73
	5350 (Av)		32.89	54.00*	-21.11
	10480 (Pk)		52.23	68.23	-16.00
	10480 (Av)		40.18	54.00	-13.82
	15720 (Pk)		53.53	68.23	-14.70
	15720 (Av)		41.16	54.00	-12.84
	5240 (Pk)	Horizontal	101.13	-	-
	5240 (Av)		86.23	-	-
	5350 (Pk)		43.65	74.00*	-30.35
	5350 (Av)		30.41	54.00*	-23.59
	10480 (Pk)		53.58	68.23	-14.65
	10480 (Av)		40.20	54.00	-13.80
	15720 (Pk)		53.70	68.23	-14.53
	15720 (Av)		41.08	54.00	-12.92

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	102.57	-	-
	5745 (Av)		87.22	-	-
	5725(Pk)		53.35	122.23*	-68.88
	5720(Pk)		47.53	110.83*	-63.30
	5700(Pk)		46.12	105.23*	-59.11
	5650(Pk)		48.24	68.23*	-19.99
	11490 (Pk)		55.50	68.23	-12.73
	11490 (Av)		42.78	54.00	-11.22
	17235 (Pk)		57.76	68.23	-10.47
	17235 (Av)		45.01	54.00	-8.99
	5745 (Pk)	Horizontal	99.19	-	-
	5745 (Av)		83.80	-	-
	5725(Pk)		48.98	122.23*	-73.25
	5720(Pk)		44.33	110.83*	-66.5
	5700(Pk)		43.79	105.23*	-61.44
	5650(Pk)		44.13	68.23*	-24.10
	11490 (Pk)		57.48	68.23	-10.75
	11490 (Av)		44.13	54.00	-9.87
	17235 (Pk)		57.29	68.23	-10.94
	17235 (Av)		45.02	54.00	-8.98
5825	5825 (Pk)	Vertical	101.87	-	-
	5825 (Av)		86.73	-	-
	5850(Pk)		47.28	122.23*	-74.95
	5855(Pk)		47.45	110.83*	-63.38
	5875(Pk)		44.55	105.23*	-60.68
	5925(Pk)		45.05	68.23*	-23.18
	11650 (Pk)		56.25	68.23	-11.98
	11650 (Av)		43.30	54.00	-10.70
	17475 (Pk)		58.99	68.23	-9.24
	17475 (Av)		46.80	54.00	-7.20
	5825 (Pk)	Horizontal	99.55	-	-
	5825 (Av)		84.07	-	-
	5850(Pk)		44.58	122.23*	-77.65
	5855(Pk)		43.95	110.83*	-66.88
	5875(Pk)		58.43	105.23*	-46.80
	5925(Pk)		44.06	68.23*	-24.17
	11650 (Pk)		63.19	68.23	-5.04
	11650 (Av)		46.94	54.00	-7.06
	17475 (Pk)		59.20	68.23	-9.03
	17475 (Pk)		46.83	54.00	-7.17



**Modulation: 802.11n-20MHz**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	107.30	-	-
	5180 (Av)		96.27	-	-
	5150 (Pk)		49.33	74.00*	-24.67
	5150 (Av)		34.92	54.00*	-19.08
	10360 (Pk)		51.56	68.23	-16.67
	10360 (Av)		39.35	54.00	-14.65
	15540 (Pk)		53.40	68.23	-14.83
	15540 (Av)		41.33	54.00	-12.67
	5180 (Pk)	Horizontal	108.63	-	-
	5180 (Av)		97.11	-	-
	5150 (Pk)		48.57	74.00*	-25.43
	5150 (Av)		36.14	54.00*	-17.86
	10360 (Pk)		51.12	68.23	-17.11
	10360 (Av)		39.41	54.00	-14.59
	15540 (Pk)		53.84	68.23	-14.39
	15540 (Av)		41.37	54.00	-12.63
5240	5240 (Pk)	Vertical	105.98	-	-
	5240 (Av)		94.91	-	-
	5350 (Pk)		47.90	74.00*	-26.10
	5350 (Av)		34.81	54.00*	-19.19
	10480 (Pk)		51.74	68.23	-16.49
	10480 (Av)		40.13	54.00	-13.87
	15720 (Pk)		53.11	68.23	-15.12
	15720 (Av)		40.98	54.00	-13.02
	5240 (Pk)	Horizontal	108.38	-	-
	5240 (Av)		96.80	-	-
	5350 (Pk)		49.70	74.00*	-24.30
	5350 (Av)		35.15	54.00*	-18.85
	10480 (Pk)		52.34	68.23	-15.89
	10480 (Av)		40.06	54.00	-13.94
	15720 (Pk)		52.75	68.23	-15.48
	15720 (Av)		40.93	54.00	-13.07

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5745	5745 (Pk)	Vertical	102.80	-	-
	5745 (Av)		91.32	-	-
	5725(Pk)		55.4	122.23*	-66.83
	5720(Pk)		48.36	110.83*	-62.47
	5700(Pk)		47.28	105.23*	-57.95
	5650(Pk)		48.32	68.23*	-19.91
	11490 (Pk)		56.11	68.23	-12.12
	11490 (Av)		43.08	54.00	-10.92
	17235 (Pk)		56.98	68.23	-11.25
	17235 (Av)		44.99	54.00	-9.01
	5745 (Pk)	Horizontal	107.31	-	-
	5745 (Av)		95.86	-	-
	5725(Pk)		58.54	122.23*	-63.69
	5720(Pk)		51.01	110.83*	-59.82
	5700(Pk)		49.2	105.23*	-56.03
	5650(Pk)		48.65	68.23*	-19.58
	11490 (Pk)		56.74	68.23	-11.49
	11490 (Av)		43.51	54.00	-10.49
	17235 (Pk)		57.45	68.23	-10.78
	17235 (Av)		44.98	54.00	-9.02
5825	5825 (Pk)	Vertical	102.68	-	-
	5825 (Av)		90.86	-	-
	5850(Pk)		47.7	122.23*	-74.53
	5855(Pk)		48.15	110.83*	-62.68
	5875(Pk)		45.14	105.23*	-60.09
	5925(Pk)		45.87	68.23*	-22.36
	11650 (Pk)		55.43	68.23	-12.80
	11650 (Av)		43.16	54.00	-10.84
	17475 (Pk)		59.01	68.23	-9.22
	17475 (Av)		46.78	54.00	-7.22
	5825 (Pk)	Horizontal	107.04	-	-
	5825 (Av)		95.70	-	-
	5850(Pk)		51.60	122.23*	-70.63
	5855(Pk)		50.87	110.83*	-59.96
	5875(Pk)		49.39	105.23*	-55.84
	5925(Pk)		48.00	68.23*	-20.23
	11650 (Pk)		60.74	68.23	-7.49
	11650 (Av)		47.49	54.00	-6.51
	17475 (Pk)		59.03	68.23	-9.20
	17475 (Pk)		46.76	54.00	-7.24

**Modulation: 802.11ac-20MHz**

**Data rate: MCS8**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	108.09	-	-
	5180 (Av)		96.26	-	-
	5150 (Pk)		49.77	74.00*	-24.23
	5150 (Av)		36.24	54.00*	-17.76
	10360 (Pk)		51.50	68.23	-16.73
	10360 (Av)		39.29	54.00	-14.71
	15540 (Pk)		53.01	68.23	-15.22
	15540 (Av)		41.25	54.00	-12.75
	5180 (Pk)	Horizontal	108.65	-	-
	5180 (Av)		97.06	-	-
	5150 (Pk)		49.17	74.00*	-24.83
	5150 (Av)		36.40	54.00*	-17.60
	10360 (Pk)		51.25	68.23	-16.98
	10360 (Av)		39.30	54.00	-14.70
	15540 (Pk)		54.16	68.23	-14.07
	15540 (Av)		41.28	54.00	-12.72
5240	5240 (Pk)	Vertical	107.15	-	-
	5240 (Av)		94.56	-	-
	5350 (Pk)		46.73	74.00*	-27.27
	5350 (Av)		34.31	54.00*	-19.69
	10480 (Pk)		51.56	68.23	-16.67
	10480 (Av)		39.95	54.00	-14.05
	15720 (Pk)		52.82	68.23	-15.41
	15720 (Av)		40.89	54.00	-13.11
	5240 (Pk)	Horizontal	108.15	-	-
	5240 (Av)		97.32	-	-
	5350 (Pk)		48.39	74.00*	-25.61
	5350 (Av)		36.70	54.00*	-17.30
	10480 (Pk)		52.22	68.23	-16.01
	10480 (Av)		39.98	54.00	-14.02
	15720 (Pk)		53.30	68.23	-14.93
	15720 (Av)		40.86	54.00	-13.14

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
5745	5745 (Pk)	Vertical	103.06	-	-
	5745 (Av)		91.71	-	-
	5725(Pk)		53.81	122.23*	-68.42
	5720(Pk)		47.16	110.83*	-63.67
	5700(Pk)		46.77	105.23*	-58.46
	5650(Pk)		47.55	68.23*	-20.68
	11490 (Pk)		54.23	68.23	-14.00
	11490 (Av)		43.01	54.00	-10.99
	17235 (Pk)		56.62	68.23	-11.61
	17235 (Av)		44.97	54.00	-9.03
	5745 (Pk)	Horizontal	107.11	-	-
	5745 (Av)		94.54	-	-
	5725(Pk)		57.23	122.23*	-65
	5720(Pk)		50.22	110.83*	-60.61
	5700(Pk)		48.97	105.23*	-56.26
	5650(Pk)		48.21	68.23*	-20.02
	11490 (Pk)		55.25	68.23	-12.98
	11490 (Av)		43.50	54.00	-10.50
	17235 (Pk)		57.30	68.23	-10.93
	17235 (Av)		45.00	54.00	-9.00
5825	5825 (Pk)	Vertical	103.82	-	-
	5825 (Av)		91.23	-	-
	5850(Pk)		47.66	122.23*	-74.57
	5855(Pk)		47.3	110.83*	-63.53
	5875(Pk)		44.67	105.23*	-60.56
	5925(Pk)		45.43	68.23*	-22.8
	11650 (Pk)		56.61	68.23	-11.62
	11650 (Av)		43.37	54.00	-10.63
	17475 (Pk)		59.08	68.23	-9.15
	17475 (Av)		46.80	54.00	-7.20
	5825 (Pk)	Horizontal	107.71	-	-
	5825 (Av)		96.16	-	-
	5850(Pk)		53.16	122.23*	-69.07
	5855(Pk)		51.79	110.83*	-59.04
	5875(Pk)		48.15	105.23*	-57.08
	5925(Pk)		49.05	68.23*	-19.18
	11650 (Pk)		60.37	68.23	-7.86
	11650 (Av)		46.43	54.00	-7.57
	17475 (Pk)		60.08	68.23	-8.15
	17475 (Pk)		46.82	54.00	-7.18

**Modulation:802.11ax-20MHz**

**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5180	5180 (Pk)	Vertical	108.94	-	-
	5180 (Av)		96.51	-	-
	5150 (Pk)		51.37	74.00*	-22.63
	5150 (Av)		37.21	54.00*	-16.79
	10360 (Pk)		51.56	68.23	-16.67
	10360 (Av)		39.23	54.00	-14.77
	15540 (Pk)		52.75	68.23	-15.48
	15540 (Av)		41.15	54.00	-12.85
	5180 (Pk)	Horizontal	109.92	-	-
	5180 (Av)		96.95	-	-
	5150 (Pk)		49.38	74.00*	-24.62
	5150 (Av)		37.26	54.00*	-16.74
	10360 (Pk)		51.35	68.23	-16.88
	10360 (Av)		39.21	54.00	-14.79
	15540 (Pk)		53.32	68.23	-14.91
	15540 (Av)		41.15	54.00	-12.85
5240	5240 (Pk)	Vertical	107.82	-	-
	5240 (Av)		95.49	-	-
	5350 (Pk)		46.44	74.00*	-27.56
	5350 (Av)		34.55	54.00*	-19.45
	10480 (Pk)		52.21	68.23	-16.02
	10480 (Av)		39.92	54.00	-14.08
	15720 (Pk)		52.93	68.23	-15.30
	15720 (Av)		40.84	54.00	-13.16
	5240 (Pk)	Horizontal	109.12	-	-
	5240 (Av)		96.79	-	-
	5350 (Pk)		47.63	74.00*	-26.37
	5350 (Av)		35.57	54.00*	-18.43
	10480 (Pk)		52.14	68.23	-16.09
	10480 (Av)		39.95	54.00	-14.05
	15720 (Pk)		52.52	68.23	-15.71
	15720 (Av)		40.77	54.00	-13.23

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5745	5745 (Pk)	Vertical	106.81	-	-
	5745 (Av)		94.53	-	-
	5725(Pk)		56.49	122.23*	-65.74
	5720(Pk)		51.12	110.83*	-59.71
	5700(Pk)		47.78	105.23*	-57.45
	5650(Pk)		49.68	68.23*	-18.55
	11490 (Pk)		55.34	68.23	-12.89
	11490 (Av)		43.07	54.00	-10.93
	17235 (Pk)		56.55	68.23	-11.68
	17235 (Av)		45.01	54.00	-8.99
	5745 (Pk)	Horizontal	106.61	-	-
	5745 (Av)		95.21	-	-
	5725(Pk)		55.53	122.23*	-66.7
	5720(Pk)		53.37	110.83*	-57.46
	5700(Pk)		47.23	105.23*	-58
	5650(Pk)		47.37	68.23*	-20.86
	11490 (Pk)		55.71	68.23	-12.52
	11490 (Av)		43.90	54.00	-10.10
	17235 (Pk)		57.23	68.23	-11.00
	17235 (Av)		45.00	54.00	-9.00
5825	5825 (Pk)	Vertical	109.09	-	-
	5825 (Av)		96.69	-	-
	5850(Pk)		51.37	122.23*	-70.86
	5855(Pk)		50.94	110.83*	-59.89
	5875(Pk)		46.48	105.23*	-58.75
	5925(Pk)		46.37	68.23*	-21.86
	11650 (Pk)		57.83	68.23	-10.40
	11650 (Av)		43.97	54.00	-10.03
	17475 (Pk)		59.54	68.23	-8.69
	17475 (Av)		46.80	54.00	-7.20
	5825 (Pk)	Horizontal	109.05	-	-
	5825 (Av)		97.41	-	-
	5850(Pk)		58.55	122.23*	-63.68
	5855(Pk)		52.41	110.83*	-58.42
	5875(Pk)		49.77	105.23*	-55.46
	5925(Pk)		48.69	68.23*	-19.54
	11650 (Pk)		60.82	68.23	-7.41
	11650 (Av)		47.11	54.00	-6.89
	17475 (Pk)		59.17	68.23	-9.06
	17475 (Pk)		46.78	54.00	-7.22

**Modulation:802.11n-40MHz**

**Data rate: MCS7**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	105.51	-	-
	5190 (Av)		92.91	-	-
	5150 (Pk)		55.99	74.00*	-18.01
	5150 (Av)		40.86	54.00*	-13.14
	10380 (Pk)		52.28	68.23	-15.95
	10380 (Av)		39.67	54.00	-14.33
	15570 (Pk)		52.94	68.23	-15.29
	15570 (Av)		41.07	54.00	-12.93
	5190 (Pk)	Horizontal	106.54	-	-
	5190 (Av)		93.74	-	-
	5150 (Pk)		57.04	74.00*	-16.96
	5150 (Av)		41.95	54.00*	-12.05
	10380 (Pk)		51.50	68.23	-16.73
	10380 (Av)		39.72	54.00	-14.28
	15570 (Pk)		53.34	68.23	-14.89
	15570 (Av)		41.05	54.00	-12.95
5230	5230 (Pk)	Vertical	105.76	-	-
	5230 (Av)		93.75	-	-
	5350 (Pk)		47.52	74.00*	-26.48
	5350 (Av)		35.06	54.00*	-18.94
	10460 (Pk)		52.12	68.23	-16.11
	10460 (Av)		40.09	54.00	-13.91
	15690 (Pk)		55.11	68.23	-13.12
	15690 (Av)		41.08	54.00	-12.92
	5230 (Pk)	Horizontal	105.16	-	-
	5230 (Av)		92.86	-	-
	5150 (Pk)		48.92	74.00*	-25.08
	5150 (Av)		36.27	54.00*	-17.73
	10460 (Pk)		52.07	68.23	-16.16
	10460 (Av)		40.07	54.00	-13.93
	15690 (Pk)		53.09	68.23	-15.14
	15690 (Av)		41.08	54.00	-12.92

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	102.07	-	-
	5755 (Av)		89.91	-	-
	5725(Pk)		61.37	122.23*	-60.86
	5720(Pk)		51.46	110.83*	-59.37
	5700(Pk)		46.97	105.23*	-58.26
	5650(Pk)		46.88	68.23*	-21.35
	11510 (Pk)		55.55	68.23	-12.68
	11510 (Av)		43.34	54.00	-10.66
	17265(Pk)		56.92	68.23	-11.31
	17265(Av)		44.48	54.00	-9.52
	5755 (Pk)	Horizontal	105.19	-	-
	5755 (Av)		92.62	-	-
	5725(Pk)		66.62	122.23*	-55.61
	5720(Pk)		56.93	110.83*	-53.9
	5700(Pk)		49.57	105.23*	-55.66
	5650(Pk)		48.32	68.23*	-19.91
	11510 (Pk)		55.38	68.23	-12.85
	11510 (Av)		43.41	54.00	-10.59
	17265(Pk)		56.80	68.23	-11.43
	17265(Av)		44.91	54.00	-9.09
5795	5795 (Pk)	Vertical	100.53	-	-
	5795 (Av)		88.80	-	-
	5850(Pk)		47.50	122.23*	-74.73
	5855(Pk)		48.49	110.83*	-62.34
	5875(Pk)		46.98	105.23*	-58.25
	5925(Pk)		45.74	68.23*	-22.49
	11590 (Pk)		54.14	68.23	-14.09
	11590 (Av)		42.84	54.00	-11.16
	17385 (Pk)		57.48	68.23	-10.75
	17385 (Av)		45.29	54.00	-8.71
	5795 (Pk)	Horizontal	103.54	-	-
	5795 (Av)		91.52	-	-
	5850(Pk)		47.90	122.23*	-74.33
	5855(Pk)		47.97	110.83*	-62.86
	5875(Pk)		46.99	105.23*	-58.24
	5925(Pk)		44.65	68.23*	-23.58
	11590 (Pk)		55.28	68.23	-12.95
	11590 (Av)		43.03	54.00	-10.97
	17385 (Pk)		57.39	68.23	-10.84
	17385 (Pk)		45.29	54.00	-8.71



**Modulation:802.11ac-40MHz**

**Data rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	104.91	-	-
	5190 (Av)		93.20	-	-
	5150 (Pk)		55.43	74.00*	-18.57
	5150 (Av)		40.90	54.00*	-13.10
	10380 (Pk)		51.88	68.23	-16.35
	10380 (Av)		39.70	54.00	-14.30
	15570 (Pk)		53.72	68.23	-14.51
	15570 (Av)		41.14	54.00	-12.86
	5190 (Pk)	Horizontal	105.68	-	-
	5190 (Av)		93.81	-	-
	5150 (Pk)		57.02	74.00*	-16.98
	5150 (Av)		42.48	54.00*	-11.52
	10380 (Pk)		51.82	68.23	-16.41
	10380 (Av)		39.69	54.00	-14.31
	15570 (Pk)		53.18	68.23	-15.05
	15570 (Av)		41.04	54.00	-12.96
5230	5230 (Pk)	Vertical	103.84	-	-
	5230 (Av)		92.15	-	-
	5350 (Pk)		46.63	74.00*	-27.37
	5350 (Av)		33.91	54.00*	-20.09
	10460 (Pk)		52.29	68.23	-15.94
	10460 (Av)		40.03	54.00	-13.97
	15690 (Pk)		53.21	68.23	-15.02
	15690 (Av)		40.98	54.00	-13.02
	5230 (Pk)	Horizontal	105.23	-	-
	5230 (Av)		93.80	-	-
	5150 (Pk)		48.63	74.00*	-25.37
	5150 (Av)		35.38	54.00*	-18.62
	10460 (Pk)		51.70	68.23	-16.53
	10460 (Av)		39.99	54.00	-14.01
	15690 (Pk)		52.60	68.23	-15.63
	15690 (Av)		41.03	54.00	-12.97

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	100.50	-	-
	5755 (Av)		88.48	-	-
	5725(Pk)		61.81	122.23*	-60.42
	5720(Pk)		51.16	110.83*	-59.67
	5700(Pk)		46.62	105.23*	-58.61
	5650(Pk)		47.97	68.23*	-20.26
	11510 (Pk)		55.46	68.23	-12.77
	11510 (Av)		42.93	54.00	-11.07
	17265(Pk)		56.25	68.23	-11.98
	17265(Av)		44.51	54.00	-9.49
	5755 (Pk)	Horizontal	103.70	-	-
	5755 (Av)		92.24	-	-
	5725(Pk)		64.68	122.23*	-57.55
	5720(Pk)		55.4	110.83*	-55.43
	5700(Pk)		48.84	105.23*	-56.39
	5650(Pk)		48.16	68.23*	-20.07
	11510 (Pk)		55.58	68.23	-12.65
	11510 (Av)		43.20	54.00	-10.80
	17265(Pk)		57.17	68.23	-11.06
	17265(Av)		44.53	54.00	-9.47
5795	5795 (Pk)	Vertical	102.50	-	-
	5795 (Av)		91.04	-	-
	5850(Pk)		47.73	122.23*	-74.50
	5855(Pk)		47.93	110.83*	-62.90
	5875(Pk)		46.22	105.23*	-59.01
	5925(Pk)		46.33	68.23*	-21.9
	11590 (Pk)		54.90	68.23	-13.33
	11590 (Av)		42.99	54.00	-11.01
	17385 (Pk)		58.12	68.23	-10.11
	17385 (Av)		45.22	54.00	-8.78
	5795 (Pk)	Horizontal	104.09	-	-
	5795 (Av)		92.18	-	-
	5850(Pk)		48.4	122.23*	-73.83
	5855(Pk)		48.19	110.83*	-62.64
	5875(Pk)		46.95	105.23*	-58.28
	5925(Pk)		46.46	68.23*	-21.77
	11590 (Pk)		54.88	68.23	-13.35
	11590 (Av)		42.95	54.00	-11.05
	17385 (Pk)		57.62	68.23	-10.61
	17385 (Pk)		45.26	54.00	-8.74

**Modulation:802.11ax-40MHz**

**Data Rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5190	5190 (Pk)	Vertical	105.76	-	-
	5190 (Av)		93.41	-	-
	5150 (Pk)		57.89	74.00*	-16.11
	5150 (Av)		42.34	54.00*	-11.66
	10380 (Pk)		52.23	68.23	-16.00
	10380 (Av)		39.54	54.00	-14.46
	15570 (Pk)		53.43	68.23	-14.80
	15570 (Av)		41.05	54.00	-12.95
	5190 (Pk)	Horizontal	107.38	-	-
	5190 (Av)		94.26	-	-
	5150 (Pk)		59.85	74.00*	-14.15
	5150 (Av)		43.53	54.00*	-10.47
	10380 (Pk)		51.30	68.23	-16.93
	10380 (Av)		39.51	54.00	-14.49
	15570 (Pk)		53.05	68.23	-15.18
	15570 (Av)		41.00	54.00	-13.00
5230	5230 (Pk)	Vertical	104.86	-	-
	5230 (Av)		92.61	-	-
	5350 (Pk)		47.03	74.00*	-26.97
	5350 (Av)		35.15	54.00*	-18.85
	10460 (Pk)		51.97	68.23	-16.26
	10460 (Av)		39.86	54.00	-14.14
	15690 (Pk)		53.34	68.23	-14.89
	15690 (Av)		40.93	54.00	-13.07
	5230 (Pk)	Horizontal	105.62	-	-
	5230 (Av)		93.11	-	-
	5150 (Pk)		49.11	74.00*	-24.89
	5150 (Av)		35.41	54.00*	-18.59
	10460 (Pk)		52.05	68.23	-16.18
	10460 (Av)		39.84	54.00	-14.16
	15690 (Pk)		53.42	68.23	-14.81
	15690 (Av)		40.94	54.00	-13.06

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5755	5755 (Pk)	Vertical	103.72	-	-
	5755 (Av)		92.23	-	-
	5725(Pk)		61.75	122.23*	-60.48
	5720(Pk)		52.53	110.83*	-58.30
	5700(Pk)		46.88	105.23*	-58.35
	5650(Pk)		46.77	68.23*	-21.46
	11510 (Pk)		55.09	68.23	-13.14
	11510 (Av)		42.60	54.00	-11.40
	17265(Pk)		56.80	68.23	-11.43
	17265(Av)		44.49	54.00	-9.51
	5755 (Pk)	Horizontal	104.59	-	-
	5755 (Av)		91.94	-	-
	5725(Pk)		64.79	122.23*	-57.44
	5720(Pk)		56.04	110.83*	-54.79
	5700(Pk)		47.77	105.23*	-57.46
	5650(Pk)		48.44	68.23*	-19.79
	11510 (Pk)		54.96	68.23	-13.27
	11510 (Av)		43.08	54.00	-10.92
	17265(Pk)		56.97	68.23	-11.26
	17265(Av)		44.49	54.00	-9.51
5795	5795 (Pk)	Vertical	103.12	-	-
	5795 (Av)		90.65	-	-
	5850(Pk)		49.23	122.23*	-73.00
	5855(Pk)		48.84	110.83*	-61.99
	5875(Pk)		47.67	105.23*	-57.56
	5925(Pk)		45.53	68.23*	-22.70
	11590 (Pk)		54.65	68.23	-13.58
	11590 (Av)		42.25	54.00	-11.75
	17385 (Pk)		56.91	68.23	-11.32
	17385 (Av)		44.98	54.00	-9.02
	5795 (Pk)	Horizontal	104.80	-	-
	5795 (Av)		92.83	-	-
	5850(Pk)		47.92	122.23*	-74.31
	5855(Pk)		48.32	110.83*	-62.51
	5875(Pk)		47.07	105.23*	-58.16
	5925(Pk)		45.23	68.23*	-23.00
	11590 (Pk)		57.16	68.23	-11.07
	11590 (Av)		43.43	54.00	-10.57
	17385 (Pk)		57.84	68.23	-10.39
	17385 (Pk)		45.06	54.00	-8.94

**Modulation:802.11ac-80MHz**

**Data Rate: MCS9**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	103.05	-	-
	5210 (Av)		90.68	-	-
	5150 (Pk)		56.25	74.00*	-17.75
	5150 (Av)		42.49	54.00*	-11.51
	10420 (Pk)		51.41	68.23	-16.82
	10420 (Av)		39.54	54.00	-14.46
	15630 (Pk)		52.66	68.23	-15.57
	15630 (Av)		40.86	54.00	-13.14
	5210 (Pk)	Horizontal	102.14	-	-
	5210 (Av)		89.86	-	-
	5150 (Pk)		57.23	74.00*	-16.77
	5150 (Av)		43.22	54.00*	-10.78
	10420 (Pk)		51.99	68.23	-16.24
	10420 (Av)		39.51	54.00	-14.49
	15630 (Pk)		53.16	68.23	-15.07
	15630 (Av)		40.92	54.00	-13.08
5775	5775 (Pk)	Vertical	97.55	-	-
	5775 (Av)		85.91	-	-
	5850(Pk)		46.36	122.23*	-75.87
	5855(Pk)		46.7	110.83*	-64.13
	5875(Pk)		45.89	105.23*	-59.34
	5925(Pk)		45.64	68.23*	-22.59
	11550 (Pk)		54.41	68.23	-13.82
	11550 (Av)		42.21	54.00	-11.79
	17325 (Pk)		56.69	68.23	-11.54
	17325 (Av)		44.64	54.00	-9.36
	5775 (Pk)	Horizontal	102.28	-	-
	5775 (Av)		90.05	-	-
	5850(Pk)		48.71	122.23*	-73.52
	5855(Pk)		47.68	110.83*	-63.15
	5875(Pk)		46.99	105.23*	-58.24
	5925(Pk)		45.42	68.23*	-22.81
	11550 (Pk)		54.79	68.23	-13.44
	11550 (Av)		42.63	54.00	-11.37
	17325 (Pk)		56.15	68.23	-12.08
	17325 (Av)		44.64	54.00	-9.36

**Modulation: 802.11ax-80MHz**

**Data rate: MCS11**

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
5210	5210 (Pk)	Vertical	102.14	-	-
	5210 (Av)		89.84	-	-
	5150 (Pk)		56.40	74.00*	-17.60
	5150 (Av)		43.05	54.00*	-10.95
	10420 (Pk)		51.41	68.23	-16.82
	10420 (Av)		39.50	54.00	-14.50
	15630 (Pk)		52.44	68.23	-15.79
	15630 (Av)		40.85	54.00	-13.15
	5210 (Pk)	Horizontal	103.13	-	-
	5210 (Av)		91.20	-	-
	5150 (Pk)		57.57	74.00*	-16.43
	5150 (Av)		43.10	54.00*	-10.90
	10420 (Pk)		51.66	68.23	-16.57
	10420 (Av)		39.87	54.00	-14.13
	15630 (Pk)		52.36	68.23	-15.87
	15630 (Av)		40.88	54.00	-13.12
5775	5775 (Pk)	Vertical	101.07	-	-
	5775 (Pk)		88.45	-	-
	5850(Pk)		47.4	122.23*	-74.83
	5855(Pk)		47.05	110.83*	-63.78
	5875(Pk)		47.14	105.23*	-58.09
	5925(Pk)		45.66	68.23*	-22.57
	11550 (Pk)		53.93	68.23	-14.30
	11550 (Av)		42.17	54.00	-11.83
	17325 (Pk)		56.41	68.23	-11.82
	17325 (Av)		44.62	54.00	-9.38
	5775 (Pk)	Horizontal	102.53	-	-
	5775 (Ak)		90.25	-	-
	5850(Pk)		48.71	122.23*	-73.52
	5855(Pk)		48.8	110.83*	-62.03
	5875(Pk)		47.93	105.23*	-57.30
	5925(Pk)		45.69	68.23*	-22.54
	11550 (Pk)		54.71	68.23	-13.52
	11550 (Av)		42.67	54.00	-11.33
	17325 (Pk)		56.28	68.23	-11.95
	17325 (Av)		44.63	54.00	-9.37

**Simultaneous Operation:**

Channel Frequency (MHz)	Antenna Polarization	Measured Frequency (MHz)	Measured emission (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2402 & 5180	Vertical	2402(Pk)	88.75	-	-
		2402(Av)	83.79	-	-
		5180(Pk)	91.34	-	-
		5180(Av)	54.55	-	-
		2390(Pk)	44.12	74.00*	-29.88
		2390(Av)	24.82	54.00*	-29.18
		5150(Pk)	43.15	74.00*	-30.85
		5150(Av)	29.76	54.00*	-24.24
		4804(Pk)	41.49	74.00	-32.51
		4804(Av)	28.82	54.00	-25.18
		7206(Pk)	49.52	74.00	-24.48
		7206(Av)	38.25	54.00	-15.75
		10360(Pk)	52.33	74.00	-21.67
		10360(Av)	40.04	54.00	-13.96
		15540(Pk)	54.07	74.00	-19.93
		15540(Av)	41.49	54.00	-12.51
	Horizontal	2402(Pk)	82.93	-	-
		2402(Av)	77.95	-	-
		5180(Pk)	86.10	-	-
		5180(Av)	50.49	-	-
		2390(Pk)	40.01	74.00*	-33.99
		2390(Av)	24.06	54.00*	-29.94
		5150(Pk)	42.47	74.00*	-31.53
		5150(Av)	29.70	54.00*	-24.30
		4804(Pk)	40.94	74.00	-33.06
		4804(Av)	28.88	54.00	-25.12
		7206(Pk)	49.35	74.00	-24.65
		7206(Av)	38.01	54.00	-15.99
10360(Pk)	52.39	74.00	-21.61		
10360(Av)	39.96	54.00	-14.04		
15540(Pk)	53.64	74.00	-20.36		
15540(Av)	41.48	54.00	-12.52		

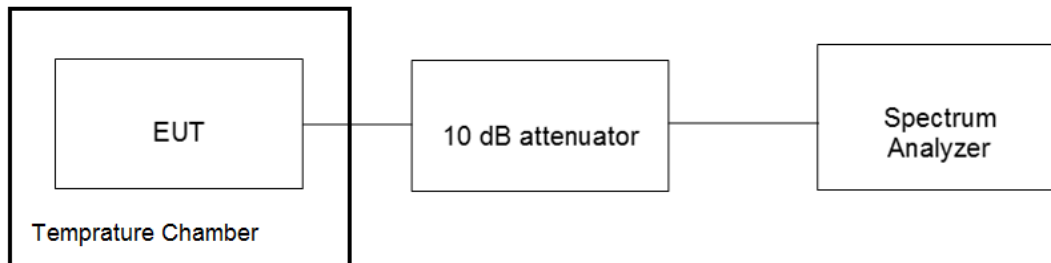
## 7.5 FREQUENCY STABILITY

**Result**

**Pass**

Test Specification	FCC part 15 Subpart C 15.407 (g) / RSS Gen Issue 5, Section 8.11
Test Method	Subclause 6.8.1 of ANSI C63.10
Port of testing	Antenna port
Requirement	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual

**Test Method:**



**Test Condition:**

**Normal Test Condition:**

Temperature (Norm) = + 22.6 °C      Voltage = 56VDC through POE Injector      Relative humidity: 62 %

**KDB Guidelines applied:**

Measurements were made as per section A (3) in KDB 789033 D02 General UNII Test Procedures New Rules v02r01



**Prüfbericht - Nr.:**

**IN23HH4B 001**

**Seite 129 von 137**

Test Report No.:

Page 129 of 137

**Test results:**

Temperature (°C)	Channel Bandwidth (MHz)	Channel frequency (MHz)	0 Min	2 Min	5 Min	10 Min
-40	20	5180	-3.78	-3.78	1.24	1.24
		5240	-3.01	-4.51	-4.51	-4.51
		5745	4.54	2.07	-1.53	-1.53
		5825	-4.21	2.07	-4.21	-4.21
-30		5180	6.79	-3.33	-3.28	-3.28
		5240	-4.58	-3.28	-3.26	-3.28
		5745	-4.26	0.14	-0.69	-0.69
-20		5825	1.39	-4.26	-4.26	-4.26
		5180	-2.98	3.49	3.49	3.49
		5240	4.19	-0.81	-0.81	-0.81
-10		5745	-7.31	-4.26	-5.06	-5.06
		5825	5.49	-4.26	-4.26	-4.26
		5180	-2.88	-0.58	-0.58	-1.32
0		5240	-4.86	-0.66	-0.71	-0.71
		5745	-4.81	2.67	-0.71	-0.71
		5825	5.57	-4.23	-4.26	-4.26
10	5180	-4.21	-4.83	4.82	4.82	
	5240	-2.36	3.87	-5.36	-0.73	
	5745	-3.13	8.24	-6.11	-4.21	
20	5825	-3.56	7.04	-4.21	-4.21	
	5180	-3.76	-2.16	3.59	3.59	
	5240	-3.68	-7.06	-0.68	-3.86	
30	5745	2.57	-4.21	-4.21	-4.21	
	5825	-7.86	-4.21	-4.21	-4.21	
	5180	-1.61	2.87	4.82	4.82	
40	5240	1.79	7.49	-0.61	-0.61	
	5745	6.74	-4.18	-4.18	-4.18	
	5825	-4.18	-6.16	-4.18	-4.91	
50	5180	3.92	4.75	3.45	-2.36	
	5240	4.90	-0.63	-0.83	-0.41	
	5745	-4.09	-4.16	-4.89	-4.89	
60	5825	-7.16	-4.16	-4.21	-4.79	
	5180	2.37	5.90	3.80	2.32	
	5240	-0.71	-0.58	-0.58	-0.58	
50	5745	-6.81	-4.16	-4.11	-4.11	
	5825	2.57	-4.14	-4.16	-4.16	
	5180	1.94	3.50	-2.01	-2.01	
60	5240	-7.21	1.59	1.57	1.57	
	5745	-6.31	-4.19	3.25	3.25	
	5825	-7.79	7.07	-4.19	-4.19	
60	5180	4.37	3.52	-2.01	-2.01	
	5240	2.92	-1.08	-0.48	-0.48	
	5745	-7.84	-4.21	1.54	1.54	
		5825	-5.14	-4.14	-4.89	-2.13

## 7.6 AC POWER LINES CONDUCTED EMISSION

**Result**

**Pass**

Test Specification : FCC Part 15 Section 15.207/RSS Gen Issue 5 Section 8.8  
 Test Method : ANSI C 63.10-2013  
 Testing Location : Screened room  
 Measurement Bandwidth : 9kHz  
 Frequency Range : 150kHz – 30MHz  
 Supply Voltage : 110VAC,60Hz  
 Test Method : Refer TEST METHODOLOGY

### Limits of section 15.207

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

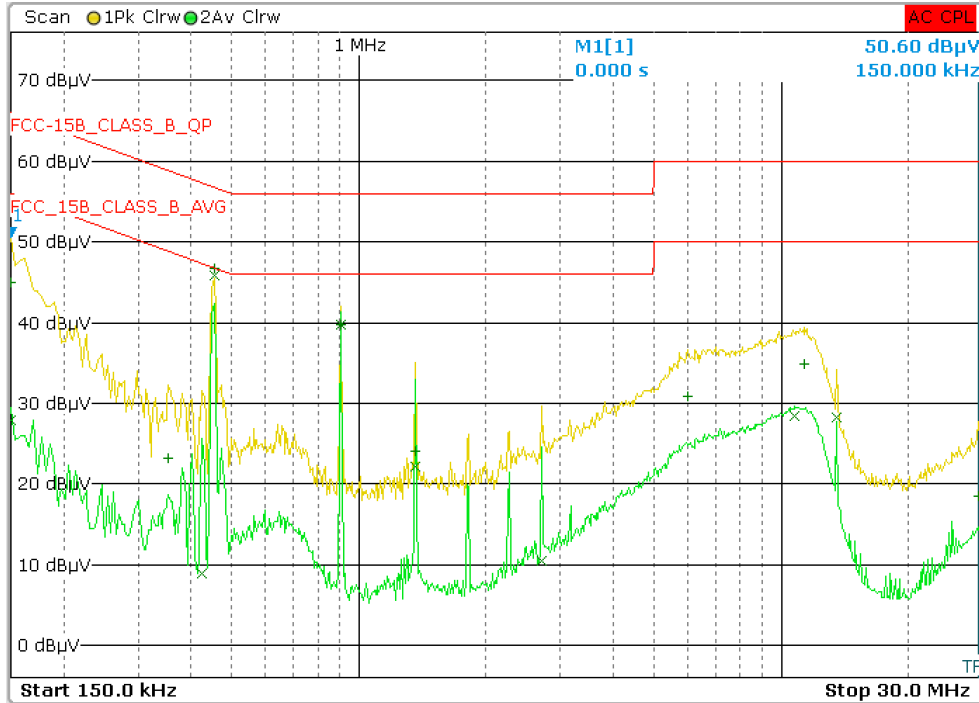
\* Decreases with the logarithm of the frequency

### Test Conditions:

Normal Temperature = +24°C      Voltage (V norm) = 110V AC (Through POE Injector)      RH = 64 %

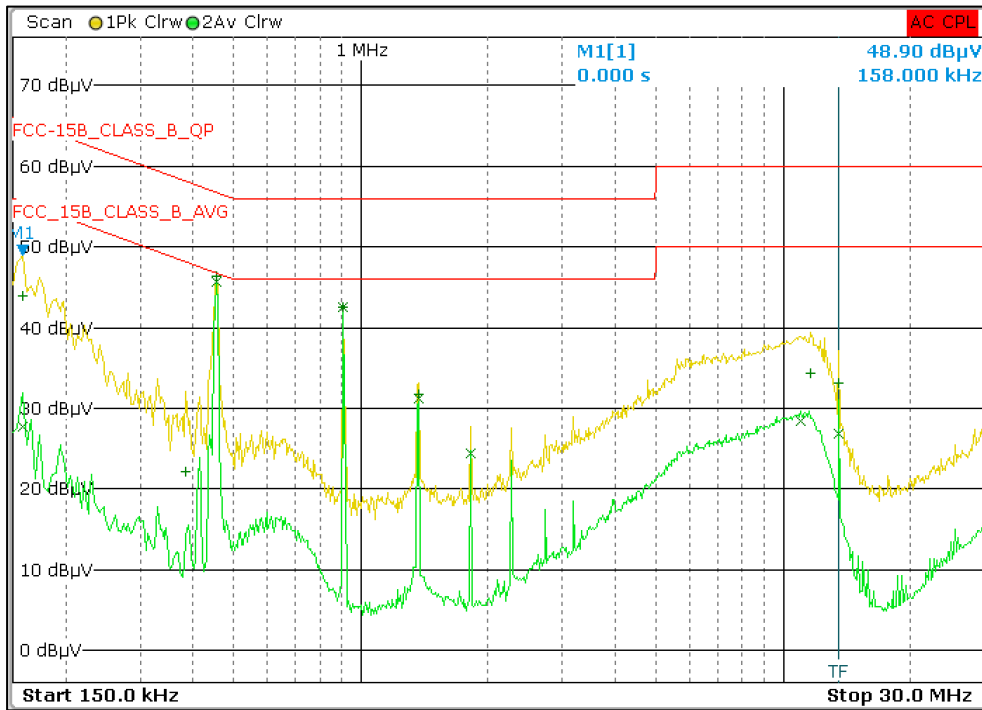
Test results:

110VAC-60Hz-Line



Trace	Frequency	Level (dBµV)	Phase	Detector	Delta Limit/dB
2	454.000000000 kHz	45.91		Average	-0.89
2	906.000000000 kHz	39.78		Average	-6.22
1	454.000000000 kHz	46.72		Quasi Peak	-10.08
1	906.000000000 kHz	39.80		Quasi Peak	-16.20
1	150.000000000 kHz	44.92		Quasi Peak	-21.08
2	10.778000000 MHz	28.34		Average	-21.66
2	13.562000000 MHz	28.22		Average	-21.78
2	1.358000000 MHz	22.15		Average	-23.85
1	11.326000000 MHz	34.90		Quasi Peak	-25.10
2	150.000000000 kHz	27.83		Average	-28.17
1	6.006000000 MHz	30.79		Quasi Peak	-29.21
1	1.358000000 MHz	24.14		Quasi Peak	-31.86
2	2.718000000 MHz	10.39		Average	-35.61
1	354.000000000 kHz	23.12		Quasi Peak	-35.75
2	426.000000000 kHz	8.95		Average	-38.38
1	29.266000000 MHz	18.55		Quasi Peak	-41.45

**110VAC-60Hz-Neutral:**



Trace	Frequency	Level (dBµV)	Phase	Detector	Delta Limit/dB
2	454.000000000 kHz	45.73		Average	-1.07
2	910.000000000 kHz	42.56		Average	-3.44
1	454.000000000 kHz	46.35		Quasi Peak	-10.45
1	910.000000000 kHz	42.53		Quasi Peak	-13.47
2	1.366000000 MHz	31.26		Average	-14.74
2	1.818000000 MHz	24.46		Average	-21.54
1	158.000000000 kHz	44.01		Quasi Peak	-21.56
2	11.006000000 MHz	28.42		Average	-21.58
2	13.562000000 MHz	26.85		Average	-23.15
1	1.366000000 MHz	31.77		Quasi Peak	-24.23
1	11.630000000 MHz	34.34		Quasi Peak	-25.66
1	13.562000000 MHz	33.13		Quasi Peak	-26.87
2	158.000000000 kHz	27.66		Average	-27.91
1	386.000000000 kHz	22.23		Quasi Peak	-35.92

## 8 LIST OF TABLES

Table 1: List of test and measurement instruments .....	7
Table 2: Instrument application Software versions .....	8
Table 3: Ratings and System Details as declared by the Client* .....	9
Table 4: Antenna Details .....	10
Table 5: Measurement Uncertainty .....	10
Table 6: List of Wi-Fi center Frequencies .....	12
Table 7: Undesirable emission limits .....	43
Table 8: Transmitter limits for Radiated emission .....	45

## 9 POWER LEVEL USED FOR TESTING

### Antenna Type & Antenna Gain: Omni Antenna & 12dBi

<b>a-mode 6Mbps</b>		<b>n-mode HT20_MCS0</b>		<b>ac-mode VHT40_MCS0</b>	
5180	30	5180	30	5190	20
5240	30	5240	30	5230	20
5745	30	5745	30	5755	30
5825	30	5825	30	5795	30
<b>a-mode 54Mbps</b>		<b>n-mode HT20_MCS7</b>		<b>ac-mode VHT40_MCS9</b>	
5180	30	5180	30	5190	20
5240	30	5240	30	5230	20
5745	30	5745	30	5755	30
5825	30	5825	30	5795	30
<b>ac-mode VHT20_MCS0</b>		<b>n-mode HT40_MCS0</b>		<b>ac_VHT80_MCS0</b>	
5180	30	5190	20	5210	20
5240	30	5230	20	5755	30
5745	30	5755	20	<b>ac_VHT80_MCS9</b>	
5825	30	5795	30	5210	20
<b>ac-mode VHT20_MCS8</b>		<b>n-mode HT40_MCS7</b>		5755	30
5180	30	5190	20		
5240	30	5230	20		
5745	30	5755	30		
5825	30	5795	30		

<b>ax-mode HE20_HE0</b>		<b>ax-mode HE40_HE0</b>		<b>ax-mode HE80_HE0</b>	
5180	30	5190	20	5210	10
5240	30	5230	20	5755	28
5745	30	5755	30	<b>ax-mode HE80_HE11</b>	
5825	30	5795	30	5210	10
<b>ax-mode HE20_HE11</b>		<b>ax-mode HE40_HE11</b>		5755	28
5180	15	5190	20		
5240	15	5230	20		
5745	15	5755	30		
5825	15	5795	30		

**Antenna Type & Antenna Gain: Integrated Panel Antenna & 19dBi**

<b>a-mode 6Mbps</b>		<b>n-mode HT20_MCS0</b>		<b>ac-mode VHT20_MCS0</b>		<b>ax-mode HE20_HE0</b>	
5180	20	5180	20	5180	20	5180	20
5240	20	5240	20	5240	26	5240	26
5745	26	5745	26	5745	26	5745	26
5825	26	5825	26	5825	26	5825	26
<b>a-mode 54Mbps</b>		<b>n-mode HT20_MCS7</b>		<b>ac-mode VHT20_MCS8</b>		<b>ax-mode HE20_HE11</b>	
5180	20	5180	20	5180	20	5180	20
5240	20	5240	20	5240	26	5240	26
5745	26	5745	26	5745	26	5745	26
5825	26	5825	26	5825	26	5825	26
<b>n-mode HT40_MCS0</b>		<b>ac-mode VHT40_MCS0</b>		<b>ax-mode HE40_HE0</b>			
5190	12	5190	12	5190	12		
5230	22	5230	22	5230	22		
5755	20	5755	20	5755	20		
5795	22	5795	22	5795	22		
<b>n-mode HT40_MCS7</b>		<b>ac-mode VHT40_MCS9</b>		<b>ax-mode HE40_HE11</b>			
5190	12	5190	12	5190	12		
5230	22	5230	22	5230	22		
5755	20	5755	20	5755	20		
5795	22	5795	22	5795	22		
<b>ac_VHT80_MCS0</b>		<b>ax-mode HE80_HE0</b>					
5210	10	5210	10				
5755	10	5755	10				
<b>ac_VHT80_MCS9</b>		<b>ax-mode HE80_HE11</b>					
5210	10	5210	10				
5755	10	5755	10				

**Antenna Type & Antenna Gain: Sector Antenna & 21dBi**

<b>a-mode 6Mbps</b>		<b>n-mode HT20_MCS0</b>		<b>ac-mode VHT40_MCS0</b>	
5180	20	5180	10	5190	16
5240	20	5240	10	5230	16
5745	26	5745	26	5755	28
5825	26	5825	26	5795	28
<b>a-mode 54Mbps</b>		<b>n-mode HT20_MCS7</b>		<b>ac-mode VHT40_MCS9</b>	
5180	20	5180	10	5190	16
5240	20	5240	10	5230	16
5745	26	5745	26	5755	28
5825	26	5825	26	5795	28
<b>ac-mode VHT20_MCS0</b>		<b>n-mode HT40_MCS0</b>		<b>ac_VHT80_MCS0</b>	
5180	16	5190	16	5210	16
5240	16	5230	16	5755	16
5745	28	5755	28	<b>ac_VHT80_MCS9</b>	
5825	28	5795	28	5210	16
<b>ac-mode VHT20_MCS8</b>		<b>n-mode HT40_MCS7</b>		5755	16
5180	16	5190	16	<b>ac_VHT80_MCS9</b>	
5240	16	5230	16	5210	16
5745	28	5755	28	5755	16
5825	28	5795	28		

<b>ax-mode HE20_HE0</b>		<b>ax-mode HE40_HE0</b>		<b>ax-mode HE80_HE0</b>	
5180	16	5190	16	5210	16
5240	16	5230	16	5755	16
5745	28	5755	28	<b>ax-mode HE80_HE11</b>	
5825	28	5795	28	5210	16
<b>ax-mode HE20_HE11</b>		<b>ax-mode HE40_HE11</b>		5755	16
5180	16	5190	16		
5240	16	5230	16		
5745	28	5755	28		
5825	28	5795	28		

**Antenna Type & Antenna Gain: Panel Antenna & 28dBi**

<b>a-mode 6Mbps</b>		<b>n-mode HT20_MCS0</b>		<b>ac-mode VHT40_MCS0</b>	
5180	14	5180	16	5190	16
5240	14	5240	16	5230	16
5745	26	5745	26	5755	28
5825	26	5825	26	5795	28
<b>a-mode 54Mbps</b>		<b>n-mode HT20_MCS7</b>		<b>ac-mode VHT40_MCS9</b>	
5180	14	5180	16	5190	16
5240	14	5240	16	5230	16
5745	26	5745	26	5755	28
5825	26	5825	26	5795	28
<b>ac-mode VHT20_MCS0</b>		<b>n-mode HT40_MCS0</b>		<b>ac_VHT80_MCS0</b>	
5180	16	5190	16	5210	16
5240	16	5230	16	5755	10
5745	28	5755	28	<b>ac_VHT80_MCS9</b>	
5825	28	5795	28	5210	16
<b>ac-mode VHT20_MCS8</b>		<b>n-mode HT40_MCS7</b>		5755	10
5180	16	5190	16	<b>ac_VHT80_MCS9</b>	
5240	16	5230	16	5210	16
5745	28	5755	28	5755	10
5825	28	5795	28		

<b>ax-mode HE20_HE0</b>		<b>ax-mode HE40_HE0</b>		<b>ax-mode HE80_HE0</b>	
5180	16	5190	16	5210	16
5240	16	5230	16	5755	10
5745	28	5755	28	<b>ax-mode HE80_HE11</b>	
5825	28	5795	28	5210	16
<b>ax-mode HE20_HE11</b>		<b>ax-mode HE40_HE11</b>		5755	10
5180	16	5190	16		
5240	16	5230	16		
5745	28	5755	28		
5825	28	5795	28		



**Prüfbericht - Nr.:**  
Test Report No.:

**IN23HH4B 001**

**Seite 137 von 137**  
Page 137 of 137

**Antenna Type & Antenna Gain: Dish Antenna & 35dBi**

<b>a-mode 6Mbps</b>		<b>n-mode HT20_MCS0</b>		<b>ac-mode VHT40_MCS0</b>	
5180	0	5180	0	5190	0
5240	0	5240	0	5230	0
5745	28	5745	28	5755	28
5825	28	5825	28	5795	28
<b>a-mode 54Mbps</b>		<b>n-mode HT20_MCS7</b>		<b>ac-mode VHT40_MCS9</b>	
5180	0	5180	0	5190	0
5240	0	5240	0	5230	0
5745	28	5745	28	5755	28
5825	28	5825	28	5795	28
<b>ac-mode VHT20_MCS0</b>		<b>n-mode HT40_MCS0</b>		<b>ac_VHT80_MCS0</b>	
5180	0	5190	0	5210	0
5240	0	5230	0	5755	14
5745	28	5755	28	<b>ac_VHT80_MCS9</b>	
5825	28	5795	28	5210	0
<b>ac-mode VHT20_MCS8</b>		<b>n-mode HT40_MCS7</b>		5755	14
5180	0	5190	0		
5240	0	5230	0		
5745	28	5755	28		
5825	28	5795	28		

<b>ax-mode HE20_HE0</b>		<b>ax-mode HE40_HE0</b>		<b>ax-mode HE80_HE0</b>	
5180	0	5190	0	5210	0
5240	0	5230	0	5755	14
5745	28	5755	28	<b>ax-mode HE80_HE11</b>	
5825	28	5795	28	5210	0
<b>ax-mode HE20_HE11</b>		<b>ax-mode HE40_HE11</b>		5755	14
5180	0	5190	0		
5240	0	5230	0		
5745	28	5755	28		
5825	28	5795	28		

**\*Note:** Above mentioned power level index updated as per the QRCT4 GUI Software provided by the manufacturer.

**\*\*\*END OF TEST REPORT\*\*\***