RF Test Report

Applicant	:	Edimax Technology Co., Ltd.
Product Name	:	11ac Wireless Dual-Band Selectable USB Adapter
Trade Name	:	EDIMAX
Model Name	:	EW-7822UNC, EW-7822ULC
Applicable Standard	:	ETSI EN 301 893 V2.1.1 (2017-05) AS/NZS 4268:2017 Row 61
Received Date	:	Jul. 27, 2016
Test Period	:	Aug. 04, 2016 ~ Jun. 04, 2017
Issued Date	:	Jul. 28, 2020

Issued by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
Frequency Range : 9 kHz to 40 GHz

Note:
1.The test results are valid only for samples provided by customers and under the test conditions described in this report.
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3.The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.

Revision History

Rev.	Issued Date	Revisions	Revised By
00	Jul. 28, 2020	Initial Issue	Tobey Cheng

Verification of Compliance

Applicant	:	Edimax Technology Co., Ltd.
Product Type	:	11ac Wireless Dual-Band Selectable USB Adapter
Trade Name	:	EDIMAX
Model Number	:	EW-7822UNC, EW-7822ULC
EUT Rated Voltage	:	DC 5.0 V
Test Voltage	:	DC 5.0 V
Applicable Standard	:	ETSI EN 301 893 V2.1.1 (2017-05) AS/NZS 4268:2017 Row 61
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C.) Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

The above equipment has been tested by A Test Lab Techno Corp., and found compliance with the requirements set forth in the RED: Directive 2014/53/EU and technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By : Fly Lu

(Manager) (Fly Lu)

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1 General Information

1.1. EUT Description

Applicant	Edimax Technology Co., Ltd. No.278, Xinhu 1st Rd., Neihu Dist., Taipei City, Taiwan			
Manufacturer	Edimax Technology Co., Ltd. No.278, Xinhu 1st Rd., Neihu Dist., Taipei City, Taiwan			
Product Type	11ac Wireless Dual-Band Selectable USB Adapter			
Trade Name	EDIMAX			
Model Number	EW-7822UNC, EW-7822ULC			
Models different description	Those model numbers differ from each other in selling region.			
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate
IEEE 802.11a	5180 – 5240	OFDM	20 MHz	Up to 54 Mbps
IEEE 802.11n 5 GHz 20 MHz / IEEE 802.11ac 20 MHz	5180 – 5240	OFDM	20 MHz	Up to 173.4 Mbps
IEEE 802.11n 5 GHz 40 MHz / IEEE 802.11ac 40 MHz	5190 – 5230	OFDM	40 MHz	Up to 400 Mbps
IEEE 802.11ac 80 MHz	5210	OFDM	80 MHz	Up to 866.6 Mbps
Antenna Delivery	see section 1.3			
Antenna information	Model	Model	Type	Max. Gain (dBi)
	ANT-0 (Main)	GY197HT632-003	Monopole Antenna	0.08
	ANT-1 (AUX)	GY197HT632-003	Monopole Antenna	-0.23
Maximum e.i.r.p.	5180 – 5240 MHz: 18.65 dBm			
	Beamforming on			
	5180 – 5240 MHz: 22.23 dBm			
Temperature Range	0 ~ 40 ℃			

For 5.0 GHz Band Channel List

IEEE 802.11a / IEEE 802.11n 5 GHz 20 MHz / IEEE 802.11ac 20 MHz Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz

IEEE 802.11n 5 GHz 40 MHz / IEEE 802.11ac 40 MHz Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	---	---	---	---

IEEE 802.11ac 80 MHz Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	---	---	---	---	---	---

1.2. Product Information Specific to EN 301 893

In accordance with ETSI EN 301 893 clause 5.4.1, the following information is provided by the manufacturer.

a) The Nominal Channel Bandwidth(s):

Nominal Channel Bandwidth 1: 20 MHz
Nominal Channel Bandwidth 2: 40 MHz
Nominal Channel Bandwidth 3: 80 MHz

The associated centre frequencies:

For Nominal Channel Bandwidth 1:
for the band 5150 - 5350 MHz: 5180 MHz; 5200 MHz; 5220 MHz; 5240 MHz

For Nominal Channel Bandwidth 2:
for the band 5150 - 5350 MHz: 5190 MHz; 5230 MHz;

For Nominal Channel Bandwidth 3:
for the band 5150 - 5350 MHz: 5210 MHz

b) For Load Based Equipment that supports multi-channel operation:

☐ The LBE equipment supports Option 1 as described in clause 4.2.7.3.2.3
■ The LBE equipment supports Option 2 as described in clause 4.2.7.3.2.3
●The (maximum) number of channels used for multi-channel operation: .....
●These channels are adjacent channels:
☐ Yes ■ No
● In case of non-adjacent channels, whether or not these channels are in different sub-bands:
☐ Yes ■ No
● for LBE equipment implementing option 1 (see clause 4.2.7.3.2.3), the number of channels used for multi-multichannel operation when performing the test described in clause 5.4.9.3.2.3.1: ……

In case of multi-channel operation, further information defining the channels used for these simultaneous transmissions may be required.

c) The different transmit operating modes (see clause 5.3.3.2) (tick all that apply):

☐ Operating mode 1: Single Antenna Equipment
- ☐ a) Equipment with only 1 antenna
- ☐ b) Equipment with diversity antennas but only 1 antenna active at any moment in time
- ☐ c) Smart Antenna Systems with 2 or more antennas, but operating in a (legacy) mode where only 1 antenna is used.

■ Operating mode 2: Smart Antenna Systems - Multiple Antennas without beamforming
- ■ a) Single spatial stream/Standard throughput
- ■ b) High Throughput (>1 spatial stream) using Nominal Channel Bandwidth 1
- ■ c) High Throughput (>1 spatial stream) using Nominal Channel Bandwidth 2
- ■ d) High Throughput (>1 spatial stream) using Nominal Channel Bandwidth 3

☐ Operating mode 3: Smart Antenna Systems - Multiple Antennas with beamforming
- ☐ a) Single spatial stream/Standard throughput
- ■ b) High Throughput (>1 spatial stream) using Nominal Channel Bandwidth 1
- ■ c) High Throughput (>1 spatial stream) using Nominal Channel Bandwidth 2
- ■ d) High Throughput (>1 spatial stream) using Nominal Channel Bandwidth 3

d) In case of Smart Antenna Systems or multiple antenna systems

- The number of Receive chains: 2
- The number of Transmit chains: 2
- Equal power distribution among the transmit chains: ■ Yes ☐ No
- In case of beamforming, the maximum (additional) beamforming gain: dB

Note: Beamforming gain does not include the basic gain of a single antenna (assembly).

e) TPC feature available:

☐ Yes ■ No

f) For equipment with TPC range:

The lowest and highest power level (or lowest and highest e.i.r.p. level in case of integrated antenna equipment), intended antenna assemblies and corresponding operating frequency range for the TPC range (or for each of the TPC ranges if more than one is implemented).

TPC range 1: Applicable Frequency Range:

☐ 5150 MHz to 5350 MHz and 5470 MHz to 5725 MHz (Indoor)

Simultaneous transmissions in both sub-bands: ☐ Yes ☐ No

☐ 5470 MHz to 5725 MHz only (Outdoor only)

Indicate whether the power levels specified are Transmitter Output Power levels or e.i.r.p. levels in case of integrated antenna equipment.

Power levels are specified for:: ☐ Tx out ☐ e.i.r.p

If more than one transmit chain is present (e.g. in the case of smart antenna systems), the power levels below represent the power settings per active transmit chain (and per sub-band in case of simultaneous transmissions).

Table G.1: Power levels for TPC range 1

	Sub-band (MHz)	Operating Mode 1 (dBm)	Operating Mode 2 (dBm)	Operating Mode 3 (dBm)	Operating Mode 4 (dBm)
Lowest setting (P_{low})	5150 to 5350	---	---	---	---
	5470 to 5725	---	---	---	---
Highest setting (P_{high})	5150 to 5350	---	---	---	---
	5470 to 5725	---	---	---	---

Beamforming possible: ☐ Yes ☐ No

Intended Antenna Assemblies:

Table G.2: Intended Antenna Assemblies for TPC range 1

Antenna Assembly name	Antenna Gain (dBi)	Operating Mode	Sub-band (MHz)	Beam forming gain (dB)	e.i.r.p. for P_{low} (dBm)	e.i.r.p.for P_{high} (dBm)
<Antenna 1>	---	Mode 1	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 2	5 150 to 5 250	---	---	---
			5 470 to 5 725	---	---	---
		Mode 3	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 4	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
<Antenna 2>	---	Mode 1	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 2	5 150 to 5 250	---	---	---
			5 470 to 5 725	---	---	---
		Mode 3	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 4	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
<Antenna 3>	---	Mode 1	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 2	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 3	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 4	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---

DFS Threshold level: ..... dBm ☐ at the antenna connector
☐ in front of the antenna

g) For equipment without a TPC range:

Power Setting 1: Applicable Frequency Range:

■ 5150 MHz to 5250 MHz

Simultaneous transmissions in both sub-bands: ☐ Yes ■ No

☐ 5470 MHz to 5725 MHz only (Outdoor only)

Indicate whether the power levels specified are Transmitter Output Power levels or e.i.r.p. levels in case of integrated antenna equipment.

Power levels are specified for: ☐ Tx out ■ e.i.r.p.

If more than one transmit chain is present (e.g. in the case of smart antenna systems), the power levels below represent the power settings per active transmit chain (and per sub-band in case of simultaneous transmissions).

Table G.5: Maximum Transmitter Output Power for Power Setting 1

Sub-band (MHz)	Operating Mode 1 (dBm)	Operating Mode 2 (dBm)	Operating Mode 3 (dBm)	Operating Mode 4 (dBm)
5150 to 5250	10.45	17.02	20.60	---
5470 to 5725	---	---	---	---

Beamforming possible: ■ Yes ☐ No

Intended Antenna Assemblies:

Table G.6: Intended Antenna Assemblies for Power Setting 1

Antenna Assembly name	Antenna Gain (dBi)	Operating Mode	Sub-band (MHz)	Beam forming gain (dB)	e.i.r.p. for P_{low} (dBm)	e.i.r.p.for P_{high} (dBm)
<Antenna 1>	0.08	Mode 1	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 2	5 150 to 5 250	---	13.14	17.02
			5 470 to 5 725	---	---	---
		Mode 3	5 150 to 5 350	2.28	19.62	20.6
			5 470 to 5 725	---	---	---
		Mode 4	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
<Antenna 2>	-0.23	Mode 1	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 2	5 150 to 5 250	---	13.14	17.02
			5 470 to 5 725	---	---	---
		Mode 3	5 150 to 5 350	2.28	19.62	20.6
			5 470 to 5 725	---	---	---
		Mode 4	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
<Antenna 3>	---	Mode 1	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 2	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 3	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---
		Mode 4	5 150 to 5 350	---	---	---
			5 470 to 5 725	---	---	---

DFS Threshold level: ..... dBm ☐ at the antenna connector
☐ in front of the antenna

h) The DFS related operating mode(s) of the equipment

☐ Master
☐ Slave with radar detection
☐ Slave without radar detection

If the equipment has more than one operating mode, tick all that apply.

i) User access restrictions (please check box below to confirm)

■ the equipment is constructed to comply with the requirements contained in clause 4.2.9 in ETSI EN 301 893 V2.1.1

j) For equipment with Off-Channel CAC functionality

The equipment has an *"Off-Channel CAC"* function: ☐ Yes ☐ No

If yes, specify the *"Off-Channel CAC Time"*

- For channels outside the 5600 MHz to 5650 MHz range: hours
- If applicable, for channels (partially) within the 5 600 MHz to 5 650 MHz range: hours

k) The equipment can operate in ad-hoc mode:

■ no ad-hoc operation
☐ ad-hoc operation in the frequency range 5150 MHz to 5250 MHz without DFS
☐ ad-hoc operation with DFS

If more than 1 is applicable, tick all that apply.

l) Operating Frequency Range(s):

☐ Range 1: 5150 MHz to 5350 MHz and 5470 MHz to 5725 MHz
☐ Range 2: 5470 MHz to 5725 MHz only
☐ Range 3: 5150 MHz to 5250 MHz (ad-hoc without DFS)
■ Range 4: other, please specify: 5 150 MHz to 5 250 MHz

If the equipment has more than one Operating Frequency Range, tick all that apply.

m)The extreme operating temperature and supply voltage range that apply to the equipment:

☐ -20 °C to +55 °C (Outdoor & Indoor usage)
☐ 0 °C to +35 °C (Indoor usage only)
■ Other: -10 °C to +50 °C

The supply voltages of the stand-alone radio equipment or the supply voltages of the combined (host) equipment or test jig in case of plug-in devices:

Details provided are for the: ■ stand-alone equipment
☐ combined (or host) equipment
☐ test jig

Supply Voltage

☐ AC mains State AC voltage:
Minimum: V Nominal: V Maximum: V

■ DC State DC voltage:
Minimum: 4.5 V Nominal: 5 V Maximum: 5.5 V

In case of DC, indicate the type of power source:

☐ Internal Power Supply
■ External Power Supply or AC/DC adapter
■ Battery
☐ Nickel Cadmium ■ Lithium-Ion
☐ Alkaline ☐ Lead acid (Vehicle regulated)
☐ Nickel-Metal Hydride ☐ Other .....

n) The test sequence/test software used (see also EN 301 893 (V2.1.1), clause 5.3.1.2)

EIRP first test and then measured the remaining test items. The test setup has been constructed as the normal use condition. Controlling software (provided by manufacturer) has been activated to set the EUT on specific status.

o) Type of Equipment

■ Stand-alone
☐ Combined Equipment (Equipment where the radio part is fully integrated within another type of equipment)
☐ Plug-in radio device (Equipment intended for a variety of host systems)
☐ Other .....

p) Adaptivity (Channel Access Mechanism)

☐ Frame Based Equipment
■ Load Based Equipment

q) With regards to Adaptivity for Frame Based Equipment

☐ The Frame Based Equipment operates as an Initiating Device

☐ The Frame Based Equipment operates as an Responding Device

☐ The Frame Based Equipment can operate as an Initiating Device and as a Responding Device

The Frame Based Equipment has implemented the following Fixed Frame Period(s):

……. Ms

……. Ms

……. Ms

r) With regards to Adaptivity for Load Based Equipment

☐ The Load Based Equipment operates as a Supervising Device

■ The Load Based Equipment operates as a Supervised Device

☐ The Load Based Equipment can operate as a Supervising and as a Supervised Device

☐ The Load Based Equipment makes use of note 1 in table 7 or note 1 in table 8 of ETSI EN 301 893 V2.1.1

☐ The Load Based Equipment , when operating as a Supervising Device, makes use of note 2 in table 7 of ETSI EN 301 893 V2.1.1

The Priority Classes implemented by the Load Based Equipment

●When operating as a Supervising Device

☐ Priority Class 4 (Highest priority)

■ Priority Class 3

☐ Priority Class 2

☐ Priority Class 1 (Lowest priority)

●When operating as a Supervised Device

☐ Priority Class 4 (Highest priority)

☐ Priority Class 3

☐ Priority Class 2

☐ Priority Class 1 (Lowest priority)

☐The Load Based Equipment operates as an Initiating Device

■The Load Based Equipment operates as an Responding Device

☐The Load Based Equipment can operate as an Initiating Device and as a Responding Device

With regard to Energy Detection Threshold, the Load Based Equipment has implemented either option 1 of clause 4.2.7.3.2.5 of ETSI EN 301 893 V2.1.1 or option 2 of clause 4.2.7.3.2.5 of ETSI EN 301 893 V2.1.1:

■ Option 1

☐ Option 2

Specify which protocol has been implemented: ■ IEEE 802.11™ ☐ Other: .....

s) The equipment supports a geo-location capability as defined in clause 4.2.10 of ETSI EN 301 893 V2.1.1:

■ Yes ☐ No

t) **The minimum performance criteria (see ETSI EN 301 893 V2.1.1, clause 4.2.8.3) that corresponds to the intended use of the equipment.**

A Mode 6 Mbps : PER 10 % P_{min}= -91 dBm

u) **The theoretical maximum radio performance of the equipment (e.g. maximum throughput) (see ETSI EN 301 893 V2.1.1, clause 5.4.9.3.1)**

866.6 Mbps

1.3. Mode of Operation

In the test report use EUT model: EW-7822UNC to operate testing.

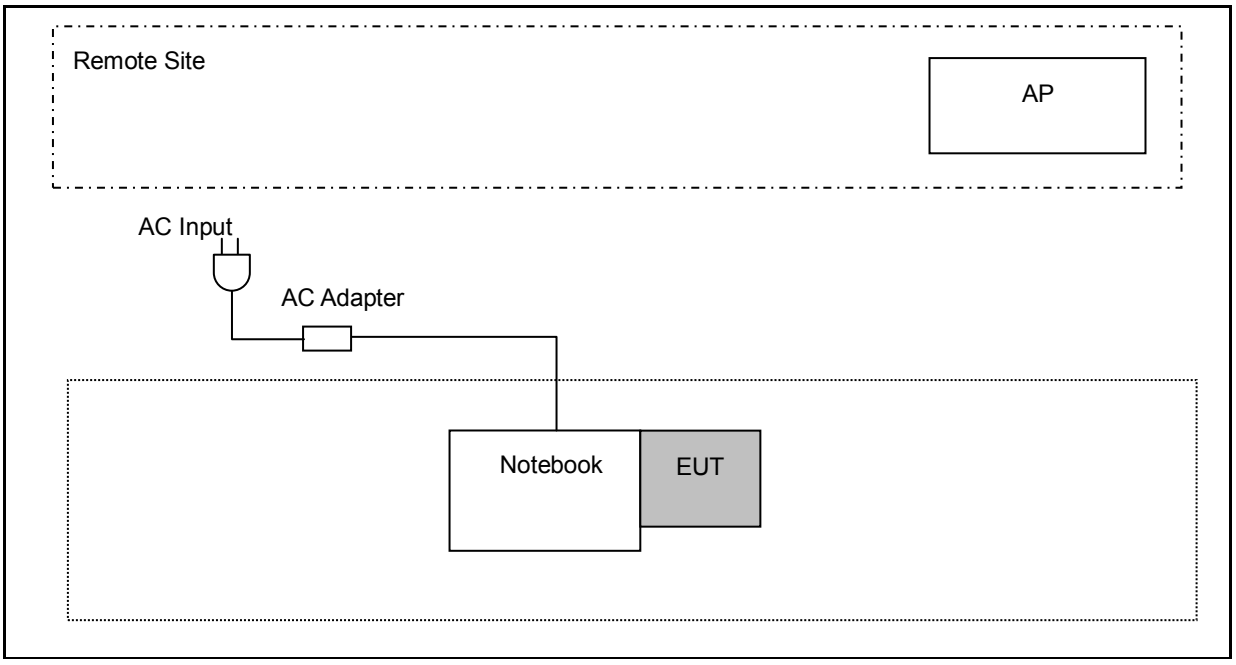
ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode	Antenna Delivery	Test Channel	Data Rate (Mbps)
Mode 1: IEEE 802.11a U-NII Band Link Mode	1TX / 1RX	36,40, 48	6M
Mode 2: IEEE 802.11ac 5 GHz 20 MHz U-NII Band Link Mode	2TX / 2RX (MIMO)	36,40, 48	13M
Mode 3: IEEE 802.11ac 5 GHz 40 MHz U-NII Band Link Mode	2TX / 2RX (MIMO)	38, 46	27M
Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	2TX / 2RX (MIMO)	42	58.6M

1.4. EUT Test Step

1.	Setup the EUT shown on “Configuration of Test System Details.”
2.	Turn on the power of all equipment.

1.5. Configuration of Test System Details



1.6. Test Instruments

For Conducted

Test Period: Aug. 04, 2016 ~ Jun. 04, 2017

Testing Engineer: Louis Shen, Chi Chung

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/14/2015 12/22/2016	1 year
Power Sensor	Agilent	U2021XA	MY53180015	05/20/2016	1 year
Power Sensor	Agilent	U2021XA	MY53260040	05/20/2016	1 year
Power Sensor	Agilent	U2021XA	MY53360002	05/27/2016	1 year
Power Sensor	Agilent	U2021XA	MY53360006	05/27/2016	1 year
USB Modular Simultaneous Data Acquisition	Agilent	U2531A	TW53353509	N.C.R.	-----
USB Modular Simultaneous Data Acquisition	Agilent	U2531A	TW53353511	N.C.R.	-----
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/18/2016 04/17/2017	1 year
Signal Generator	Agilent	N5182A	MY47420962	05/13/2015	2 years
Signal Generator	Agilent	N5182B	MY53050382	05/20/2016	1 year
Wlan Test Set	Anritsu	MT8860C	1227002	03/23/2017	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

For Radiated Emission

Test Period: Aug. 04, 2016 ~ Jun. 04, 2017

Testing Engineer: Louis Shen, Chi Chung

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9020A	US47520902	09/21/2016	1 year
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2016	1 year
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/14/2015	1 year
Pre-Amplifier	Mini-Circuits	ZVA-213-S+	467900926	08/09/2016	1 year
Preamplifier	EMCI	EMC330N	980303	08/09/2016	1 year
Signal Generator	Agilent	E8257D	MY44320425	03/02/2017	1 year
Biconilong (Type4) Antenna	ETS-Lindgren	3142C	86484	06/04/2016	1 year
Horn Antenna	ETS-Lindgren	3115	00070475	05/12/2017	1 year
Test Site	ATL	TC03	TC03	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

1.7. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	15-25
Humidity (%RH)	25-75	45-75

1.8. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Parameter	Uncertainty
RF frequency	± $2.92*10^{-8}$
RF power conducted	±0.7 dB
RF power radiated	±5.92 dB
Spurious emissions, conducted	± 1.04 dB
Spurious emissions, radiated	± 5.92 dB
Humidity	± 1.6 %
Temperature	± 0.6 ℃
Time	± 2.38 %

1.9. Summary of Test Result

Transmitter Parameters			
Description	Clause	Result	Remark
Centre Frequencies	4.2.1	Pass	---
Nominal Channel Bandwidth and Occupied Channel Bandwidth	4.2.2	Pass	---
RF Output Power	4.2.3	Pass	---
Transmit Power Control (TPC)	4.2.3	N/A	---
Power Density	4.2.3	Pass	---
Adaptivity (Channel Access Mechanism)	4.2.7	Pass	---
User Access Restrictions	4.2.9	Pass	---
Transmitter unwanted emissions outside the 5 GHz RLAN bands	4.2.4.1	Pass	---
Transmitter unwanted emissions within the 5 GHz RLAN bands	4.2.4.2	Pass	---
Dynamic Frequency Selection (DFS)	4.2.6	N/A	---
Receiver Parameters			
Receiver Spurious Emissions	4.2.5	Pass	---
Receiver Blocking	4.2.8	Pass	---
Geo-location Capability	4.2.10	Meet requirement	Ref. section 2.7

Note: The test data is from the CE report number: 2007CR19 Rev.00.

Decision Rule

■ Uncertainty is not included.

□ Uncertainty is included.

2 Measurement Procedure

2.1. Centre Frequencies Test

- **Limit**

The *Nominal Centre Frequencies* (fc) for a *Nominal Channel Bandwidth* of 20 MHz are defined by equation (1). See also figure 3.

fc = 5 160 + (g × 20) MHz, where 0 ≤ g ≤ 9 or 16 ≤ g ≤ 27 and where g shall be an integer. (1)

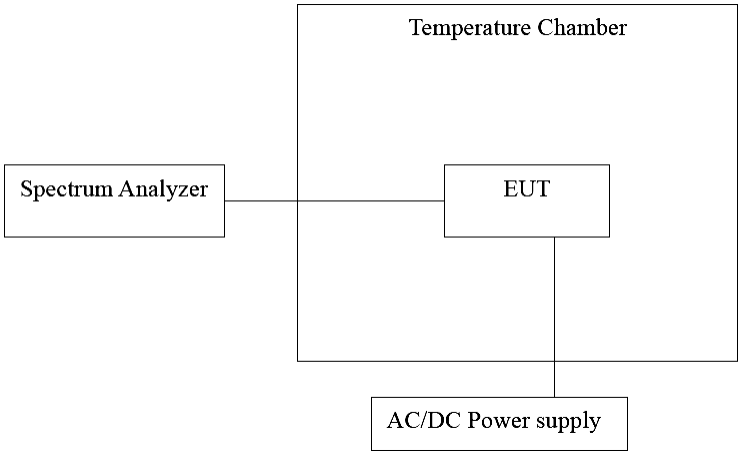
A maximum offset of the *Nominal Centre Frequency* of ± 200 kHz is permitted. Where the manufacturer decides to make use of this frequency offset, the manufacturer shall declare the actual centre frequencies used by the equipment.

See clause 5.4.1, item a).

The actual centre frequency for any given channel shall be maintained within the range fc ± 20 ppm.

Equipment may have simultaneous transmissions on more than one *Operating Channel* with a *Nominal Channel Bandwidth* of 20 MHz.

- **Test Setup**



- **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.2.1 for the test conditions.
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.2.2 for the test methods.

2.2. Nominal Channel Bandwidth and Occupied Channel Bandwidth Test

■ **Limit**

The *Nominal Channel Bandwidth* for a single *Operating Channel* shall be 20 MHz.

Alternatively, equipment may implement a lower *Nominal Channel Bandwidth* with a minimum of 5 MHz, providing they still comply with the *Nominal Centre Frequencies* defined in clause 4.2.1 (20 MHz raster).

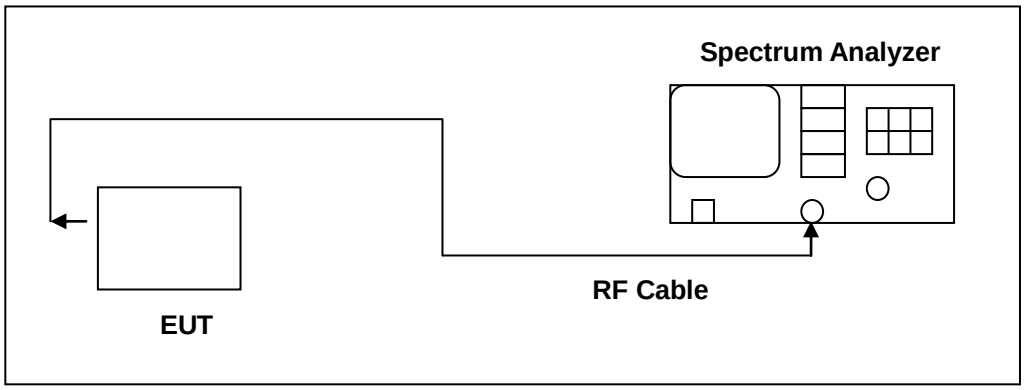
The *Occupied Channel Bandwidth* shall be between 80 % and 100 % of the *Nominal Channel Bandwidth*. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement.

The *Occupied Channel Bandwidth* might change with time/payload.

During a *Channel Occupancy Time (COT)*, equipment may operate temporarily with an *Occupied Channel Bandwidth*

of less than 80 % of its *Nominal Channel Bandwidth* with a minimum of 2 MHz.

■ **Test Setup**



■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.3.1 for the test conditions.
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.3.2 for the test method

2.3. RF Output Power, Transmit Power Control (TPC) and Power Density Test

■ **Limit**

RF output power and power density at the highest power level

TPC is not required for channels whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz.

For devices with TPC, the RF output power and the Power Density when configured to operate at the highest stated power level (PH) of the TPC range shall not exceed the levels given in table 2.

Devices are allowed to operate without TPC. See table 2 for the applicable limits that shall apply in this case.

Table 2: Mean e.i.r.p. limits for RF output power and power density at the highest power level

Frequency Range (MHz)	Mean e.i.r.p. Limit (dBm)		Mean e.i.r.p. Density Limit (dBm/MHz)	
	with TPC	without TPC	with TPC	without TPC
5150 to 5350	23	20 / 23 (see Note1)	10	7 / 10 (see Note2)
5470 to 5725	30 (see Note3)	27 (see Note3)	17 (see Note3)	14 (see Note3)

Note 1: The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 23 dBm.

Note 2: The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 10 dBm/MHz.

Note 3: Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

RF output power at the lowest power level of the TPC range

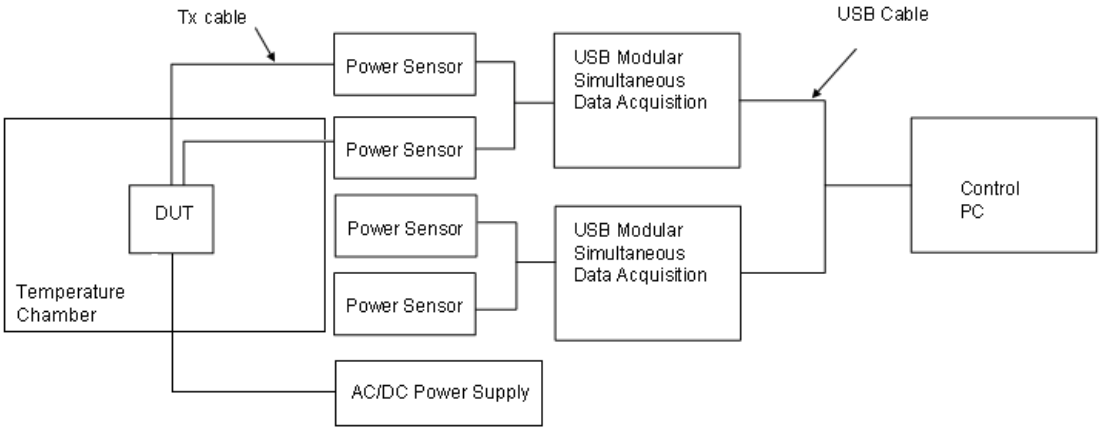
For devices using TPC, the *RF Output Power* during a transmission burst when configured to operate at the lowest stated power level (PL) of the TPC range shall not exceed the levels given in table 3. For devices without TPC, the limits in table 3 do not apply.

Frequency Range (MHz)	Mean e.i.r.p. Limit (dBm)
5250 to 5350	17
5470 to 5725	24 (see Note1)

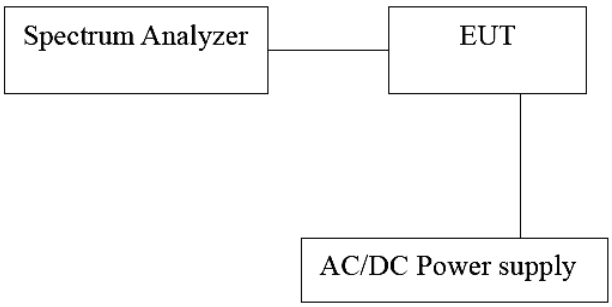
Note 1: Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

■ **Test Setup**

Temperature and Voltage Measurement (under normal and extreme test conditions)



Power Density Test



■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.4.1 for the test conditions.
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.4.2 for the test method

2.4. Adaptivity (Channel Access Mechanism) Test

■ **Limit**

This requirement applies to equipment. The manufacturer shall state whether the UUT is capable of operating as a Frame Based Equipment or Load Based Equipment. See tables for the applicability of adaptive requirements and limit for each of the operational modes.

Applicability of adaptive requirements and limit:

Requirement	Operational Mode		
	LBT based Detect and Avoid		
	Frame Based Equipment	Load Based Equipment	
	Initiating Device	Option A	Option B
Maximum Channel Occupancy (COT) Time	1 ms to 10 ms	(See Note 1)	manufacturer to declare
Idle Period	5 % of COT(100 us)	>27 us	manufacturer to declare
Short Control Signalling Transmissions	(see Note 2)		

Note1: Table 7 and table 8 each contain four different sets of Channel Access parameters for Supervising Devices and Supervised Devices respectively, resulting in different Priority Classes and different maximum Channel Occupancy Times.

Note2: The use of Short Control Signalling Transmissions is constrained as follows:
within an observation period of 50 ms, the number of Short Control Signalling Transmissions by the equipment shall be equal to or less than 50; and the total duration of the equipment's Short Control Signalling Transmissions shall be less than 2 500 μs within said observation period.

Table 7: Priority Class dependent Channel Access parameters for *Supervising Devices*

Class #	p0	CWmin	CWmax	Maximum Channel Occupancy Time (COT)
4	1	3	7	2 ms
3	1	7	15	4 ms
2	3	15	63	6 ms (see note 1 and note 2)
1	7	15	1023	6 ms (see note 1)

Note 1: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 8 ms by inserting one or more pauses. The minimum duration of a pause shall be 100 μs. The maximum duration (Channel Occupancy) before including any such pause shall be 6 ms. Pause duration is not included in the channel occupancy time.

Note 2 The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 10 ms by extending CW to CW × 2 + 1 when selecting the random number q for any backoff(s) that precede the Channel Occupancy that may exceed 6 ms or which follow the Channel Occupancy that exceeded 6 ms. The choice between preceding or following a Channel Occupancy shall remain unchanged during the operation time of the device.

Note 3: The values for p0, CWmin, CWmax are minimum values. Greater values are allowed.

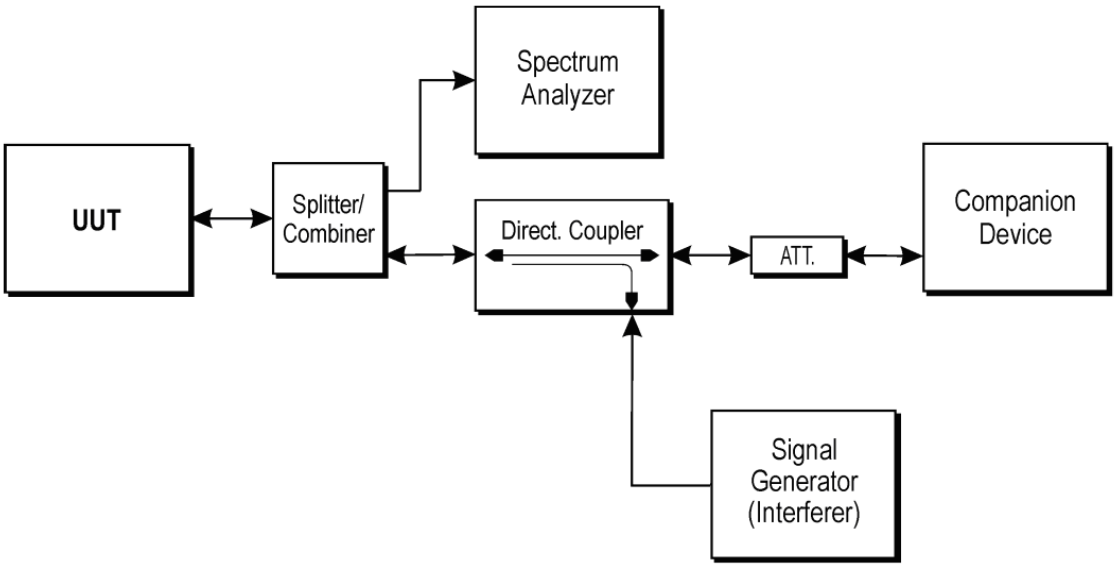
Table 8: Priority Class dependent Channel Access parameters for *Supervised Devices*

Class #	p0	CWmin	CWmax	Maximum Channel Occupancy Time (COT)
4	2	3	7	2 ms
3	2	7	15	4 ms
2	3	15	1023	6 ms (see note 1)
1	7	15	1023	6 ms (see note 1)
Note 1: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 8 ms by inserting one or more pauses. The minimum duration of a pause shall be 100 µs. The maximum duration (Channel Occupancy) before including any such pause shall be 6 ms. Pause duration is not included in the channel occupancy time. Note 2: The values for p0, CWmin, CWmax are minimum values. Greater values are allowed.				

Interference threshold level

Channel Operating	Threshold level (TL) dBm / MHz
Low Channel	-73.29 (Option 1)
Note 1: Option 1 TL = -75 dBm/MHz Note 2: Option 2 For PH ≤ 13 dBm: TL = -75 dBm/MHz / For 13 dBm < PH < 23 dBm: TL = -85 dBm/MHz + (23 dBm - PH) / For PH ≥ 23 dBm: TL = -85 dBm/MHz	

■ **Test Setup**



■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.9.1 for the test conditions
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.9.2 / 5.4.9.3 for the test method.

2.5. Receiver Blocking

- **Limit**

While maintaining the minimum performance criteria as defined in clause 4.2.8.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined in table 9.

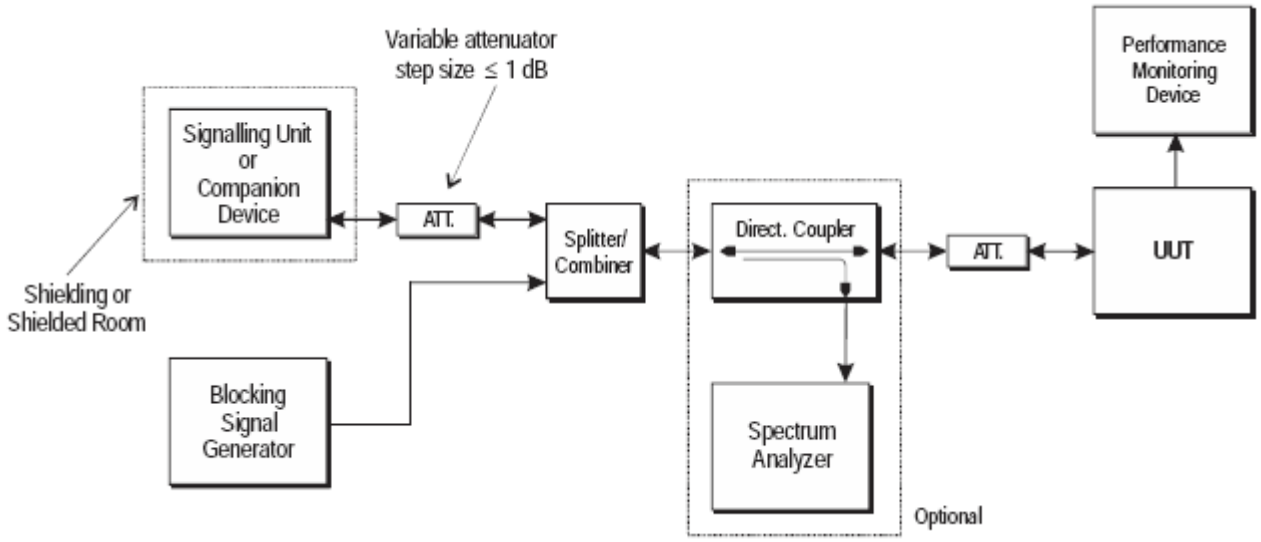
Table 9: Receiver Blocking parameters

Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 2)		Type of blocking signal
		Master or Slave with radar detection (see table D.2, note 2)	Slave without radar detection (see table D.2, note 2)	
Pmin + 6 dB	5 100	-53	-59	Continuous Wave
Pmin + 6 dB	4 900 5 000 5 975	-47	-53	Continuous Wave

Note 1: Pmin is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal.

Note 2: The levels specified are levels in front of the UUT antenna. In case of conducted measurements, the same levels should be used at the antenna connector irrespective of antenna gain.

■ **Test Setup**



■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.10.1 for the test conditions.
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.10.2 for the test method

2.6. User Access Restrictions

- **Requirement**

User Access Restrictions are restraints implemented in the RLAN to restrict access for the user to certain hardware and/or software settings of the equipment.

- **Declare**

Manufacturer shall implement the requirement for marking units.

2.7. Geo-location capability

- **Requirement**

The geographical location determined by the equipment as defined in ETSI EN 301 893 (V2.1.1) clause 4.2.10.2 shall not be accessible to the user.

- **Declare**

The geo-location capability comply with ETSI EN 301 893 (V2.1.1) clause 4.2.10.2 requirement.

2.8. Transmitter Unwanted Emissions outside the 5 GHz RLAN Bands Test

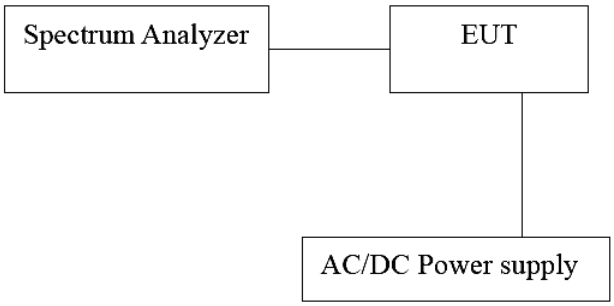
■ **Limit**

Transmitter limits for narrowband spurious emissions

Frequency Range (MHz)	Maximum power	Bandwidth
30 MHz to 47 MHz	-36	100 kHz
47 MHz to 74 MHz	-54	100 kHz
74 MHz to 87.5 MHz	-36	100 kHz
87.5 MHz to 118 MHz	-54	100 kHz
118 MHz to 174 MHz	-36	100 kHz
174 MHz to 230 MHz	-54	100 kHz
230 MHz to 470 MHz	-36	100 kHz
470 MHz to 862 MHz	-54	100 kHz
862 MHz to 1 GHz	-36	100 kHz
1 GHz to 5.15 GHz	-30	1 MHz
5.35 GHz to 5.47 GHz	-30	1 MHz
5.725 GHz to 26 GHz	-30	1 MHz

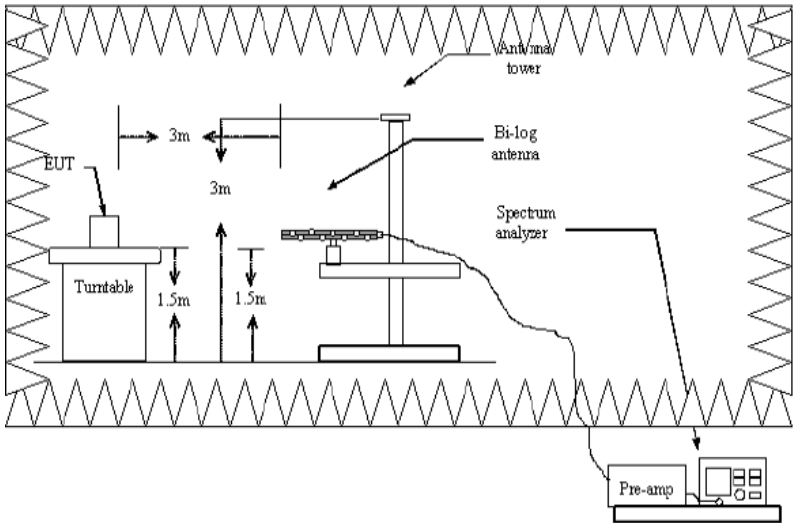
■ **Test Setup**

For CSE

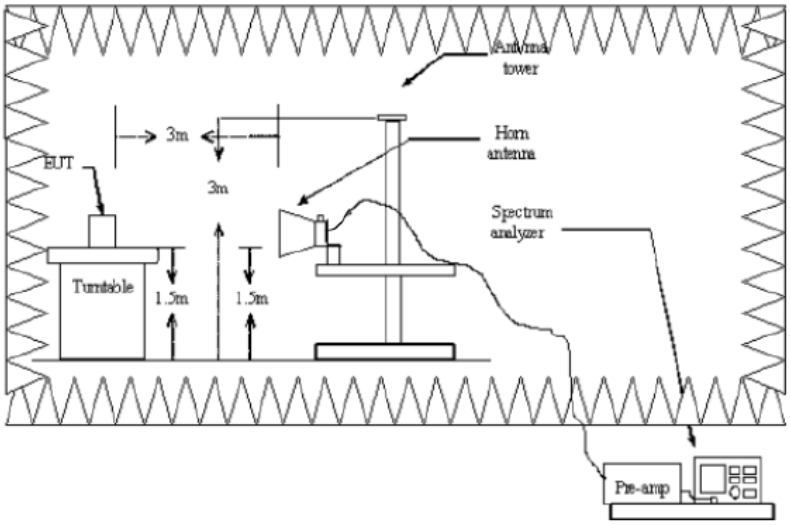


For Radiated

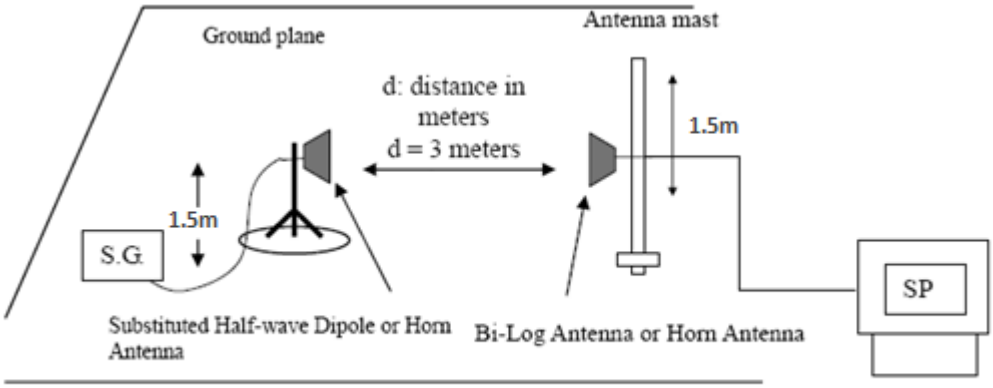
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up

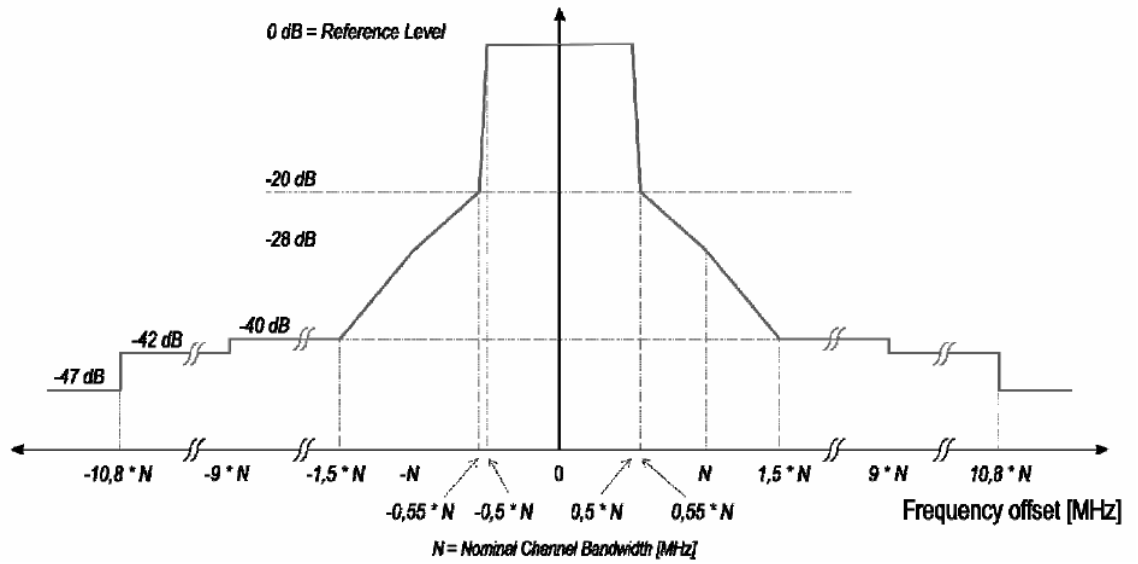


■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.5.1 for the test conditions
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.5.2 for the test method.

2.9. Transmitter Unwanted Emissions within the 5 GHz RLAN Bands Test

- **Limit**



Note: dBc is the spectral density relative to the maximum spectral power density of the transmitted signal.

The mean Power Density (measured with a 1 MHz measurement bandwidth) of the transmitter unwanted emissions within the 5 GHz RLAN bands shall not exceed the limits of the mask provided in figure 1 or an absolute level of -30 dBm/MHz, whichever is greater. The limits in figure 1 are relative to the maximum Power Density of the RLAN device when measured with a reference bandwidth of 1 MHz.

The mask is only applicable within the band of operation. Beyond the band edges the requirements of clause 4.2.4.1apply.

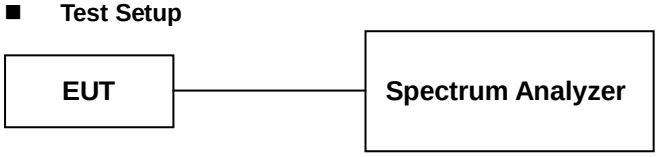
In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the limits provided in figure 1.

For transmitter unwanted emissions within the 5 GHz RLAN bands, simultaneous transmissions in adjacent channels

may be considered as one signal with an actual Nominal Channel Bandwidth of "n" times the individual Nominal Channel Bandwidth where "n" is the number of adjacent channels used simultaneously.

For simultaneous transmissions in multiple non-adjacent channels, the overall transmit spectral power mask is constructed in the following manner. First, a mask as provided in figure 1 is applied to each of the channels. Then, for each frequency point, the greatest value from the spectral masks of all the channels assessed shall be taken as the overall spectral mask requirement at that frequency.

■ **Test Setup**



■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.6.1 for the test conditions
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.6.2 for the test method.

2.10. Receiver Spurious Emissions

■ **Limit**

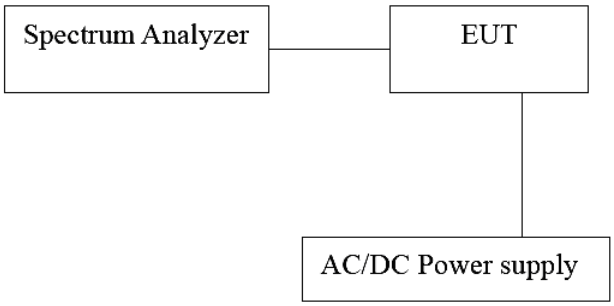
The spurious emissions of the receiver shall not exceed the limits given as follows.

Table 4: Spurious radiated emission limits

Frequency Range	Maximum power	Measurement Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 26.5 GHz	-47 dBm	1 MHz

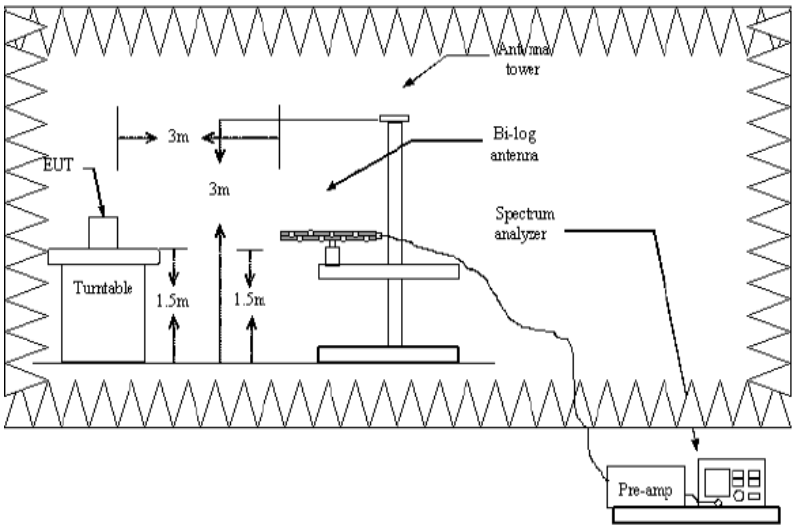
■ **Test Setup**

For CSE

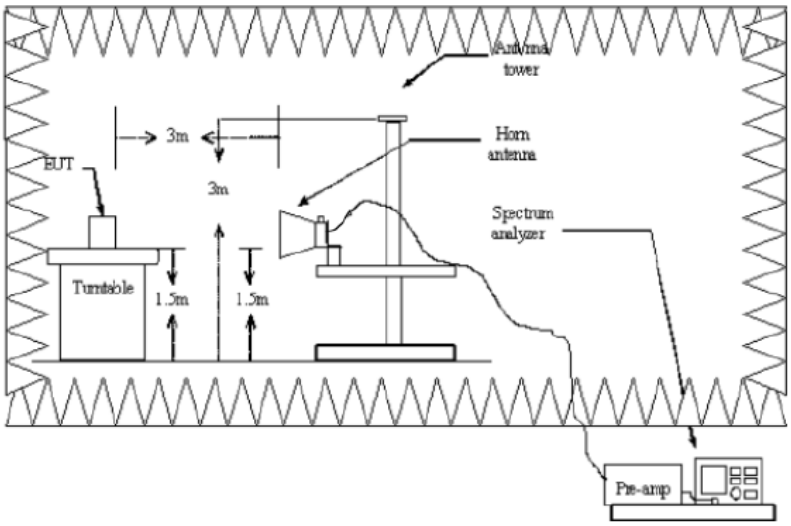


For Radiated

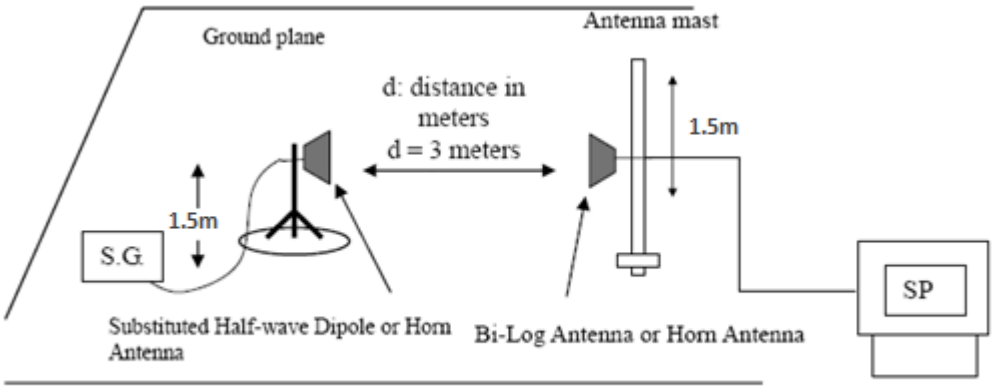
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



■ **Test Procedure**

1. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.7.1 for the test conditions
2. Please refer to ETSI EN 301 893 (V2.1.1) clause 5.4.7.2 for the test method.

3 Test Results

3.1. Centre Frequencies Test

Test Mode	Mode 1: IEEE 802.11a U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5180 MHz	5180.0772	5180.0700	5180.0760	79800	15.41
5240 MHz	5240.0678	5240.0600	5240.0618	69600	13.28
Limit (ppm)					fc ± 20

Test Mode	Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5180 MHz	5180.0609	5180.0600	5180.0607	68400	13.20
5240 MHz	5240.0831	5240.0800	5240.0891	89100	17.00
Limit (ppm)					fc ± 20

Test Mode	Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5190 MHz	5190.0683	5190.0600	5190.0693	69400	13.37
5230 MHz	5230.0869	5230.0800	5230.0865	89800	17.17
Limit (ppm)					fc ± 20

Test Mode	Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5210 MHz	5210.0163	5210.0100	5210.0157	18100	3.47
Limit (ppm)					fc ± 20

Beamforming on

	Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5180 MHz	5180.0609	5180.0600	5180.0607	68400	13.20
5240 MHz	5240.0831	5240.0800	5240.0891	89100	17.00
Limit (ppm)					fc ± 20

Test Mode	Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5190 MHz	5190.0683	5190.0600	5190.0693	69400	13.37
5230 MHz	5230.0869	5230.0800	5230.0865	89800	17.17
Limit (ppm)					fc ± 20

Test Mode	Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode				
DC Power Source					
Temperature	0°C	25°C	40°C	Measured maximum deviation (Hz)	Measured maximum deviation (ppm)
Test Conditions	5.0 Vdc	5.0 Vdc	5.0 Vdc		
5210 MHz	5210.0163	5210.0100	5210.0157	18100	3.47
Limit (ppm)					fc ± 20

3.2. Nominal Channel Bandwidth and Occupied Channel Bandwidth Test

Test Mode	Mode 1: IEEE 802.11a U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5180	16.549	16 ≦ f ≦ 20
5240	16.496	16 ≦ f ≦ 20

Test Mode	Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5180	17.683	16 ≦ f ≦ 20
5240	17.675	16 ≦ f ≦ 20

Test Mode	Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5190	36.291	32 ≦ f ≦ 40
5230	36.208	32 ≦ f ≦ 40

Test Mode	Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5210	75.083	64 ≦ f ≦ 80

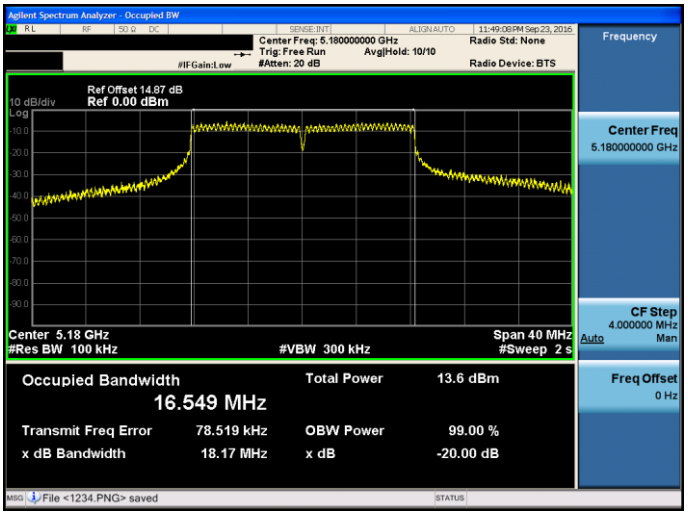
Beamforming on

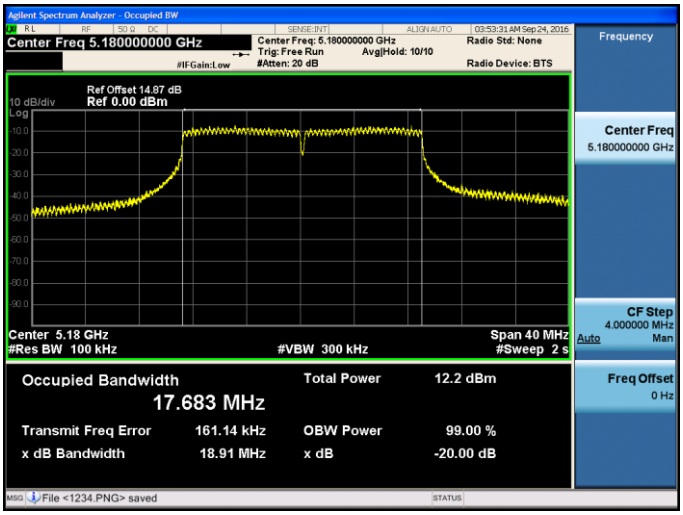
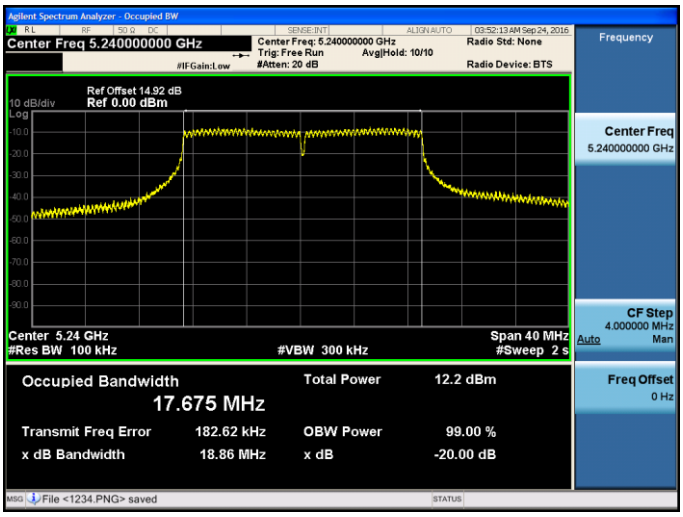
Test Mode	Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5180	17.683	16 ≦ f ≦ 20
5240	17.675	16 ≦ f ≦ 20

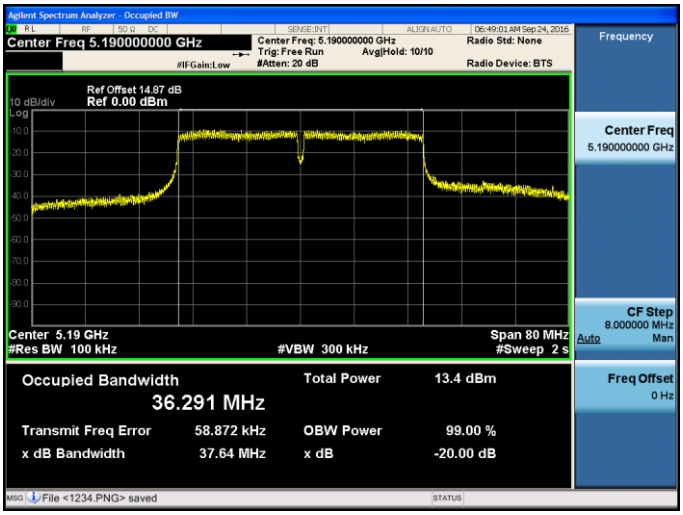
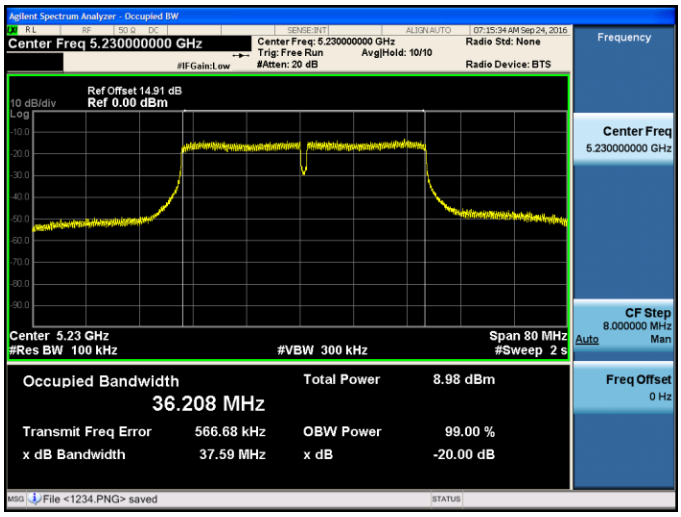
Test Mode	Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5190	36.291	32 ≦ f ≦ 40
5230	36.208	32 ≦ f ≦ 40

Test Mode	Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	
Frequency (MHz)	Measurement (MHz)	Limit (MHz)
5210	75.083	64 ≦ f ≦ 80

■ **Test Graphs**

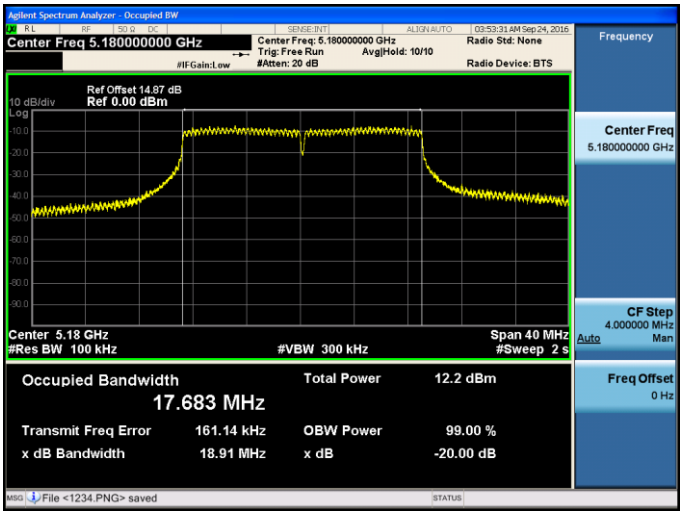
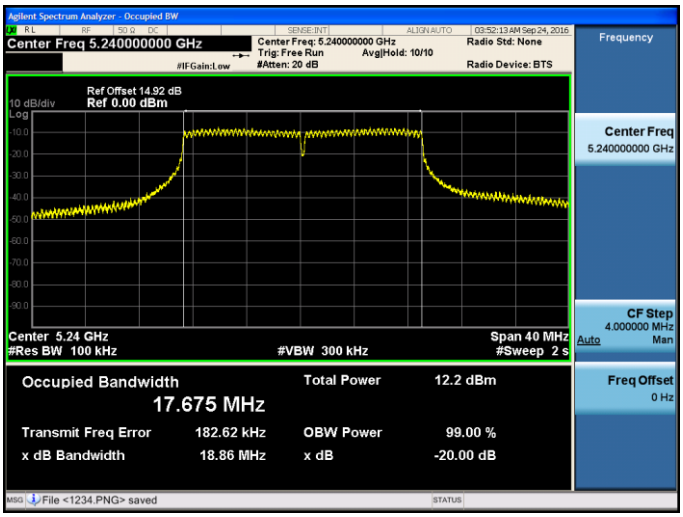
Mode 1: IEEE 802.11a U-NII Band Link Mode	
5180 MHz	
5240 MHz	

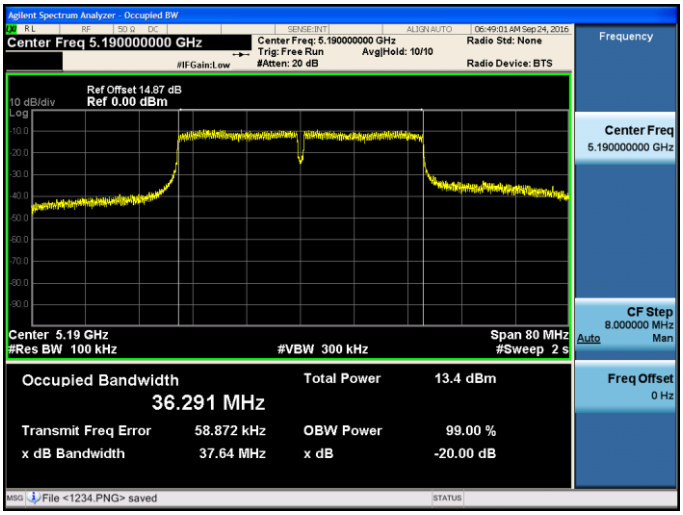
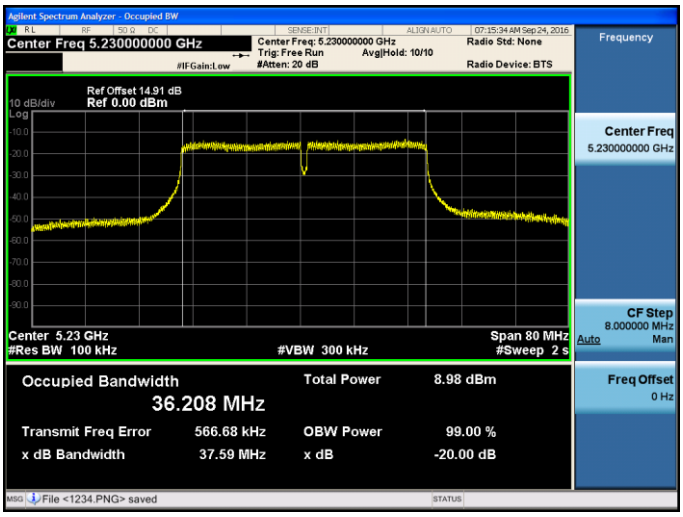
Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode	
5180 MHz	
5240 MHz	

Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode	
5190 MHz	
5230 MHz	

Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	
5210 MHz	

Beamforming on

Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode	
5180 MHz	
5240 MHz	

Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode	
5190 MHz	
5230 MHz	

Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	
5210 MHz	

3.3. RF Output Power, Transmit Power Control (TPC) and Power Density Test

■ RF output power (E.I.R.P) at the highest power level

Test Mode	Mode 1: IEEE 802.11a U-NII Band Link Mode Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode				
DC Power Source					
Temperature		0°C	25°C	40°C	Limit (dBm)
Test Conditions		5.0 Vdc	5.0 Vdc	5.0 Vdc	
Mode	Frequency	Measurement (dBm)			
Mode 1	5180 MHz	13.18	13.64	13.57	≤ 23
	5240 MHz	13.24	13.19	13.22	
Mode 2	5180 MHz	16.47	17.02	16.15	≤ 23
	5240 MHz	16.73	16.79	16.37	
Mode 3	5190 MHz	16.48	16.39	16.35	≤ 23
	5230 MHz	15.88	15.90	15.83	
Mode 4	5210 MHz	16.07	15.35	15.86	≤ 23

Note: RF output power (E.I.R.P) = Output power + Antenna gain.

■ E.I.R. Power Density at the highest power level

Test Mode	Mode 1: IEEE 802.11a U-NII Band Link Mode Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode		
Mode	Frequency	Measurement (dBm/ MHz)	Limit (dBm/ MHz)
Mode 1	5180 MHz	2.11	≤ 10
	5240 MHz	1.67	
Mode 2	5180 MHz	5.24	≤ 10
	5240 MHz	5.04	
Mode 3	5190 MHz	1.71	≤ 10
	5230 MHz	1.11	
Mode 4	5210 MHz	-0.49	≤ 10

Note: E.I.R. Power density = Power density + Antenna gain.

Beamforming on

■ RF output power at the highest power level

Test Mode	Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode				
DC Power Source					
Temperature		0°C	25°C	40°C	Limit (dBm)
Test Conditions		5.0 Vdc	5.0 Vdc	5.0 Vdc	
Mode	Frequency	Measurement (dBm)			
Mode 2	5180 MHz	20.11	19.97	19.95	≤ 23
	5240 MHz	20.10	19.84	19.96	
Mode 3	5190 MHz	20.58	20.11	20.36	≤ 23
	5230 MHz	19.69	20.14	19.65	
Mode 4	5210 MHz	19.75	19.99	19.91	≤ 23

Note: RF output power (E.I.R.P) = Output power + Antenna gain.

■ E.I.R. Power Density at the highest power level

Test Mode	Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode		
Mode	Frequency	Measurement (dBm/ MHz)	Limit (dBm/ MHz)
Mode 2	5180 MHz	8.10	≤ 10
	5240 MHz	8.02	
Mode 3	5190 MHz	5.38	≤ 10
	5230 MHz	5.58	
Mode 4	5210 MHz	4.22	≤ 10

Note: E.I.R. Power density = Power density + Antenna gain.

3.4. Adaptivity (Channel Access Mechanism) Test

UUT Operational Mode		
Frame Based Equipment	Load Based Equipment	
	Option A	Option B
	V	

Clause	Test Parameter	Remarks	Pass/Fail
4.9.2.1	Adaptive (Frame Based Equipment)	Not Applicable	N/A
4.9.2.2	Adaptive (Load Based Equipment)	Applicable	Pass
4.9.2.3	Short Control Signalling Transmissions	Applicable	Pass

■ Adaptive Result

Operating Frequency Bands and Mode of EUT

AWGN

Operational Mode	Low Channel Operating Frequency (MHz)
Mode 1	5180
Mode 3	5190
Test Result	PASS

OFDM

Operational Mode	Low Channel Operating Frequency (MHz)
Mode 1	5180
Test Result	PASS

LTE

Operational Mode	Low Channel Operating Frequency (MHz)
Mode 1	5180
Test Result	PASS

■ **Test Graphs**

AWGN

Mode 1: IEEE 802.11a U-NII Band Link Mode_ Interference threshold level	
Low Channel	

Mode 3: IEEE 802.11ac 5 GHz 40 MHz U-NII Band Link Mode_ Interference threshold level	
Low Channel	

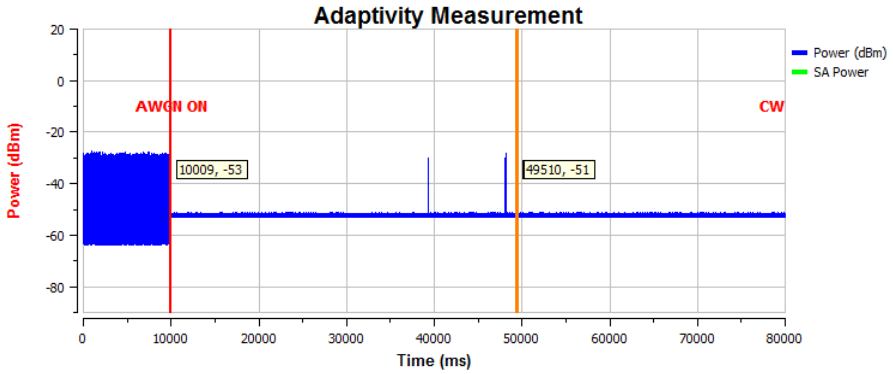
OFDM

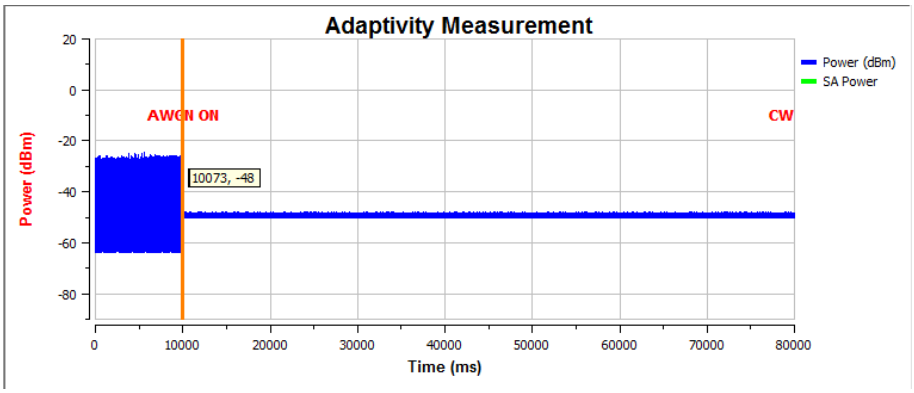
Mode 1: IEEE 802.11a U-NII Band Link Mode_ Interference threshold level	
Low Channel	

LTE

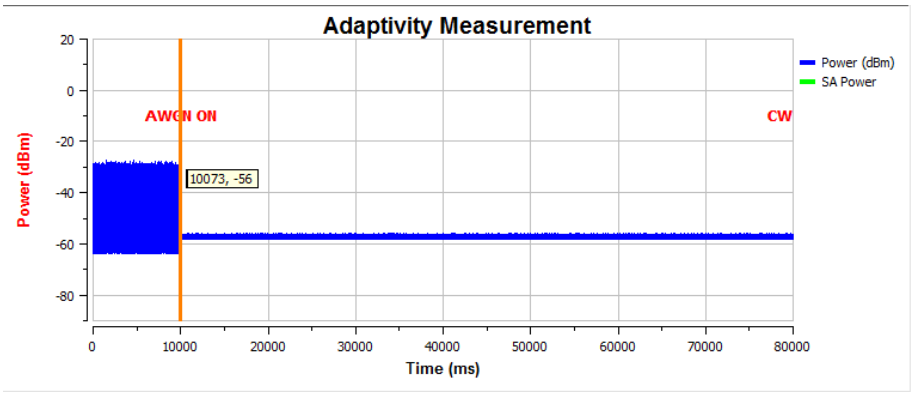
Mode 1: IEEE 802.11a U-NII Band Link Mode_ Interference threshold level	
Low Channel	

AWGN

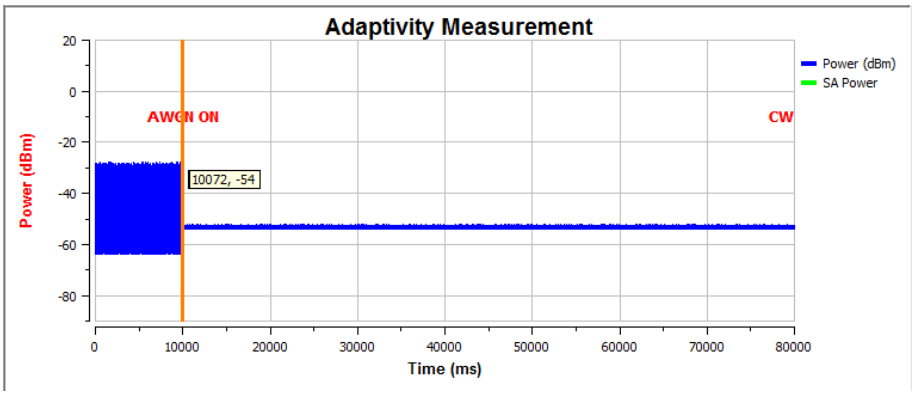
Mode 1: IEEE 802.11a U-NII Band Link Mode_ Adaptivity (Channel Access Mechanism)	
Low Channel	

Mode 3: IEEE 802.11ac 5 GHz 40 MHz U-NII Band Link Mode_ Adaptivity (Channel Access Mechanism)	
Low Channel	

OFDM

Mode 1: IEEE 802.11a U-NII Band Link Mode_ Adaptivity (Channel Access Mechanism)	
Low Channel	

LTE

Mode 1: IEEE 802.11a U-NII Band Link Mode_ Adaptivity (Channel Access Mechanism)	
Low Channel	

■ Short Control Signalling Transmissions Result

AWGN

Operational Mode	Channel	Test Item	Results
Mode 1	Low	SCST on time (1)	1 ms
Mode 3	Low	SCST on time (1)	0 ms
SCST Duty cycle Limit			< 2.5 ms

OFDM

Operational Mode	Channel	Test Item	Results
Mode 1	Low	SCST on time (1)	0 ms
SCST Duty cycle Limit			< 2.5 ms

LTE

Operational Mode	Channel	Test Item	Results
Mode 1	Low	SCST on time (1)	0 ms
SCST Duty cycle Limit			< 2.5 ms

■ COT and Idle Time Result

AWGN

Operational Mode	Channel	Test Item	Results	Limit
Mode 1	Low	COT	2.08 ms	< 4 ms
		Idle	70 μs	≥ 27 μs
Mode 3	Low	COT	1.99 ms	< 4 ms
		Idle	80 μs	≥ 27 μs

OFDM

Operational Mode	Channel	Test Item	Results	Limit
Mode 1	Low	COT	2.07 ms	< 4 ms
		Idle	70 μs	≥ 27 μs

LTE

Operational Mode	Channel	Test Item	Results	Limit
Mode 1	Low	COT	2.07 ms	< 4 ms
		Idle	70 μs	≥ 27 μs

3.5. Receiver Blocking

Test Mode	Mode 1: IEEE 802.11a U-NII Band Link Mode								
Pmin	-85dBm								
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)				Type of blocking signa	PER (%)	PER Limit (%)	Result
		Master or Slave signal with radar detection		Slave without radar detection					
Pmin + 6 dB	5100	☐	-53	■	-59	CW	2.200	≦10	Pass
Pmin + 6 dB	4900	☐	-47	■	-53	CW	1.800	≦10	Pass
	5000	☐		■			1.800		Pass
	5975	☐		■			2.400		Pass

3.6. Transmitter Unwanted Emissions outside the 5 GHz RLAN Bands Test

Conducted

Mode:	Mode 1	Frequency:	5180 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	542.700	-67.11	-54.00	-13.11	Pass
2	729.200	-66.19	-54.00	-12.19	Pass
3	799.100	-65.54	-54.00	-11.54	Pass
4	830.200	-66.86	-54.00	-12.86	Pass
5	855.900	-67.23	-54.00	-13.23	Pass
6	25408.000	-41.02	-30.00	-11.02	Pass
7	25805.000	-40.10	-30.00	-10.10	Pass
8	25866.000	-41.01	-30.00	-11.01	Pass
9	25961.000	-40.69	-30.00	-10.69	Pass
10	25983.000	-41.04	-30.00	-11.04	Pass

Mode:	Mode 2	Frequency:	5180 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	566.600	-66.36	-57.01	-12.36	Pass
2	729.100	-66.15	-57.01	-12.15	Pass
3	764.900	-66.30	-57.01	-12.30	Pass
4	829.800	-65.99	-57.01	-11.99	Pass
5	854.600	-66.39	-57.01	-12.39	Pass
6	24072.000	-40.90	-33.01	-10.90	Pass
7	25796.000	-40.02	-33.01	-10.02	Pass
8	25822.000	-40.75	-33.01	-10.75	Pass
9	25849.000	-40.44	-33.01	-10.44	Pass
10	25871.000	-40.33	-33.01	-10.33	Pass

Mode:	Mode 2	Frequency:	5180 MHz

Ant 2 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	719.500	-68.90	-57.01	-14.90	Pass
2	741.600	-69.02	-57.01	-15.02	Pass
3	770.900	-68.41	-57.01	-14.41	Pass
4	812.900	-68.63	-57.01	-14.63	Pass
5	856.200	-68.17	-57.01	-14.17	Pass
6	25790.000	-40.60	-33.01	-10.60	Pass
7	25837.000	-40.56	-33.01	-10.56	Pass
8	25862.000	-40.68	-33.01	-10.68	Pass
9	25883.000	-40.57	-33.01	-10.57	Pass
10	25925.000	-40.20	-33.01	-10.20	Pass

Mode:	Mode 3	Frequency:	5190 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	675.500	-67.05	-57.01	-10.04	Pass
2	749.900	-67.07	-57.01	-10.06	Pass
3	781.700	-67.20	-57.01	-10.19	Pass
4	826.300	-67.12	-57.01	-10.11	Pass
5	859.500	-67.08	-57.01	-10.07	Pass
6	24602.000	-43.01	-33.01	-10.00	Pass
7	24923.000	-43.02	-33.01	-10.01	Pass
8	25245.000	-43.01	-33.01	-10.00	Pass
9	25587.000	-43.02	-33.01	-10.01	Pass
10	25890.000	-43.01	-33.01	-10.00	Pass

Mode:	Mode 3	Frequency:	5190 MHz

Ant 2 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	606.200	-68.19	-57.01	-11.18	Pass
2	662.000	-68.75	-57.01	-11.74	Pass
3	734.400	-67.86	-57.01	-10.85	Pass
4	792.900	-68.26	-57.01	-11.25	Pass
5	831.100	-68.56	-57.01	-11.55	Pass
6	25050.000	-43.06	-33.01	-10.05	Pass
7	25717.000	-43.02	-33.01	-10.01	Pass
8	25781.000	-43.03	-33.01	-10.02	Pass
9	25821.000	-43.03	-33.01	-10.02	Pass
10	25969.000	-43.07	-33.01	-10.06	Pass

Mode:	Mode 4	Frequency:	5210 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	533.500	-67.07	-57.01	-10.06	Pass
2	740.500	-67.14	-57.01	-10.13	Pass
3	775.000	-67.01	-57.01	-10.00	Pass
4	831.400	-67.04	-57.01	-10.03	Pass
5	859.900	-67.13	-57.01	-10.12	Pass
6	25133.000	-43.03	-33.01	-10.02	Pass
7	25261.000	-43.01	-33.01	-10.00	Pass
8	25342.000	-43.03	-33.01	-10.02	Pass
9	25707.000	-43.03	-33.01	-10.02	Pass
10	25810.000	-43.02	-33.01	-10.01	Pass

Mode:	Mode 4	Frequency:	5210 MHz

Ant 2 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	60.000	-67.66	-57.01	-10.65	Pass
2	718.200	-68.18	-57.01	-11.17	Pass
3	751.100	-67.97	-57.01	-10.96	Pass
4	774.000	-67.92	-57.01	-10.91	Pass
5	807.300	-68.47	-57.01	-11.46	Pass
6	25774.000	-43.05	-33.01	-10.04	Pass
7	25806.000	-43.13	-33.01	-10.12	Pass
8	25830.000	-43.10	-33.01	-10.09	Pass
9	25904.000	-43.04	-33.01	-10.03	Pass
10	25930.000	-43.02	-33.01	-10.01	Pass

Beamforming on

Mode:	Mode 2	Frequency:	5180 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	477.200	-66.33	-57.01	-12.33	Pass
2	624.200	-67.18	-57.01	-13.18	Pass
3	734.300	-66.54	-57.01	-12.54	Pass
4	810.000	-66.30	-57.01	-12.30	Pass
5	834.300	-66.48	-57.01	-12.48	Pass
6	25771.000	-40.80	-33.01	-10.80	Pass
7	25822.000	-40.64	-33.01	-10.64	Pass
8	25874.000	-40.59	-33.01	-10.59	Pass
9	25903.000	-40.07	-33.01	-10.07	Pass
10	25975.000	-40.88	-33.01	-10.88	Pass

Mode:	Mode 2	Frequency:	5180 MHz

Ant 2 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	713.900	-68.00	-57.01	-14.00	Pass
2	737.600	-68.35	-57.01	-14.35	Pass
3	785.600	-67.92	-57.01	-13.92	Pass
4	832.400	-68.16	-57.01	-14.16	Pass
5	858.900	-68.21	-57.01	-14.21	Pass
6	25798.000	-41.21	-33.01	-11.21	Pass
7	25830.000	-40.94	-33.01	-10.94	Pass
8	25851.000	-40.82	-33.01	-10.82	Pass
9	25877.000	-41.02	-33.01	-11.02	Pass
10	25916.000	-40.48	-33.01	-10.48	Pass

Mode:	Mode 3	Frequency:	5190 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	653.300	-67.24	-57.01	-10.23	Pass
2	745.600	-67.09	-57.01	-10.08	Pass
3	777.500	-67.22	-57.01	-10.21	Pass
4	815.700	-67.15	-57.01	-10.14	Pass
5	846.000	-67.02	-57.01	-10.01	Pass
6	25304.000	-43.01	-33.01	-10.00	Pass
7	25429.000	-43.01	-33.01	-10.00	Pass
8	25589.000	-43.01	-33.01	-10.00	Pass
9	25734.000	-43.02	-33.01	-10.01	Pass
10	25946.000	-43.01	-33.01	-10.00	Pass

Mode:	Mode 3	Frequency:	5190 MHz

Ant 2 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	606.500	-68.84	-57.01	-11.83	Pass
2	697.000	-69.03	-57.01	-12.02	Pass
3	763.400	-68.76	-57.01	-11.75	Pass
4	810.500	-67.95	-57.01	-10.94	Pass
5	841.700	-68.59	-57.01	-11.58	Pass
6	25658.000	-43.06	-33.01	-10.05	Pass
7	25788.000	-43.05	-33.01	-10.04	Pass
8	25828.000	-43.07	-33.01	-10.06	Pass
9	25876.000	-43.06	-33.01	-10.05	Pass
10	25994.000	-43.02	-33.01	-10.01	Pass

Mode:	Mode 4	Frequency:	5210 MHz

Ant 1 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	60.000	-67.07	-57.01	-10.06	Pass
2	472.500	-67.09	-57.01	-10.08	Pass
3	662.800	-67.05	-57.01	-10.04	Pass
4	719.300	-67.10	-57.01	-10.09	Pass
5	814.800	-67.05	-57.01	-10.04	Pass
6	24458.000	-43.02	-33.01	-10.01	Pass
7	25571.000	-43.02	-33.01	-10.01	Pass
8	25644.000	-43.03	-33.01	-10.02	Pass
9	25689.000	-43.01	-33.01	-10.00	Pass
10	25757.000	-43.02	-33.01	-10.01	Pass

Mode:	Mode 4	Frequency:	5210 MHz

Ant 2 Detector: Peak

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	623.400	-68.74	-57.01	-11.73	Pass
2	669.500	-68.11	-57.01	-11.10	Pass
3	774.600	-68.16	-57.01	-11.15	Pass
4	795.800	-68.61	-57.01	-11.60	Pass
5	860.900	-68.60	-57.01	-11.59	Pass
6	25637.000	-43.03	-33.01	-10.02	Pass
7	25674.000	-43.03	-33.01	-10.02	Pass
8	25742.000	-43.03	-33.01	-10.02	Pass
9	25779.000	-43.02	-33.01	-10.01	Pass
10	25845.000	-43.03	-33.01	-10.02	Pass

Radiated

Mode:	Mode 1	Frequency:	5180 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-62.23	-9.52	-71.75	-36.00	-35.75	peak
2	333.1250	-67.04	-2.90	-69.94	-36.00	-33.94	peak
3	432.5500	-69.49	-1.18	-70.67	-36.00	-34.67	peak
4	677.4750	-74.77	3.29	-71.48	-54.00	-17.48	peak
5	810.8500	-73.79	4.84	-68.95	-54.00	-14.95	peak
6	949.0750	-73.35	6.31	-67.04	-36.00	-31.04	peak
7	7055.000	-55.73	3.67	-52.06	-30.00	-22.06	peak
8	10360.000	-48.45	7.39	-41.06	-30.00	-11.06	peak
9	15540.000	-53.79	11.57	-42.22	-30.00	-12.22	peak

Mode:	Mode 1	Frequency:	5180 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-64.25	-11.18	-75.43	-54.00	-21.43	peak
2	318.5750	-67.89	-3.45	-71.34	-36.00	-35.34	peak
3	476.2000	-71.35	0.65	-70.70	-54.00	-16.70	peak
4	662.9250	-71.26	2.72	-68.54	-54.00	-14.54	peak
5	767.2000	-73.33	4.10	-69.23	-54.00	-15.23	peak
6	946.6500	-73.74	6.29	-67.45	-36.00	-31.45	peak
7	7475.000	-52.85	3.94	-48.91	-30.00	-18.91	peak
8	10360.000	-50.86	7.39	-43.47	-30.00	-13.47	peak
9	15540.000	-57.65	11.57	-46.08	-30.00	-16.08	peak

Mode:	Mode 1	Frequency:	5240 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	110.0250	-65.17	-10.41	-75.58	-54.00	-21.58	peak
2	333.1250	-65.63	-2.90	-68.53	-36.00	-32.53	peak
3	432.5500	-70.55	-1.18	-71.73	-36.00	-35.73	peak
4	616.8500	-74.06	3.01	-71.05	-54.00	-17.05	peak
5	839.9500	-74.17	5.32	-68.85	-54.00	-14.85	peak
6	1000.0000	-74.53	6.47	-68.06	-36.00	-32.06	peak
7	3432.500	-57.29	-3.07	-60.36	-30.00	-30.36	peak
8	10480.000	-50.05	7.52	-42.53	-30.00	-12.53	peak
9	15720.000	-56.67	11.45	-45.22	-30.00	-15.22	peak

Mode:	Mode 1	Frequency:	5240 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	54.2500	-60.75	-8.40	-69.15	-54.00	-15.15	peak
2	284.6250	-65.87	-5.02	-70.89	-36.00	-34.89	peak
3	432.5500	-69.19	-1.18	-70.37	-36.00	-34.37	peak
4	662.9250	-70.79	2.72	-68.07	-54.00	-14.07	peak
5	839.9500	-70.18	5.32	-64.86	-54.00	-10.86	peak
6	941.8000	-74.35	6.24	-68.11	-36.00	-32.11	peak
7	4045.000	-56.69	-1.70	-58.39	-30.00	-28.39	peak
8	10480.000	-54.10	7.52	-46.58	-30.00	-16.58	peak
9	15720.000	-57.14	11.45	-45.69	-30.00	-15.69	peak

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	80.9250	-65.49	-10.30	-75.79	-36.00	-39.79	peak
2	299.1750	-65.34	-4.16	-69.50	-36.00	-33.50	peak
3	432.5500	-69.13	-1.18	-70.31	-36.00	-34.31	peak
4	616.8500	-73.88	3.01	-70.87	-54.00	-16.87	peak
5	832.6750	-73.67	5.32	-68.35	-54.00	-14.35	peak
6	927.2500	-73.83	5.98	-67.85	-36.00	-31.85	peak
7	6985.000	-57.25	3.51	-53.74	-30.00	-23.74	peak
8	10360.000	-52.75	7.39	-45.36	-30.00	-15.36	peak
9	17950.000	-61.62	16.32	-45.30	-30.00	-15.30	peak

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	95.4750	-62.95	-11.01	-73.96	-54.00	-19.96	peak
2	333.1250	-68.60	-2.90	-71.50	-36.00	-35.50	peak
3	493.1750	-70.56	0.57	-69.99	-54.00	-15.99	peak
4	665.3500	-70.77	2.80	-67.97	-54.00	-13.97	peak
5	839.9500	-70.78	5.32	-65.46	-54.00	-11.46	peak
6	946.6500	-74.30	6.29	-68.01	-36.00	-32.01	peak
7	7090.000	-57.00	3.77	-53.23	-30.00	-23.23	peak
8	10360.000	-55.01	7.39	-47.62	-30.00	-17.62	peak
9	17850.000	-61.36	16.02	-45.34	-30.00	-15.34	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	158.5250	-67.70	-7.29	-74.99	-36.00	-38.99	peak
2	333.1250	-66.40	-2.90	-69.30	-36.00	-33.30	peak
3	432.5500	-69.98	-1.18	-71.16	-36.00	-35.16	peak
4	655.6500	-73.23	2.57	-70.66	-54.00	-16.66	peak
5	839.9500	-73.92	5.32	-68.60	-54.00	-14.60	peak
6	995.1500	-73.80	6.41	-67.39	-36.00	-31.39	peak
7	2942.500	-57.41	-3.98	-61.39	-30.00	-31.39	peak
8	10480.000	-53.29	7.52	-45.77	-30.00	-15.77	peak
9	15720.000	-57.30	11.45	-45.85	-30.00	-15.85	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-61.88	-9.52	-71.40	-36.00	-35.40	peak
2	233.7000	-61.60	-4.43	-66.03	-36.00	-30.03	peak
3	488.3250	-70.69	0.62	-70.07	-54.00	-16.07	peak
4	665.3500	-71.48	2.80	-68.68	-54.00	-14.68	peak
5	839.9500	-70.90	5.32	-65.58	-54.00	-11.58	peak
6	898.1500	-74.61	5.37	-69.24	-36.00	-33.24	peak
7	2977.500	-57.69	-3.83	-61.52	-30.00	-31.52	peak
8	10480.000	-55.51	7.52	-47.99	-30.00	-17.99	peak
9	15720.000	-57.71	11.45	-46.26	-30.00	-16.26	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-60.72	-9.52	-70.24	-36.00	-34.24	peak
2	240.9750	-65.11	-4.31	-69.42	-36.00	-33.42	peak
3	432.5500	-70.60	-1.18	-71.78	-36.00	-35.78	peak
4	672.6250	-74.34	3.06	-71.28	-54.00	-17.28	peak
5	839.9500	-74.11	5.32	-68.79	-54.00	-14.79	peak
6	934.5250	-72.67	6.13	-66.54	-36.00	-30.54	peak
7	6582.500	-56.39	3.07	-53.32	-30.00	-23.32	peak
8	10380.000	-59.06	7.45	-51.61	-30.00	-21.61	peak
9	16775.000	-62.48	13.19	-49.29	-30.00	-19.29	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	233.7000	-61.49	-4.43	-65.92	-36.00	-29.92	peak
2	333.1250	-69.59	-2.90	-72.49	-36.00	-36.49	peak
3	493.1750	-70.31	0.57	-69.74	-54.00	-15.74	peak
4	662.9250	-71.20	2.72	-68.48	-54.00	-14.48	peak
5	839.9500	-69.89	5.32	-64.57	-54.00	-10.57	peak
6	949.0750	-74.64	6.31	-68.33	-36.00	-32.33	peak
7	7475.000	-52.72	3.94	-48.78	-30.00	-18.78	peak
8	10380.000	-59.25	7.12	-52.13	-30.00	-22.13	peak
9	17900.000	-61.65	16.18	-45.47	-30.00	-15.47	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-61.61	-9.52	-71.13	-36.00	-35.13	peak
2	240.9750	-65.46	-4.31	-69.77	-36.00	-33.77	peak
3	432.5500	-69.16	-1.18	-70.34	-36.00	-34.34	peak
4	679.9000	-72.85	3.41	-69.44	-54.00	-15.44	peak
5	839.9500	-71.72	5.32	-66.40	-54.00	-12.40	peak
6	995.1500	-74.03	6.41	-67.62	-36.00	-31.62	peak
7	7247.500	-56.59	3.81	-52.78	-30.00	-22.78	peak
8	10460.000	-53.90	7.52	-46.38	-30.00	-16.38	peak
9	13850.000	-61.62	10.61	-51.01	-30.00	-21.01	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	63.9500	-64.57	-10.39	-74.96	-54.00	-20.96	peak
2	299.1750	-64.51	-4.16	-68.67	-36.00	-32.67	peak
3	371.9250	-68.48	-0.77	-69.25	-36.00	-33.25	peak
4	662.9250	-69.50	2.72	-66.78	-54.00	-12.78	peak
5	839.9500	-69.78	5.32	-64.46	-54.00	-10.46	peak
6	953.9250	-74.55	6.34	-68.21	-36.00	-32.21	peak
7	7457.500	-57.97	3.97	-54.00	-30.00	-24.00	peak
8	10460.000	-56.25	7.52	-48.73	-30.00	-18.73	peak
9	14050.000	-62.52	10.68	-51.84	-30.00	-21.84	peak

Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	80.9250	-65.93	-10.30	-76.23	-36.00	-40.23	peak
2	250.6750	-65.29	-4.54	-69.83	-36.00	-33.83	peak
3	432.5500	-69.87	-1.18	-71.05	-36.00	-35.05	peak
4	619.2750	-73.90	3.01	-70.89	-54.00	-16.89	peak
5	839.9500	-73.46	5.32	-68.14	-54.00	-14.14	peak
6	1000.0000	-74.21	6.47	-67.74	-36.00	-31.74	peak
7	6565.000	-56.07	2.99	-53.08	-30.00	-23.08	peak
8	10420.000	-58.45	6.29	-52.16	-30.00	-22.16	peak
9	16525.000	-62.22	12.18	-50.04	-30.00	-20.04	peak

Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	73.6500	-64.03	-10.96	-74.99	-54.00	-20.99	peak
2	299.1750	-64.66	-4.16	-68.82	-36.00	-32.82	peak
3	432.5500	-68.88	-1.18	-70.06	-36.00	-34.06	peak
4	662.9250	-71.05	2.72	-68.33	-54.00	-14.33	peak
5	839.9500	-70.72	5.32	-65.40	-54.00	-11.40	peak
6	953.9250	-74.15	6.34	-67.81	-36.00	-31.81	peak
7	7475.000	-52.39	3.94	-48.45	-30.00	-18.45	peak
8	10420.000	-58.32	6.57	-51.75	-30.00	-21.75	peak
9	17300.000	-61.19	14.53	-46.66	-30.00	-16.66	peak

Beamforming on

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	165.8000	-67.53	-6.59	-74.12	-36.00	-38.12	peak
2	369.5000	-73.07	-0.82	-73.89	-36.00	-37.89	peak
3	485.9000	-72.51	0.67	-71.84	-54.00	-17.84	peak
4	706.5750	-74.60	4.13	-70.47	-54.00	-16.47	peak
5	861.7750	-74.25	5.28	-68.97	-54.00	-14.97	peak
6	966.0500	-74.63	6.45	-68.18	-36.00	-32.18	peak
7	6232.500	-56.68	2.08	-54.60	-30.00	-24.60	peak
8	10360.000	-52.23	7.39	-44.84	-30.00	-14.84	peak
9	17075.000	-61.16	14.02	-47.14	-30.00	-17.14	peak

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	168.2250	-67.43	-6.35	-73.78	-36.00	-37.78	peak
2	299.1750	-64.10	-4.16	-68.26	-36.00	-32.26	peak
3	432.5500	-69.21	-1.18	-70.39	-36.00	-34.39	peak
4	619.2750	-73.52	3.01	-70.51	-54.00	-16.51	peak
5	745.3750	-73.66	4.08	-69.58	-54.00	-15.58	peak
6	898.1500	-74.39	5.37	-69.02	-36.00	-33.02	peak
7	5042.500	-55.45	-1.12	-56.57	-30.00	-26.57	peak
8	10360.000	-54.48	7.39	-47.09	-30.00	-17.09	peak
9	17250.000	-61.95	14.39	-47.56	-30.00	-17.56	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-64.84	-11.18	-76.02	-54.00	-22.02	peak
2	250.6750	-65.30	-4.54	-69.84	-36.00	-33.84	peak
3	379.2000	-72.46	-0.68	-73.14	-36.00	-37.14	peak
4	498.0250	-73.42	0.55	-72.87	-54.00	-18.87	peak
5	723.5500	-74.44	4.19	-70.25	-54.00	-16.25	peak
6	861.7750	-73.88	5.28	-68.60	-54.00	-14.60	peak
7	5847.500	-56.67	1.26	-55.41	-30.00	-25.41	peak
8	10480.000	-53.43	7.52	-45.91	-30.00	-15.91	peak
9	15720.000	-61.62	11.45	-50.17	-30.00	-20.17	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-63.71	-11.18	-74.89	-54.00	-20.89	peak
2	333.1250	-66.86	-2.90	-69.76	-36.00	-33.76	peak
3	432.5500	-69.17	-1.18	-70.35	-36.00	-34.35	peak
4	575.6250	-73.88	1.84	-72.04	-54.00	-18.04	peak
5	755.0750	-74.26	3.96	-70.30	-54.00	-16.30	peak
6	949.0750	-73.89	6.31	-67.58	-36.00	-31.58	peak
7	6617.500	-57.98	3.14	-54.84	-30.00	-24.84	peak
8	10480.000	-55.79	7.52	-48.27	-30.00	-18.27	peak
9	15720.000	-60.24	11.45	-48.79	-30.00	-18.79	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-64.33	-11.18	-75.51	-54.00	-21.51	peak
2	192.4750	-67.89	-5.42	-73.31	-54.00	-19.31	peak
3	333.1250	-68.08	-2.90	-70.98	-36.00	-34.98	peak
4	488.3250	-72.45	0.62	-71.83	-54.00	-17.83	peak
5	762.3500	-73.82	4.02	-69.80	-54.00	-15.80	peak
6	970.9000	-74.20	6.50	-67.70	-36.00	-31.70	peak
7	3187.500	-52.15	-3.45	-55.60	-30.00	-25.60	peak
8	10380.000	-59.54	7.46	-52.08	-30.00	-22.08	peak
9	17375.000	-63.87	14.70	-49.17	-30.00	-19.17	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	73.6500	-65.07	-10.96	-76.03	-54.00	-22.03	peak
2	160.9500	-67.39	-7.07	-74.46	-36.00	-38.46	peak
3	371.9250	-71.22	-0.77	-71.99	-36.00	-35.99	peak
4	575.6250	-74.62	1.84	-72.78	-54.00	-18.78	peak
5	747.8000	-73.88	4.01	-69.87	-54.00	-15.87	peak
6	898.1500	-74.24	5.37	-68.87	-36.00	-32.87	peak
7	1805.000	-50.64	-7.41	-58.05	-30.00	-28.05	peak
8	10380.000	-57.21	7.46	-49.75	-30.00	-19.75	peak
9	14725.000	-61.26	11.23	-50.03	-30.00	-20.03	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	80.9250	-65.77	-10.30	-76.07	-36.00	-40.07	peak
2	190.0500	-67.26	-5.38	-72.64	-54.00	-18.64	peak
3	371.9250	-72.47	-0.77	-73.24	-36.00	-37.24	peak
4	585.3250	-73.31	2.31	-71.00	-54.00	-17.00	peak
5	725.9750	-73.99	4.22	-69.77	-54.00	-15.77	peak
6	898.1500	-74.17	5.37	-68.80	-36.00	-32.80	peak
7	6372.500	-55.23	2.33	-52.90	-30.00	-22.90	peak
8	10460.000	-54.51	7.52	-46.99	-30.00	-16.99	peak
9	16725.000	-62.28	13.00	-49.28	-30.00	-19.28	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	168.2250	-68.06	-6.35	-74.41	-36.00	-38.41	peak
2	333.1250	-67.16	-2.90	-70.06	-36.00	-34.06	peak
3	488.3250	-71.32	0.62	-70.70	-54.00	-16.70	peak
4	636.2500	-74.67	2.50	-72.17	-54.00	-18.17	peak
5	776.9000	-74.04	4.29	-69.75	-54.00	-15.75	peak
6	919.9750	-71.94	5.81	-66.13	-36.00	-30.13	peak
7	6547.500	-56.60	2.91	-53.69	-30.00	-23.69	peak
8	10460.000	-56.45	7.52	-48.93	-30.00	-18.93	peak
9	15400.000	-61.16	11.83	-49.33	-30.00	-19.33	peak

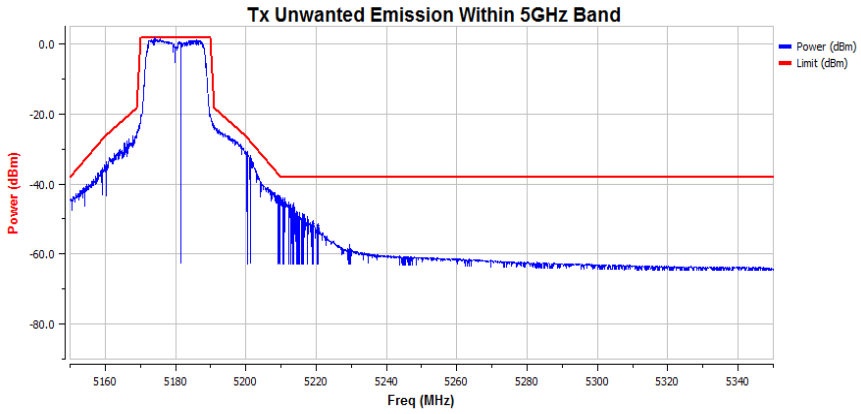
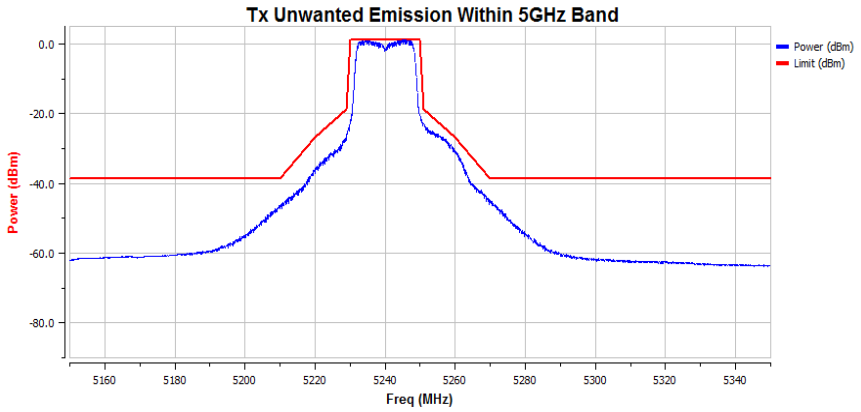
Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Horizontal		

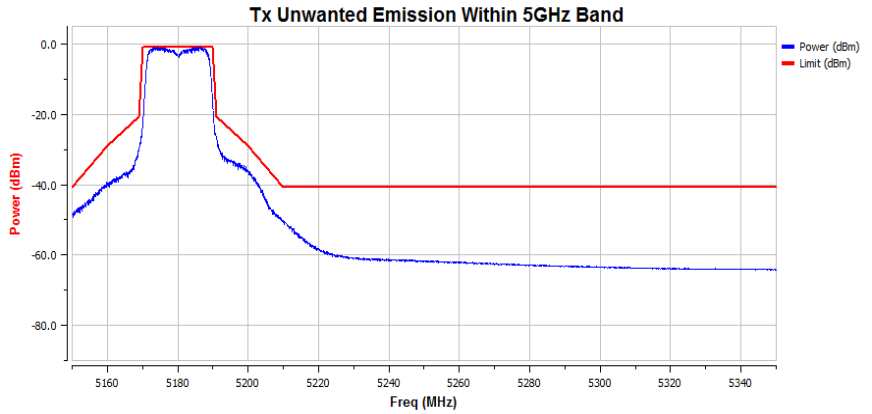
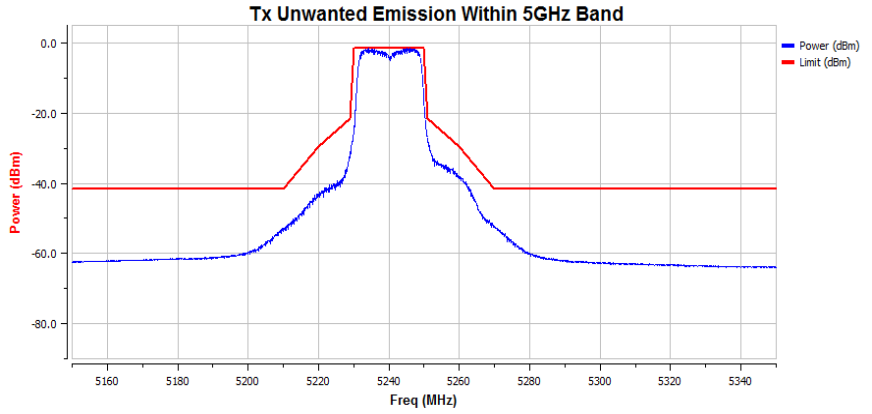
No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	46.9750	-69.52	-6.51	-76.03	-36.00	-40.03	peak
2	187.6250	-66.81	-5.41	-72.22	-54.00	-18.22	peak
3	299.1750	-65.94	-4.16	-70.10	-36.00	-34.10	peak
4	476.2000	-72.70	0.65	-72.05	-54.00	-18.05	peak
5	696.8750	-74.65	3.93	-70.72	-54.00	-16.72	peak
6	927.2500	-73.85	5.98	-67.87	-36.00	-31.87	peak
7	5392.500	-57.02	0.14	-56.88	-30.00	-26.88	peak
8	10420.000	-58.86	7.53	-51.33	-30.00	-21.33	peak
9	13700.000	-61.99	10.55	-51.44	-30.00	-21.44	peak

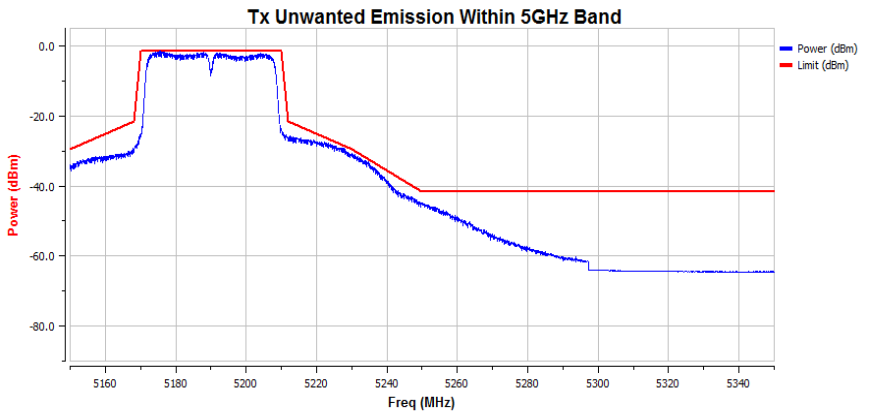
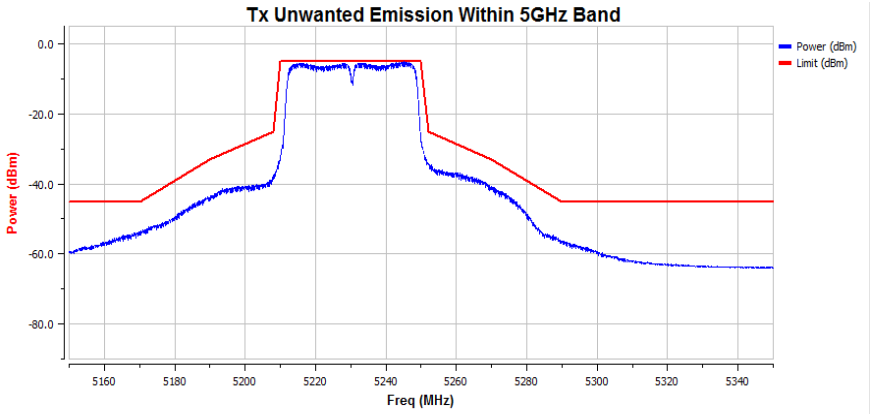
Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Vertical		

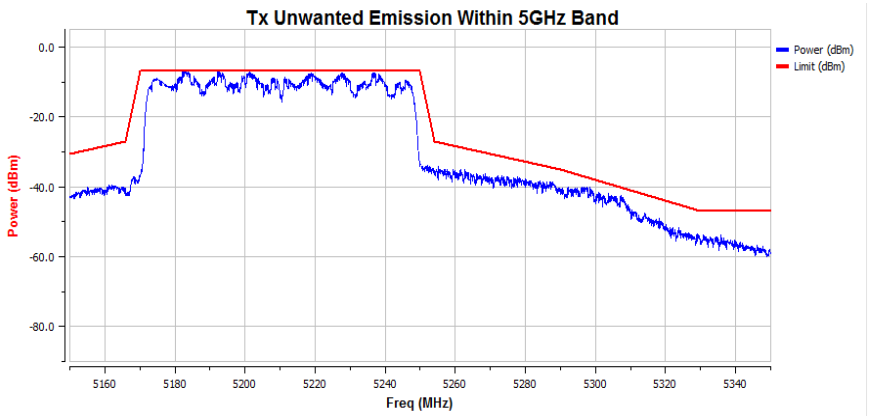
No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	114.8750	-64.64	-10.64	-75.28	-54.00	-21.28	peak
2	168.2250	-67.53	-6.35	-73.88	-36.00	-37.88	peak
3	376.7750	-71.31	-0.71	-72.02	-36.00	-36.02	peak
4	507.7250	-72.16	0.70	-71.46	-54.00	-17.46	peak
5	730.8250	-74.55	4.27	-70.28	-54.00	-16.28	peak
6	919.9750	-72.36	5.81	-66.55	-36.00	-30.55	peak
7	6932.500	-57.09	3.50	-53.59	-30.00	-23.59	peak
8	10420.000	-60.22	7.53	-52.69	-30.00	-22.69	peak
9	15825.000	-62.61	11.52	-51.09	-30.00	-21.09	peak

3.7. Transmitter Unwanted Emissions within the 5 GHz RLAN Bands Test

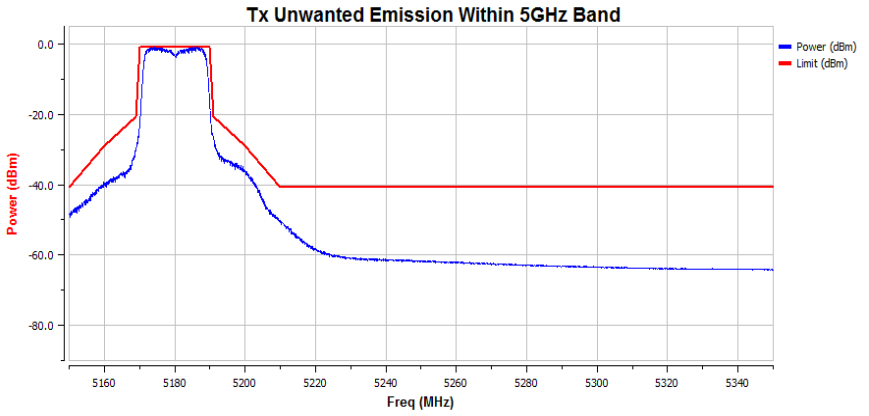
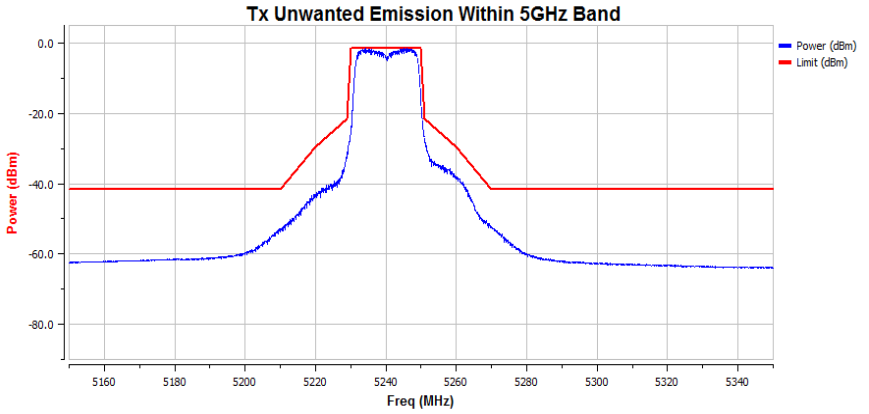
Mode 1: IEEE 802.11a U-NII Band Link Mode	
5180 MHz	 Test Condition **Test Result : Pass**
5240 MHz	 Test Condition **Test Result : Pass**

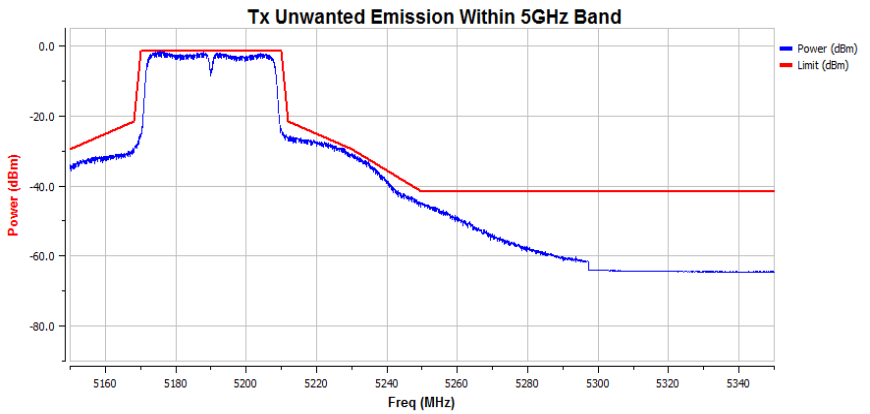
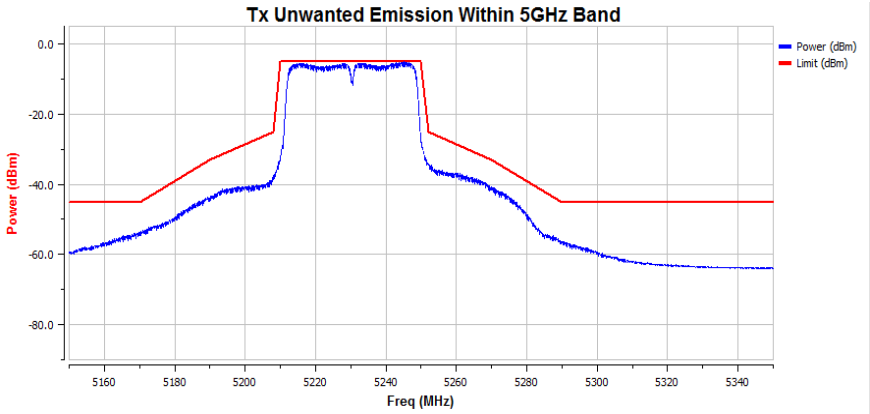
Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode	
5180 MHz	 Test Condition **Test Result : Pass**
5240 MHz	 Test Condition **Test Result : Pass**

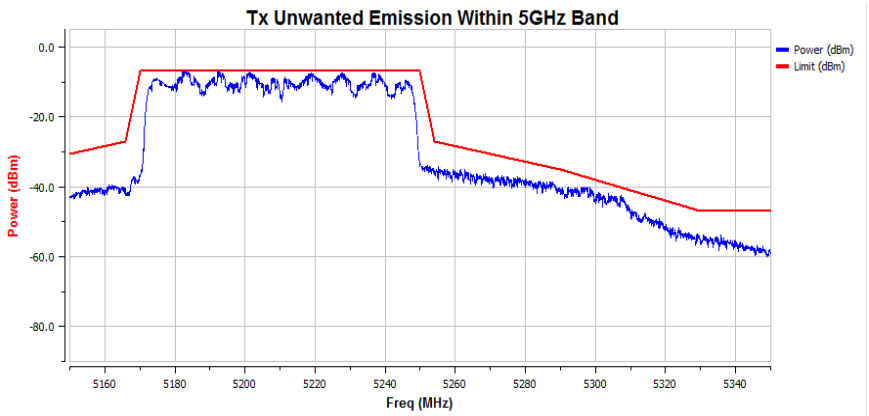
Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode	
5190 MHz	 Test Condition **Test Result : Pass**
5230 MHz	 Test Condition **Test Result : Pass**

Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	
5210 MHz	 Test Condition **Test Result : Pass**

Beamforming on

Mode 2: IEEE 802.11ac 20 MHz U-NII Band Link Mode	
5180 MHz	 Test Condition **Test Result : Pass**
5240 MHz	 Test Condition **Test Result : Pass**

Mode 3: IEEE 802.11ac 40 MHz U-NII Band Link Mode	
5190 MHz	 Test Condition **Test Result : Pass**
5230 MHz	 Test Condition **Test Result : Pass**

Mode 4: IEEE 802.11ac 80 MHz U-NII Band Link Mode	
5210 MHz	 Test Condition **Test Result : Pass**

3.8. Receiver Spurious Emissions

Conducted

Mode:	Mode 1	Frequency:	5180 MHz

Ant 1 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	24135.000	-61.00	-47.00	-14.00	Pass
2	25082.000	-60.71	-47.00	-13.71	Pass
3	25830.000	-59.20	-47.00	-12.20	Pass
4	25863.000	-59.25	-47.00	-12.25	Pass
5	25899.000	-59.53	-47.00	-12.53	Pass

Mode:	Mode 2	Frequency:	5180 MHz

Ant 1+2 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	25744.000	-56.91	-47.00	-9.91	Pass
2	25772.000	-56.44	-47.00	-9.44	Pass
3	25789.000	-56.12	-47.00	-9.12	Pass
4	25813.000	-55.85	-47.00	-8.85	Pass
5	25814.000	-55.85	-47.00	-8.85	Pass
6	25846.000	-55.73	-47.00	-8.73	Pass
7	25894.000	-56.00	-47.00	-9.00	Pass
8	25950.000	-56.38	-47.00	-9.38	Pass
9	25953.000	-56.42	-47.00	-9.42	Pass

Mode:	Mode 3	Frequency:	5190 MHz

Ant 1+2 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	25080.000	-58.12	-47.00	-11.12	Pass
2	25788.000	-56.01	-47.00	-9.01	Pass
3	25789.000	-55.99	-47.00	-8.99	Pass
4	25804.000	-55.77	-47.00	-8.77	Pass
5	25826.000	-55.67	-47.00	-8.67	Pass
6	25834.000	-55.65	-47.00	-8.65	Pass
7	25874.000	-55.79	-47.00	-8.79	Pass
8	25879.000	-55.84	-47.00	-8.84	Pass
9	25886.000	-55.92	-47.00	-8.92	Pass
10	25948.000	-56.37	-47.00	-9.37	Pass

Mode:	Mode 4	Frequency:	5210 MHz

Ant 1+2 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	25657.000	-57.40	-47.00	-10.40	Pass
2	25773.000	-56.31	-47.00	-9.31	Pass
3	25816.000	-55.73	-47.00	-8.73	Pass
4	25831.000	-55.68	-47.00	-8.68	Pass
5	25832.000	-55.67	-47.00	-8.67	Pass
6	25859.000	-55.65	-47.00	-8.65	Pass
7	25873.000	-55.75	-47.00	-8.75	Pass
8	25874.000	-55.77	-47.00	-8.77	Pass
9	25899.000	-55.90	-47.00	-8.90	Pass
10	25959.000	-56.34	-47.00	-9.34	Pass

Beamforming on

Mode:	Mode 2	Frequency:	5180 MHz

Ant 1+2 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	9648.000	-64.73	-47.00	-17.73	Pass
2	9649.000	-64.73	-47.00	-17.73	Pass
3	25589.000	-57.52	-47.00	-10.52	Pass
4	25756.000	-56.76	-47.00	-9.76	Pass
5	25757.000	-56.73	-47.00	-9.73	Pass
6	25785.000	-56.22	-47.00	-9.22	Pass
7	25797.000	-56.00	-47.00	-9.00	Pass
8	25826.000	-55.83	-47.00	-8.83	Pass
9	25863.000	-55.79	-47.00	-8.79	Pass
10	25871.000	-55.86	-47.00	-8.86	Pass

Mode:	Mode 3	Frequency:	5190 MHz

Ant 1+2 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	25146.000	-58.09	-47.00	-11.09	Pass
2	25751.000	-56.75	-47.00	-9.75	Pass
3	25782.000	5.82	-47.00	52.82	Failed
4	25842.000	-55.61	-47.00	-8.61	Pass
5	25850.000	-55.62	-47.00	-8.62	Pass
6	25864.000	-55.70	-47.00	-8.70	Pass
7	25865.000	-55.70	-47.00	-8.70	Pass
8	25877.000	-55.81	-47.00	-8.81	Pass
9	25923.000	-56.25	-47.00	-9.25	Pass
10	25974.000	-56.57	-47.00	-9.57	Pass

Mode:	Mode 4	Frequency:	5210 MHz

Ant 1+2 Detector: RMS

No.	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Status
1	5176.000	-65.07	-47.00	-18.07	5176.000
2	5183.000	-64.80	-47.00	-17.80	5183.000
3	5186.000	-64.68	-47.00	-17.68	5186.000
4	25547.000	-57.50	-47.00	-10.50	25547.000
5	25796.000	-55.89	-47.00	-8.89	25796.000
6	25846.000	-55.64	-47.00	-8.64	25846.000
7	25869.000	-55.71	-47.00	-8.71	25869.000
8	25896.000	-55.89	-47.00	-8.89	25896.000
9	25963.000	-56.38	-47.00	-9.38	25963.000
10	25975.000	-56.49	-47.00	-9.49	25975.000

Radiated

Mode:	Mode 1	Frequency:	5180 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	153.6750	-67.96	-7.70	-75.66	-57.00	-18.66	peak
2	250.6750	-65.15	-4.54	-69.69	-57.00	-12.69	peak
3	371.9250	-66.56	-0.77	-67.33	-57.00	-10.33	peak
4	665.3500	-73.34	2.80	-70.54	-57.00	-13.54	peak
5	839.9500	-73.31	5.32	-67.99	-57.00	-10.99	peak
6	956.3500	-74.01	6.35	-67.66	-57.00	-10.66	peak
7	4815.000	-56.71	-0.98	-57.69	-47.00	-10.69	peak
8	9775.000	-58.14	-0.42	-58.56	-47.00	-11.56	peak
9	15700.000	-63.04	4.30	-58.74	-47.00	-11.74	peak

Mode:	Mode 1	Frequency:	5180 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	168.2250	-68.51	-6.35	-74.86	-57.00	-17.86	peak
2	233.7000	-61.90	-4.43	-66.33	-57.00	-9.33	peak
3	519.8500	-70.94	1.07	-69.87	-57.00	-12.87	peak
4	662.9250	-71.00	2.72	-68.28	-57.00	-11.28	peak
5	839.9500	-70.86	5.32	-65.54	-57.00	-8.54	peak
6	956.3500	-74.70	6.35	-68.35	-57.00	-11.35	peak
7	2942.500	-56.07	-3.98	-60.05	-47.00	-13.05	peak
8	11525.000	-58.90	0.31	-58.59	-47.00	-11.59	peak
9	15225.000	-63.45	4.44	-59.01	-47.00	-12.01	peak

Mode:	Mode 1	Frequency:	5240 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	153.6750	-67.95	-7.70	-75.65	-57.00	-18.65	peak
2	330.7000	-66.44	-2.97	-69.41	-57.00	-12.41	peak
3	481.0500	-68.79	0.77	-68.02	-57.00	-11.02	peak
4	662.9250	-73.53	2.72	-70.81	-57.00	-13.81	peak
5	813.2750	-73.84	4.93	-68.91	-57.00	-11.91	peak
6	985.4500	-73.99	6.40	-67.59	-57.00	-10.59	peak
7	4220.000	-56.30	-1.69	-57.99	-47.00	-10.99	peak
8	10675.000	-59.02	0.48	-58.54	-47.00	-11.54	peak
9	14800.000	-63.22	4.07	-59.15	-47.00	-12.15	peak

Mode:	Mode 1	Frequency:	5240 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	163.3750	-70.07	-6.83	-76.90	-57.00	-19.90	peak
2	231.2750	-62.34	-4.49	-66.83	-57.00	-9.83	peak
3	505.3000	-71.76	0.65	-71.11	-57.00	-14.11	peak
4	665.3500	-70.33	2.80	-67.53	-57.00	-10.53	peak
5	839.9500	-70.07	5.32	-64.75	-57.00	-7.75	peak
6	995.1500	-70.84	6.41	-64.43	-57.00	-7.43	peak
7	5375.000	-56.81	0.11	-56.70	-47.00	-9.70	peak
8	10650.000	-59.57	0.48	-59.09	-47.00	-12.09	peak
9	14400.000	-63.75	3.49	-60.26	-47.00	-13.26	peak

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	182.7750	-66.75	-5.48	-72.23	-57.00	-15.23	peak
2	333.1250	-65.37	-2.90	-68.27	-57.00	-11.27	peak
3	481.0500	-69.30	0.77	-68.53	-57.00	-11.53	peak
4	658.0750	-73.59	2.61	-70.98	-57.00	-13.98	peak
5	813.2750	-74.30	4.93	-69.37	-57.00	-12.37	peak
6	995.1500	-73.11	6.41	-66.70	-57.00	-9.70	peak
7	4045.000	-57.24	-1.70	-58.94	-47.00	-11.94	peak
8	11600.000	-58.29	0.18	-58.11	-47.00	-11.11	peak
9	15175.000	-62.92	4.41	-58.51	-47.00	-11.51	peak

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	85.7750	-63.13	-10.73	-73.86	-57.00	-16.86	peak
2	233.7000	-61.15	-4.43	-65.58	-57.00	-8.58	peak
3	517.4250	-71.07	0.99	-70.08	-57.00	-13.08	peak
4	665.3500	-69.58	2.80	-66.78	-57.00	-9.78	peak
5	839.9500	-70.38	5.32	-65.06	-57.00	-8.06	peak
6	946.6500	-74.33	6.29	-68.04	-57.00	-11.04	peak
7	5287.500	-57.04	-0.11	-57.15	-47.00	-10.15	peak
8	11650.000	-59.02	0.16	-58.86	-47.00	-11.86	peak
9	16825.000	-62.47	6.16	-56.31	-47.00	-9.31	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-60.61	-9.52	-70.13	-57.00	-13.13	peak
2	299.1750	-65.16	-4.16	-69.32	-57.00	-12.32	peak
3	481.0500	-70.41	0.77	-69.64	-57.00	-12.64	peak
4	665.3500	-73.78	2.80	-70.98	-57.00	-13.98	peak
5	839.9500	-73.27	5.32	-67.95	-57.00	-10.95	peak
6	1000.0000	-74.10	6.47	-67.63	-57.00	-10.63	peak
7	3065.000	-56.46	-3.73	-60.19	-47.00	-13.19	peak
8	10525.000	-59.33	0.39	-58.94	-47.00	-11.94	peak
9	16375.000	-63.13	4.52	-58.61	-47.00	-11.61	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	168.2250	-65.81	-6.35	-72.16	-57.00	-15.16	peak
2	231.2750	-61.03	-4.49	-65.52	-57.00	-8.52	peak
3	510.1500	-71.53	0.75	-70.78	-57.00	-13.78	peak
4	662.9250	-69.56	2.72	-66.84	-57.00	-9.84	peak
5	839.9500	-71.49	5.32	-66.17	-57.00	-9.17	peak
6	919.9750	-71.97	5.81	-66.16	-57.00	-9.16	peak
7	4395.000	-56.20	-1.66	-57.86	-47.00	-10.86	peak
8	10875.000	-59.31	0.36	-58.95	-47.00	-11.95	peak
9	15325.000	-62.72	4.53	-58.19	-47.00	-11.19	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	185.2000	-66.42	-5.45	-71.87	-57.00	-14.87	peak
2	333.1250	-66.05	-2.90	-68.95	-57.00	-11.95	peak
3	481.0500	-68.94	0.77	-68.17	-57.00	-11.17	peak
4	665.3500	-73.41	2.80	-70.61	-57.00	-13.61	peak
5	839.9500	-74.04	5.32	-68.72	-57.00	-11.72	peak
6	978.1750	-73.17	6.48	-66.69	-57.00	-9.69	peak
7	3432.500	-55.69	-3.07	-58.76	-47.00	-11.76	peak
8	11575.000	-59.19	0.23	-58.96	-47.00	-11.96	peak
9	15850.000	-62.57	4.43	-58.14	-47.00	-11.14	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-61.09	-11.18	-72.27	-57.00	-15.27	peak
2	233.7000	-62.30	-4.43	-66.73	-57.00	-9.73	peak
3	517.4250	-72.04	0.99	-71.05	-57.00	-14.05	peak
4	665.3500	-71.41	2.80	-68.61	-57.00	-11.61	peak
5	839.9500	-70.97	5.32	-65.65	-57.00	-8.65	peak
6	949.0750	-73.17	6.31	-66.86	-57.00	-9.86	peak
7	4202.500	-55.64	-1.68	-57.32	-47.00	-10.32	peak
8	11650.000	-59.29	0.16	-59.13	-47.00	-12.13	peak
9	15200.000	-62.82	4.43	-58.39	-47.00	-11.39	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	158.5250	-66.57	-7.29	-73.86	-57.00	-16.86	peak
2	333.1250	-66.50	-2.90	-69.40	-57.00	-12.40	peak
3	432.5500	-70.21	-1.18	-71.39	-57.00	-14.39	peak
4	612.0000	-73.58	3.00	-70.58	-57.00	-13.58	peak
5	825.4000	-74.09	5.26	-68.83	-57.00	-11.83	peak
6	995.1500	-73.52	6.41	-67.11	-57.00	-10.11	peak
7	3712.500	-56.81	-2.46	-59.27	-47.00	-12.27	peak
8	11750.000	-59.19	0.18	-59.01	-47.00	-12.01	peak
9	15225.000	-62.93	4.44	-58.49	-47.00	-11.49	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	73.6500	-63.99	-10.96	-74.95	-57.00	-17.95	peak
2	233.7000	-61.69	-4.43	-66.12	-57.00	-9.12	peak
3	333.1250	-67.63	-2.90	-70.53	-57.00	-13.53	peak
4	495.6000	-70.93	0.56	-70.37	-57.00	-13.37	peak
5	662.9250	-70.96	2.72	-68.24	-57.00	-11.24	peak
6	949.0750	-74.72	6.31	-68.41	-57.00	-11.41	peak
7	3975.000	-57.43	-1.77	-59.20	-47.00	-12.20	peak
8	11675.000	-58.44	0.16	-58.28	-47.00	-11.28	peak
9	16725.000	-63.33	5.85	-57.48	-47.00	-10.48	peak

Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	158.5250	-67.20	-7.29	-74.49	-57.00	-17.49	peak
2	299.1750	-65.16	-4.16	-69.32	-57.00	-12.32	peak
3	432.5500	-69.55	-1.18	-70.73	-57.00	-13.73	peak
4	662.9250	-73.39	2.72	-70.67	-57.00	-13.67	peak
5	839.9500	-73.56	5.32	-68.24	-57.00	-11.24	peak
6	1000.0000	-73.80	6.47	-67.33	-57.00	-10.33	peak
7	3590.000	-56.45	-2.92	-59.37	-47.00	-12.37	peak
8	11475.000	-59.49	0.35	-59.14	-47.00	-12.14	peak
9	16375.000	-63.73	4.52	-59.21	-47.00	-12.21	peak

Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-60.75	-9.52	-70.27	-57.00	-13.27	peak
2	284.6250	-64.81	-5.02	-69.83	-57.00	-12.83	peak
3	374.3500	-69.01	-0.74	-69.75	-57.00	-12.75	peak
4	665.3500	-70.00	2.80	-67.20	-57.00	-10.20	peak
5	781.7500	-74.48	4.38	-70.10	-57.00	-13.10	peak
6	956.3500	-74.30	6.35	-67.95	-57.00	-10.95	peak
7	4500.000	-57.09	-1.34	-58.43	-47.00	-11.43	peak
8	11550.000	-58.90	0.27	-58.63	-47.00	-11.63	peak
9	15300.000	-63.12	4.48	-58.64	-47.00	-11.64	peak

Beamforming on

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	63.9500	-63.74	-10.39	-74.13	-57.00	-17.13	peak
2	245.8250	-65.44	-4.42	-69.86	-57.00	-12.86	peak
3	432.5500	-70.29	-1.18	-71.47	-57.00	-14.47	peak
4	602.3000	-74.94	2.85	-72.09	-57.00	-15.09	peak
5	738.1000	-74.19	4.25	-69.94	-57.00	-12.94	peak
6	890.8750	-74.24	5.34	-68.90	-57.00	-11.90	peak
7	4255.000	-54.19	-1.70	-55.89	-47.00	-8.89	peak
8	10675.000	-58.53	0.48	-58.05	-47.00	-11.05	peak
9	14700.000	-62.44	4.08	-58.36	-47.00	-11.36	peak

Mode:	Mode 2	Frequency:	5180 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	168.2250	-68.20	-6.35	-74.55	-57.00	-17.55	peak
2	250.6750	-63.84	-4.54	-68.38	-57.00	-11.38	peak
3	386.4750	-70.30	-0.95	-71.25	-57.00	-14.25	peak
4	575.6250	-72.91	1.84	-71.07	-57.00	-14.07	peak
5	709.0000	-74.87	4.17	-70.70	-57.00	-13.70	peak
6	881.1750	-72.99	5.29	-67.70	-57.00	-10.70	peak
7	3642.500	-54.45	-2.75	-57.20	-47.00	-10.20	peak
8	11650.000	-58.70	0.16	-58.54	-47.00	-11.54	peak
9	14325.000	-61.52	3.41	-58.11	-47.00	-11.11	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-64.74	-11.18	-75.92	-57.00	-18.92	peak
2	182.7750	-66.37	-5.48	-71.85	-57.00	-14.85	peak
3	432.5500	-69.17	-1.18	-70.35	-57.00	-13.35	peak
4	597.4500	-74.73	2.73	-72.00	-57.00	-15.00	peak
5	769.6250	-73.84	4.13	-69.71	-57.00	-12.71	peak
6	941.8000	-74.51	6.24	-68.27	-57.00	-11.27	peak
7	4325.000	-55.78	-1.70	-57.48	-47.00	-10.48	peak
8	10425.000	-58.87	0.38	-58.49	-47.00	-11.49	peak
9	15075.000	-63.28	4.30	-58.98	-47.00	-11.98	peak

Mode:	Mode 2	Frequency:	5240 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	51.8250	-62.69	-7.84	-70.53	-57.00	-13.53	peak
2	279.7750	-65.86	-5.06	-70.92	-57.00	-13.92	peak
3	386.4750	-70.41	-0.95	-71.36	-57.00	-14.36	peak
4	602.3000	-73.18	2.85	-70.33	-57.00	-13.33	peak
5	745.3750	-73.66	4.08	-69.58	-57.00	-12.58	peak
6	881.1750	-73.49	5.29	-68.20	-57.00	-11.20	peak
7	3432.500	-57.47	-3.07	-60.54	-47.00	-13.54	peak
8	11550.000	-58.57	0.27	-58.30	-47.00	-11.30	peak
9	16125.000	-63.37	4.36	-59.01	-47.00	-12.01	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	63.9500	-66.15	-10.39	-76.54	-57.00	-19.54	peak
2	248.2500	-65.35	-4.47	-69.82	-57.00	-12.82	peak
3	432.5500	-69.18	-1.18	-70.36	-57.00	-13.36	peak
4	590.1750	-74.14	2.54	-71.60	-57.00	-14.60	peak
5	750.2250	-74.46	3.94	-70.52	-57.00	-13.52	peak
6	927.2500	-74.07	5.98	-68.09	-57.00	-11.09	peak
7	4412.500	-57.07	-1.62	-58.69	-47.00	-11.69	peak
8	11575.000	-59.06	0.23	-58.83	-47.00	-11.83	peak
9	14800.000	-62.61	4.07	-58.54	-47.00	-11.54	peak

Mode:	Mode 3	Frequency:	5190 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	136.7000	-58.92	-9.52	-68.44	-57.00	-11.44	peak
2	299.1750	-62.62	-4.16	-66.78	-57.00	-9.78	peak
3	432.5500	-70.64	-1.18	-71.82	-57.00	-14.82	peak
4	616.8500	-74.58	3.01	-71.57	-57.00	-14.57	peak
5	728.4000	-73.19	4.25	-68.94	-57.00	-11.94	peak
6	919.9750	-72.23	5.81	-66.42	-57.00	-9.42	peak
7	4062.500	-55.00	-1.71	-56.71	-47.00	-9.71	peak
8	11025.000	-59.24	0.33	-58.91	-47.00	-11.91	peak
9	15250.000	-62.37	4.46	-57.91	-47.00	-10.91	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-63.25	-11.18	-74.43	-57.00	-17.43	peak
2	253.1000	-65.11	-4.63	-69.74	-57.00	-12.74	peak
3	384.0500	-72.10	-0.85	-72.95	-57.00	-15.95	peak
4	507.7250	-72.37	0.70	-71.67	-57.00	-14.67	peak
5	750.2250	-74.03	3.94	-70.09	-57.00	-13.09	peak
6	915.1250	-73.73	5.70	-68.03	-57.00	-11.03	peak
7	4850.000	-57.83	-1.07	-58.90	-47.00	-11.90	peak
8	11500.000	-57.95	0.36	-57.59	-47.00	-10.59	peak
9	14550.000	-62.84	3.82	-59.02	-47.00	-12.02	peak

Mode:	Mode 3	Frequency:	5230 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	54.2500	-61.80	-8.40	-70.20	-57.00	-13.20	peak
2	168.2250	-67.63	-6.35	-73.98	-57.00	-16.98	peak
3	371.9250	-69.80	-0.77	-70.57	-57.00	-13.57	peak
4	522.2750	-73.66	1.12	-72.54	-57.00	-15.54	peak
5	733.2500	-74.81	4.26	-70.55	-57.00	-13.55	peak
6	919.9750	-71.76	5.81	-65.95	-57.00	-8.95	peak
7	4237.500	-54.12	-1.69	-55.81	-47.00	-8.81	peak
8	11600.000	-59.10	0.18	-58.92	-47.00	-11.92	peak
9	17875.000	-62.00	8.95	-53.05	-47.00	-6.05	peak

Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	68.8000	-65.11	-11.18	-76.29	-57.00	-19.29	peak
2	233.7000	-65.86	-4.43	-70.29	-57.00	-13.29	peak
3	374.3500	-72.60	-0.74	-73.34	-57.00	-16.34	peak
4	568.3500	-74.22	1.58	-72.64	-57.00	-15.64	peak
5	776.9000	-73.96	4.29	-69.67	-57.00	-12.67	peak
6	963.6250	-74.39	6.42	-67.97	-57.00	-10.97	peak
7	4010.000	-56.98	-1.69	-58.67	-47.00	-11.67	peak
8	11625.000	-59.20	0.17	-59.03	-47.00	-12.03	peak
9	15025.000	-63.81	4.19	-59.62	-47.00	-12.62	peak

Mode:	Mode 4	Frequency:	5210 MHz
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	66.3750	-63.27	-10.79	-74.06	-57.00	-17.06	peak
2	209.4500	-68.00	-5.28	-73.28	-57.00	-16.28	peak
3	432.5500	-70.06	-1.18	-71.24	-57.00	-14.24	peak
4	599.8750	-74.15	2.80	-71.35	-57.00	-14.35	peak
5	738.1000	-75.13	4.25	-70.88	-57.00	-13.88	peak
6	919.9750	-72.52	5.81	-66.71	-57.00	-9.71	peak
7	4307.500	-56.75	-1.71	-58.46	-47.00	-11.46	peak
8	11625.000	-59.22	0.17	-59.05	-47.00	-12.05	peak
9	16525.000	-63.07	5.03	-58.04	-47.00	-11.04	peak

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