FCC PART 15E
TEST REPORT
No.24T04Z101463-020

for

POINTMOBILE CO., LTD

Mobile Computer

PM452

FCC ID: V2X-PM452

with

Hardware Version: MP

Software Version: 452.00.XX

Issued Date: 2024-08-30

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

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Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn

REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z101463-020	Rev.0	1st edition	2024-08-16
24T04Z101463-020	Rev.1	2nd edition 1.Modified power supply information. 2.Added modulation types for OFDMA. 3.Modified the worst case of ax160 to MCS11. 4.Added A.9 Antenna Requirement.	2024-08-26
24T04Z101463-020	Rev.2	3rd edition 1.Removed CH142 CH144 result. 2.Removed Power Control.	2024-08-30

Note: the latest revision of the test report supersedes all previous version.

CONTENTS

1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Conducted testing Location: CTTL(Huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China100191

Radiated testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, 100191, P. R. China

1.3. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

1.4. Project date

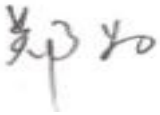
Testing Start Date: 2024-06-21

Testing End Date: 2024-08-15

1.5. Signature

Dong Jiaxuan

(Prepared this test report)



Zheng Wei

(Reviewed this test report)

Pang Shuai

(Approved this test report)

2. Client Information

2.1 Applicant Information

Company Name:	POINTMOBILE CO., LTD
Address/Post:	A-26F, Building Gasan Publik 178, Digital-ro, Geumcheon-gu Seoul, 08513 Republic of Korea
Contact:	Hanna Chae
Email:	certi.manager@pointmobile.com
Tel.:	+82 10 7773 8827
Fax:	+82 2-3397-7872

2.2 Manufacturer Information

Company Name:	POINTMOBILE CO., LTD
Address/Post:	A-26F, Building Gasan Publik 178, Digital-ro, Geumcheon-gu Seoul, 08513 Republic of Korea
Contact:	Hanna Chae
Email:	certi.manager@pointmobile.com
Tel.:	+82 10 7773 8827
Fax:	+82 2-3397-7872

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Mobile Computer
Model name	PM452
FCC ID	V2X-PM452
WLAN Frequency Band	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM/OFDMA
Antenna	Integral Antenna
Nominal Voltage	3.63V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT14a	356658610001989	MP	452.00.XX	2024-06-21
UT05a	356658610000338	MP	452.00.XX	2024-06-21

*EUT ID: is used to identify the test sample in the lab internally.

UT05a is used for Conduction test, UT14a is used for Radiation test.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	Manufacturer
AE1-1	Battery1	451-BTEC	ZhuHai Gushine Electronic Technology Co.,Ltd
AE1-2	Battery2	451-BTSC/BP19-002770	ETI CA Battery Inc.

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of Mobile Computer with integrated antenna and inbuilt battery.

It consists of normal options: travel charger, USB cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2021
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12

5. Laboratory Environment

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. Test Results

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	**P**
Peak Power Spectral Density	15.407	/	**P**
Occupied 26dB Bandwidth	15.403	/	**P**
Radiated Unwanted Emission	15.407, 15.205, 15.209	/	**P**
AC Powerline Conducted Emission	15.107, 15.207	/	**P**
99% Occupied bandwidth	/	/	**P**
Transmit Power Control	15.407	/	**NA**

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26°C
Voltage	3.63V
Humidity	44%

7. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2025-07-04
2	Vector Signal Analyzer	FSW67	104051	Rohde & Schwarz	1 year	2025-04-06
3	Test Receiver	ESCI 3	100344	R&S	1 year	2025-04-01
4	LISN	ENV216	101200	R&S	1 year	2025-05-16
5	Attenuator	10dB/2W	/	Rosenberger	/	/
6	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103144	R&S	1 year	2024-11-26
2	EMI Antenna	VULB 9163	01223	SCHWARZBECK	1 year	2024-08-18
3	EMI Antenna	3115	00167250	ETS-Lindgren	1 year	2025-05-11
4	EMI Antenna	3116	2663	ETS-Lindgren	1 year	2025-03-21

Test Software

Test Item	Test Software and Version	Software Vendor
Radiated Continuous Emission	EMC32 V10.60.20	R&S
Conducted Emission	EMC32 V8.53.0	R&S

8. Measurement Uncertainty

8.1 Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2 Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3 26dB Emission Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4 Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5 Spurious Emissions

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
30MHz ≤ f ≤ 2GHz	1.22
2GHz ≤ f ≤3.6GHz	1.22
3.6GHz ≤ f ≤8GHz	1.22
8GHz ≤ f ≤12.75GHz	1.51
12.75GHz ≤ f ≤26GHz	1.51
26GHz ≤ f ≤40GHz	1.59

8.6 Radiated Unwanted Emission

Radiated (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	4.72
1GHz ≤ f ≤18GHz	4.84
18GHz ≤ f ≤40GHz	5.12

8.7 AC Power-line Conducted Emission

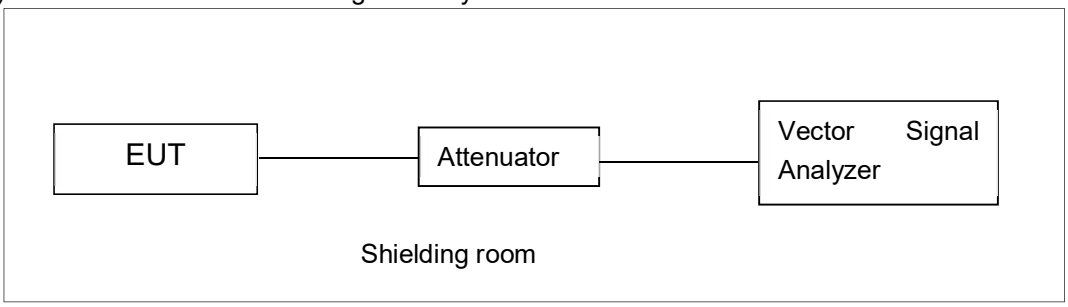
Measurement Uncertainty : 3.08dB,k=2

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

1). Connect the EUT to the test system correctly.
2). Set the EUT to the required work mode.
3). Set the EUT to the required channel.
4). Set the spectrum analyzer to start measurement.
5). Record the values. Vector Signal Analyzer



A.1.2. Radiated Emission Measurements

Measurement performed according to Clause 6.4, 6.5, 6.6 in ANSI C63.10-2013 and II.G.4, II.G.5, II.G.6 in KDB 789033.

The radiated emission test is performed in semi-anechoic chamber. The EUT was placed on a non-conductive table with 80cm above the ground plane for measurement below 1GHz and 1.5m above the ground plane for measurement above 1GHz. The measurement antenna was placed at a distance of 3 meters from the EUT. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated from 0° to 360°and the measurement antenna is moved from 1m to 4m to get the maximization result. The maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.2. Maximum output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm
	5250MHz~5350MHz	24dBm or 11+10logB
	5470MHz~5725MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.
The measurementmethod SA-2 is made according to KDB 789033

A.2.1 Antenna Gain

Antenna gain is -4dBi and the value is supplied by the applicant or manufacturer.

A.2.2 Maximum output Power-Conducted

EUT ID: UT05a

Measurement Results:

802.11a mode

Mode	Frequency	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	14.56	\	\	\	\	\	\	\
	5200MHz	14.78	\	\	\	\	\	\	\
	5240MHz	15.52	\	\	\	\	\	\	\
	5260MHz	15.49	\	\	\	\	\	\	\
	5280MHz	15.89	\	\	\	\	\	\	\
	5320MHz	16.00	\	\	\	\	\	\	\
	5500MHz	16.67	\	\	\	\	\	\	\
	5580MHz	16.55	\	\	\	\	\	\	\
	5700MHz	17.39	\	\	\	\	\	\	\

The data rate 6Mbps is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz	\	\	\	\	\	\	\	15.33
	5200MHz	\	\	\	\	\	\	\	13.86
	5240MHz	\	\	\	\	\	\	\	15.78
	5260MHz	\	\	\	\	\	\	\	14.31
	5280MHz	\	\	\	\	\	\	\	14.68
	5320MHz	\	\	\	\	\	\	\	14.99

	5500MHz	\	\	\	\	\	\	\	15.68
	5580MHz	\	\	\	\	\	\	\	15.40
	5700MHz	\	\	\	\	\	\	\	16.64

The data rate MCS7 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT20 mode

Mode	Frequency	Test Result (dBm)								
		Data Rate								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
802.11ac (VHT20)	5180MHz	\	\	\	\	\	\	\	\	11.58
	5200MHz	\	\	\	\	\	\	\	\	11.73
	5240MHz	\	\	\	\	\	\	\	\	12.10
	5260MHz	\	\	\	\	\	\	\	\	12.14
	5280MHz	\	\	\	\	\	\	\	\	12.50
	5320MHz	\	\	\	\	\	\	\	\	13.03
	5500MHz	\	\	\	\	\	\	\	\	13.48
	5580MHz	\	\	\	\	\	\	\	\	13.31
	5700MHz	\	\	\	\	\	\	\	\	14.47

The data rate MCS8 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 mode

Mode	Channel	Test Result (dBm)										
		Data Rate										
		MCS0	MCS 1	MC S2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9	MCS 10	MCS 11
802.11ax (HE20)	5180MHz (Ch36)	14.19	\	\	\	\	\	\	\	\	\	\	\
	5200MHz (Ch40)	14.35	\	\	\	\	\	\	\	\	\	\	\
	5240MHz (Ch48)	14.91	\	\	\	\	\	\	\	\	\	\	\
	5260MHz (Ch52)	14.81	\	\	\	\	\	\	\	\	\	\	\
	5280MHz (Ch56)	15.21	\	\	\	\	\	\	\	\	\	\	\
	5320MHz (Ch64)	15.41	\	\	\	\	\	\	\	\	\	\	\
	5500MHz	16.24	\	\	\	\	\	\	\	\	\	\	\

	(Ch100)												
	5580MHz (Ch116)	15.86	\	\	\	\	\	\	\	\	\	\	\
	5700MHz (Ch140)	16.95	\	\	\	\	\	\	\	\	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT40)	5190MHz	\	\	\	\	\	\	\	10.37
	5230MHz	\	\	\	\	\	\	\	10.80
	5270MHz	\	\	\	\	\	\	\	11.12
	5310MHz	\	\	\	\	\	\	\	11.30
	5510MHz	\	\	\	\	\	\	\	12.33
	5550MHz	\	\	\	\	\	\	\	12.29
	5670MHz	\	\	\	\	\	\	\	12.71

The data rate MCS7 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT40 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (VHT40)	5190MHz	\	\	\	\	\	\	\	\	\	10.10
	5230MHz	\	\	\	\	\	\	\	\	\	10.46
	5270MHz	\	\	\	\	\	\	\	\	\	10.80
	5310MHz	\	\	\	\	\	\	\	\	\	11.18
	5510MHz	\	\	\	\	\	\	\	\	\	12.06
	5550MHz	\	\	\	\	\	\	\	\	\	12.09
	5670MHz	\	\	\	\	\	\	\	\	\	12.35

The data rate MCS9 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE40 mode

Mode	Channel	Test Result (dBm)											
		Data Rate											
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS7	MCS8	MCS 9	MCS 10	MCS 11
802.11ax (HE40)	5190MHz (Ch38)	\	\	\	\	\	\	\	10.87	\	\	\	\
	5230MHz (Ch46)	\	\	\	\	\	\	\	10.90	\	\	\	\
	5270MHz (Ch54)	\	\	\	\	\	\	\	11.85	\	\	\	\
	5310MHz (Ch62)	\	\	\	\	\	\	\	11.76	\	\	\	\
	5510MHz (Ch102)	\	\	\	\	\	\	\	12.49	\	\	\	\
	5550MHz (Ch110)	\	\	\	\	\	\	\	12.36	\	\	\	\
	5670MHz (Ch134)	\	\	\	\	\	\	\	12.62	\	\	\	\

The data rate MCS7 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT80 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (VHT80)	5210MHz	\	\	\	\	\	\	\	\	\	10.79
	5290MHz	\	\	\	\	\	\	\	\	\	10.88
	5530MHz	\	\	\	\	\	\	\	\	\	12.13
	5610MHz	\	\	\	\	\	\	\	\	\	11.60
	5690MHz	\	\	\	\	\	\	\	\	\	12.99

The data rate MCS9 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE80 mode

Mode	Channel	Test Result (dBm)											
		Data Rate											
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS9	MCS 10	MCS 11
802.11ax (HE80)	5210MHz (Ch42)	\	\	\	\	\	\	\	\	\	10.78	\	\
	5290MHz (Ch58)	\	\	\	\	\	\	\	\	\	11.55	\	\
	5530MHz (Ch106)	\	\	\	\	\	\	\	\	\	12.80	\	\
	5610MHz (Ch122)	\	\	\	\	\	\	\	\	\	12.13	\	\
	5690MHz (Ch138)	\	\	\	\	\	\	\	\	\	12.87	\	\

The data rate MCS9 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT160 mode

Mode	Channel	Test Result (dBm)											
		Data Rate											
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS9	MCS 10	MCS 11
802.11ac (VHT160)	5250MHz (Ch50)	\	\	\	\	\	\	\	\	\	10.60	\	\
	5570MHz (Ch114)	\	\	\	\	\	\	\	\	\	10.91	\	\

The data rate MCS9 is selected as worst condition, and the following cases are performed with

this condition.

802.11ax-HE160 mode

Mode	Channel	Test Result (dBm)											
		Data Rate											
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9	MCS 10	MCS 11
802.11ax (HE160)	5250MHz (Ch50)	\	\	\	\	\	\	\	\	\	\	\	9.27
	5570MHz (Ch114)	\	\	\	\	\	\	\	\	\	\	\	9.69

The data rate MCS11 is selected as worst condition, and the following cases are performed with this condition.

11ax-RU

802.11ax-HE20 mode

Mode	Channel	Test Result (dBm)											
		Data Rate											
		MCS0	MC S1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9	MCS 10	MCS 11
RU26-L	5180MHz (Ch36)	11.48	\	\	\	\	\	\	\	\	\	\	\
	5200MHz (Ch40)	11.70	\	\	\	\	\	\	\	\	\	\	\
	5240MHz (Ch48)	12.01	\	\	\	\	\	\	\	\	\	\	\
	5260MHz (Ch52)	12.10	\	\	\	\	\	\	\	\	\	\	\
	5280MHz (Ch56)	12.14	\	\	\	\	\	\	\	\	\	\	\
	5320MHz (Ch64)	12.48	\	\	\	\	\	\	\	\	\	\	\
RU26-R	5500MHz (Ch100)	13.34	\	\	\	\	\	\	\	\	\	\	\
	5580MHz (Ch116)	13.13	\	\	\	\	\	\	\	\	\	\	\
	5700MHz (Ch140)	14.17	\	\	\	\	\	\	\	\	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 mode

Mode	Channel	Test Result (dBm)										
		Data Rate										
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11
RU52-L	5180MHz (Ch36)	14.48	\	\	\	\	\	\	\	\	\	\	\
	5200MHz (Ch40)	14.79	\	\	\	\	\	\	\	\	\	\	\
	5240MHz (Ch48)	14.96	\	\	\	\	\	\	\	\	\	\	\
	5260MHz (Ch52)	15.11	\	\	\	\	\	\	\	\	\	\	\
	5280MHz (Ch56)	15.23	\	\	\	\	\	\	\	\	\	\	\
	5320MHz (Ch64)	15.56	\	\	\	\	\	\	\	\	\	\	\
RU52-R	5500MHz (Ch100)	16.69	\	\	\	\	\	\	\	\	\	\	\
	5580MHz (Ch116)	16.09	\	\	\	\	\	\	\	\	\	\	\
	5700MHz (Ch140)	17.28	\	\	\	\	\	\	\	\	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 mode

Mode	Channel	Test Result (dBm)										
		Data Rate										
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11
RU106-L	5180MHz (Ch36)	14.53	\	\	\	\	\	\	\	\	\	\	\
	5200MHz (Ch40)	14.84	\	\	\	\	\	\	\	\	\	\	\
	5240MHz (Ch48)	15.09	\	\	\	\	\	\	\	\	\	\	\
	5260MHz (Ch52)	15.06	\	\	\	\	\	\	\	\	\	\	\
	5280MHz (Ch56)	15.36	\	\	\	\	\	\	\	\	\	\	\
	5320MHz (Ch64)	15.70	\	\	\	\	\	\	\	\	\	\	\
RU106-R	5500MHz (Ch100)	16.59	\	\	\	\	\	\	\	\	\	\	\
	5580MHz (Ch116)	16.15	\	\	\	\	\	\	\	\	\	\	\
	5700MHz (Ch140)	17.23	\	\	\	\	\	\	\	\	\	\	\

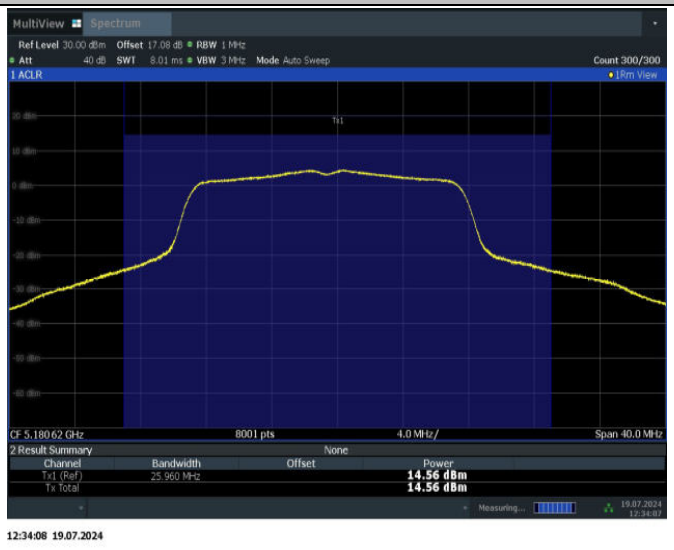
The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

Duty cycle

Mode	11a
Duty Cycle	79%

Mode	11n-20	11n-40	11ac-20	11ac-40	11ac-80	11ac-160
Duty Cycle	30%	22%	29%	20%	15%	11%

Mode	11ax-20	11ax-40	11ax-80	11ax-160	11ax-20 RU
Duty Cycle	74%	23%	17%	15%	83%

11A_Ant2_5180


Maximum output Power

Conclusion: PASS

A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

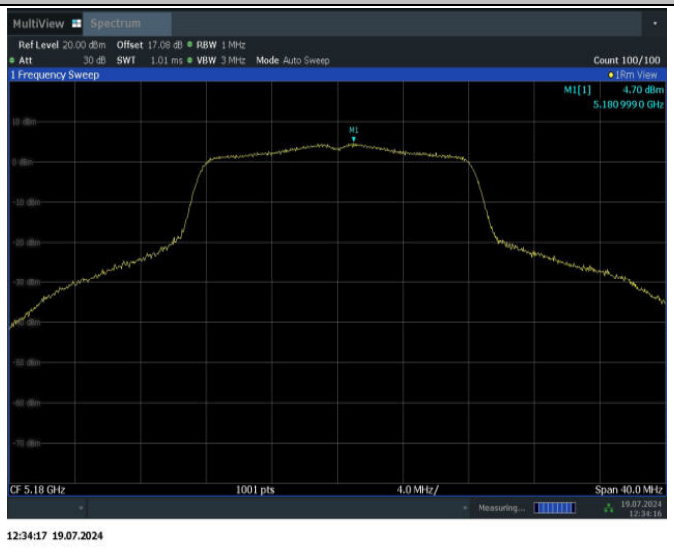
The output power measurement method Section F is made according to KDB 789033

EUT ID: UT05a

Measurement Results:

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant2	5180	4.70	≤11.00	PASS
		5200	5.03	≤11.00	PASS
		5240	5.56	≤11.00	PASS
		5260	5.54	≤11.00	PASS
		5280	5.98	≤11.00	PASS
		5320	6.08	≤11.00	PASS
		5500	6.79	≤11.00	PASS
		5580	6.46	≤11.00	PASS
		5700	7.33	≤11.00	PASS
11N40SISO	Ant2	5190	-2.34	≤11.00	PASS
		5230	-1.58	≤11.00	PASS
		5270	-1.49	≤11.00	PASS
		5310	-0.83	≤11.00	PASS
		5510	-0.03	≤11.00	PASS
		5550	2.99	≤11.00	PASS
		5670	0.18	≤11.00	PASS
11AC80SISO	Ant2	5210	-4.83	≤11.00	PASS
		5290	-4.80	≤11.00	PASS
		5530	-3.33	≤11.00	PASS
		5610	-3.64	≤11.00	PASS
		5690	-3.02	≤11.00	PASS
11AC160SISO	Ant2	5250	-8.61	≤11.00	PASS
		5570	-8.02	≤11.00	PASS
11AX20SISO	Ant2	5180	3.84	≤11.00	PASS
		5200	4.19	≤11.00	PASS
		5240	4.48	≤11.00	PASS
		5260	4.39	≤11.00	PASS
		5280	4.99	≤11.00	PASS
		5320	5.28	≤11.00	PASS
		5500	5.81	≤11.00	PASS

		5580	5.67	≤11.00	PASS
		5700	6.76	≤11.00	PASS

11A_Ant2_5180


Peak Power Spectral Density:

11ax-RU

Test Mode	Antenna	Frequency[MHz]	Ru Size	Ru Index	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11AX20SISO	Ant2	5180	26Tone	RU0	8.77	≤11.00	PASS
			52Tone	RU37	9.10	≤11.00	PASS
			106Tone	RU53	6.06	≤11.00	PASS
		5200	26Tone	RU0	9.00	≤11.00	PASS
			52Tone	RU37	9.65	≤11.00	PASS
			106Tone	RU53	6.29	≤11.00	PASS
		5240	26Tone	RU0	9.30	≤11.00	PASS
			52Tone	RU37	9.64	≤11.00	PASS
			106Tone	RU53	6.78	≤11.00	PASS
		5260	26Tone	RU0	9.97	≤11.00	PASS
			52Tone	RU37	9.89	≤11.00	PASS
			106Tone	RU53	6.65	≤11.00	PASS
		5280	26Tone	RU0	9.60	≤11.00	PASS
			52Tone	RU37	10.25	≤11.00	PASS
			106Tone	RU53	6.95	≤11.00	PASS
		5320	26Tone	RU0	9.80	≤11.00	PASS
			52Tone	RU37	10.16	≤11.00	PASS
			106Tone	RU53	7.49	≤11.00	PASS
		5500	26Tone	RU8	10.02	≤11.00	PASS

			52Tone	RU40	9.94	≤11.00	PASS
			106Tone	RU54	8.33	≤11.00	PASS
		5580	26Tone	RU8	9.53	≤11.00	PASS
			52Tone	RU40	10.21	≤11.00	PASS
			106Tone	RU54	7.91	≤11.00	PASS
		5700	26Tone	RU8	9.96	≤11.00	PASS
			52Tone	RU40	10.23	≤11.00	PASS
			106Tone	RU54	9.35	≤11.00	PASS

Conclusion: PASS

A.4. 26dB Emission Bandwidth (conducted)

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

EUT ID: UT05a

Measurement Result:

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant2	5180	25.96	5167.64	5193.60	---	---
		5200	25.68	5186.56	5212.24	---	---
		5240	19.60	5230.16	5249.76	---	---
		5260	20.36	5249.68	5270.04	---	---
		5280	20.36	5269.68	5290.04	---	---
		5320	26.84	5305.32	5332.16	---	---
		5500	27.80	5486.60	5514.40	---	---
		5580	20.40	5569.64	5590.04	---	---
		5700	24.44	5686.56	5711.00	---	---
11N40SISO	Ant2	5190	40.48	5169.76	5210.24	---	---
		5230	40.48	5209.84	5250.32	---	---
		5270	40.40	5249.76	5290.16	---	---
		5310	40.80	5289.68	5330.48	---	---
		5510	40.64	5489.68	5530.32	---	---
		5550	40.80	5529.60	5570.40	---	---
		5670	40.64	5649.84	5690.48	---	---
11AC80SISO	Ant2	5210	80.96	5169.52	5250.48	---	---
		5290	81.12	5249.36	5330.48	---	---
		5530	80.96	5489.52	5570.48	---	---
		5610	81.12	5569.36	5650.48	---	---
		5690	80.96	5649.52	5730.48	---	---
11AC160SISO	Ant2	5250	163.20	5168.40	5331.60	---	---
		5570	163.20	5488.40	5651.60	---	---
11AX20SISO	Ant2	5180	21.84	5169.16	5191.00	---	---
		5200	21.08	5189.48	5210.56	---	---
		5240	19.92	5230.04	5249.96	---	---
		5260	21.80	5249.08	5270.88	---	---
		5280	21.64	5269.36	5291.00	---	---
		5320	21.52	5309.24	5330.76	---	---
		5500	20.96	5489.52	5510.48	---	---

		5580	22.12	5568.84	5590.96	---	---
		5700	21.68	5689.24	5710.92	---	---

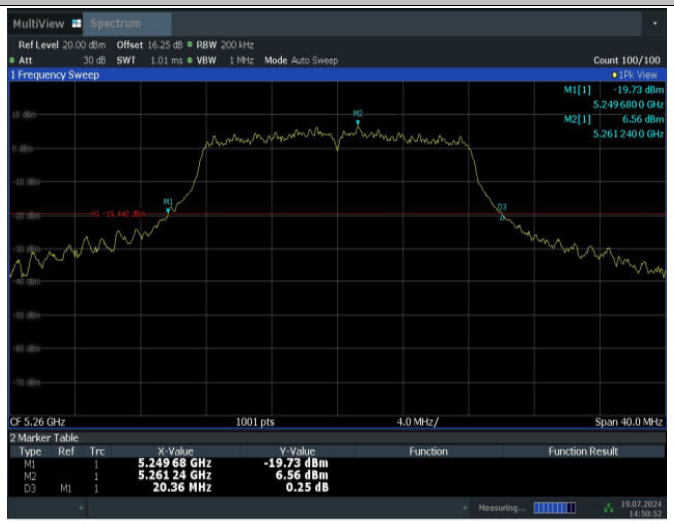
Test graphs as below:

11A_Ant2_5180

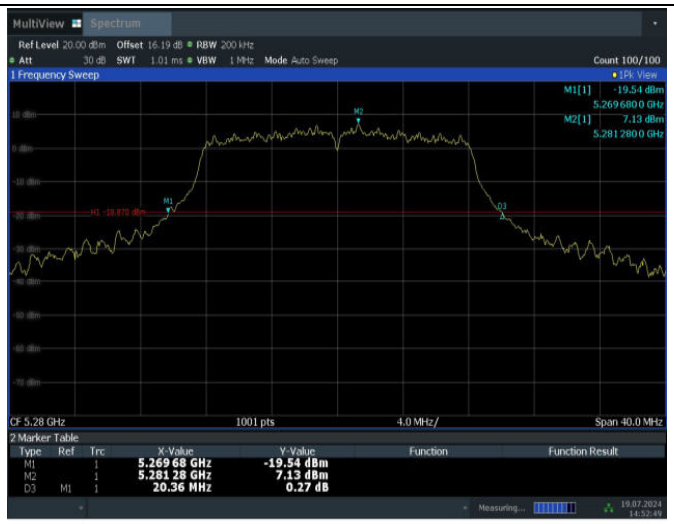
11A_Ant2_5200

11A_Ant2_5240

11A_Ant2_5260



11A_Ant2_5280



11A_Ant2_5320

11A_Ant2_5500

11A_Ant2_5580

11A_Ant2_5700

11N40SISO_Ant2_5190

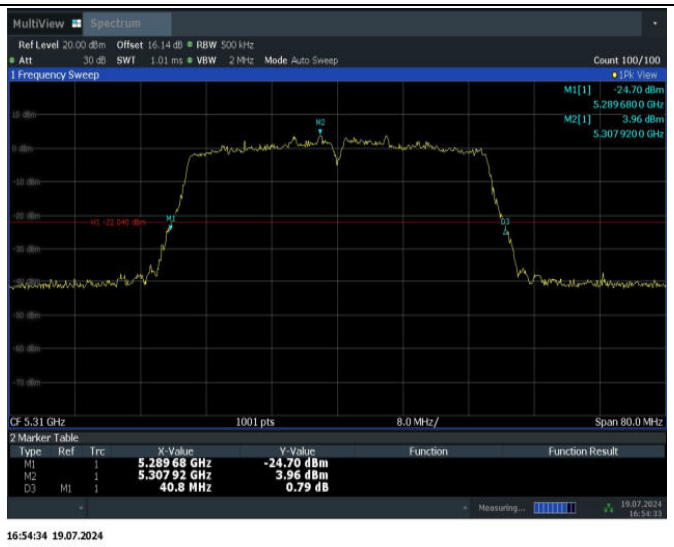
11N40SISO_Ant2_5230

16:50:58 19.07.2024

11N40SISO_Ant2_5270

16:53:30 19.07.2024

11N40SISO_Ant2_5310



11N40SISO_Ant2_5510

11N40SISO_Ant2_5550

16:56:37 19.07.2024

11N40SISO_Ant2_5670

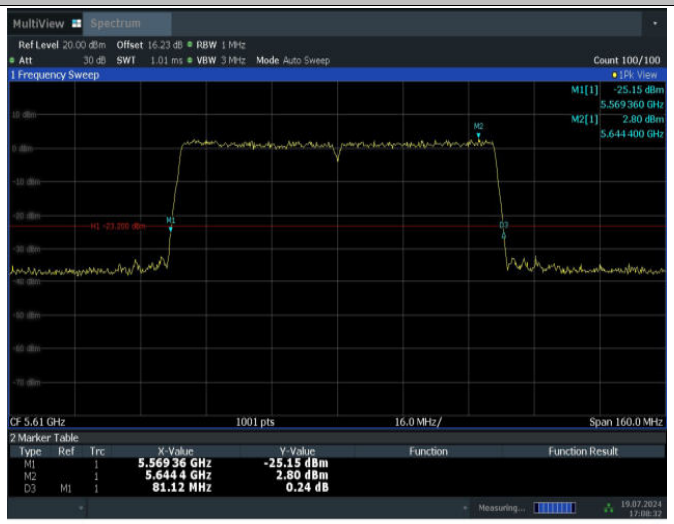
16:57:48 19.07.2024

11AC80SISO_Ant2_5210

11AC80SISO_Ant2_5290

11AC80SISO_Ant2_5530

11AC80SISO_Ant2_5610

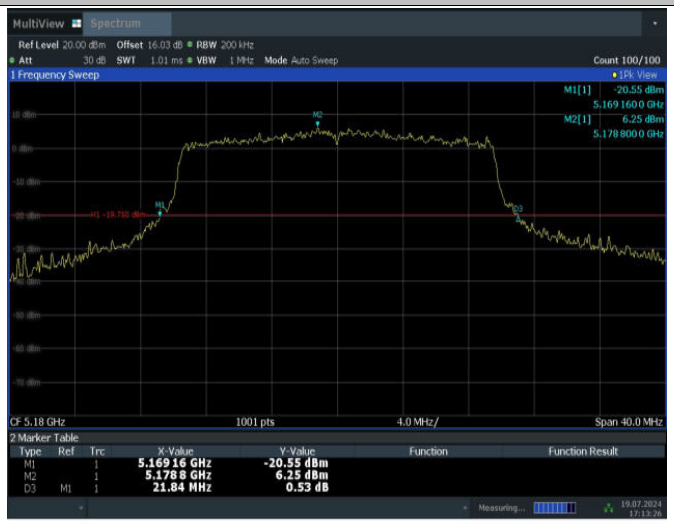


11AC80SISO_Ant2_5690

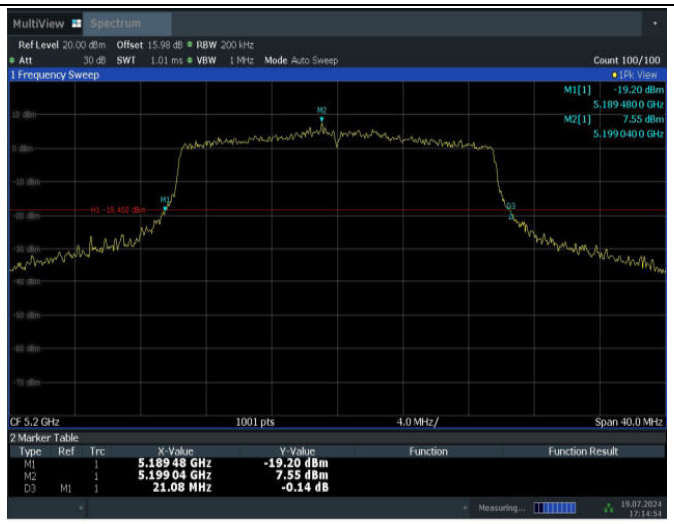
11AC160SISO_Ant2_5250

11AC160SISO_Ant2_5570

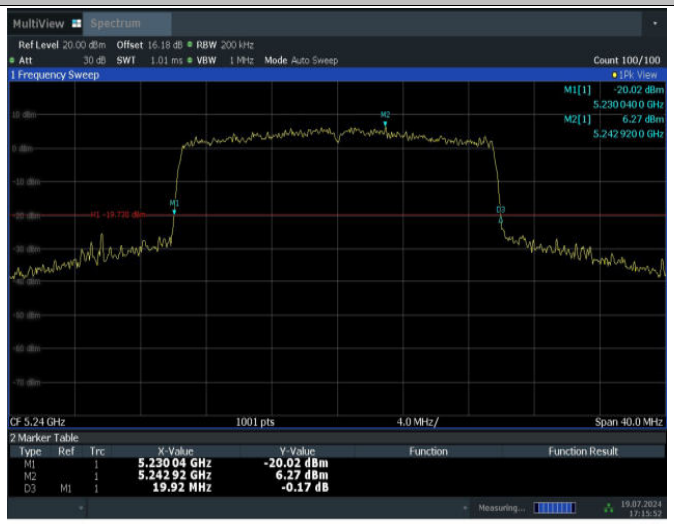
11AX20SISO_Ant2_5180



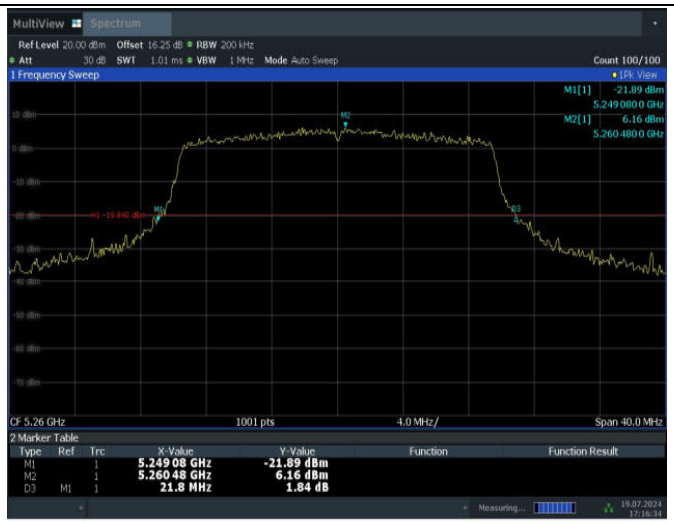
11AX20SISO_Ant2_5200



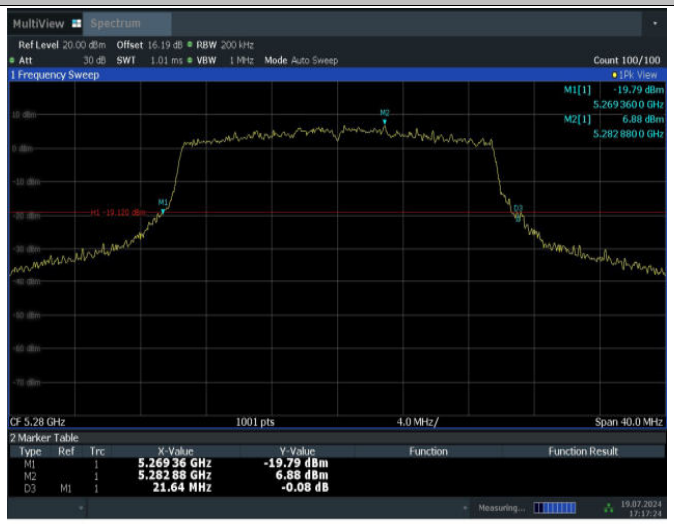
11AX20SISO_Ant2_5240



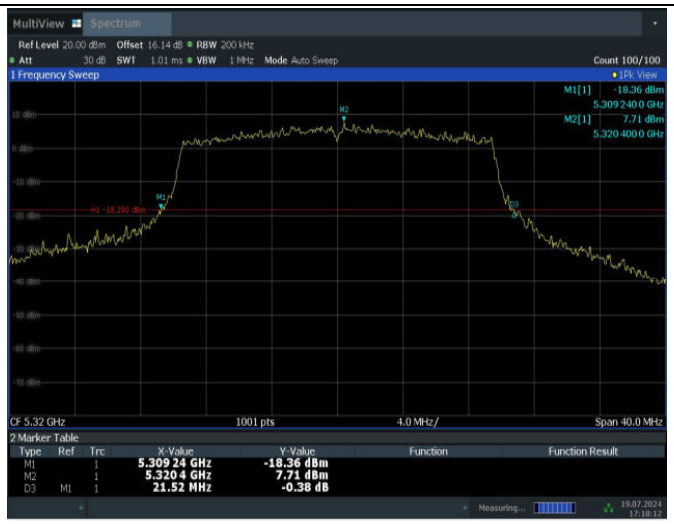
11AX20SISO_Ant2_5260



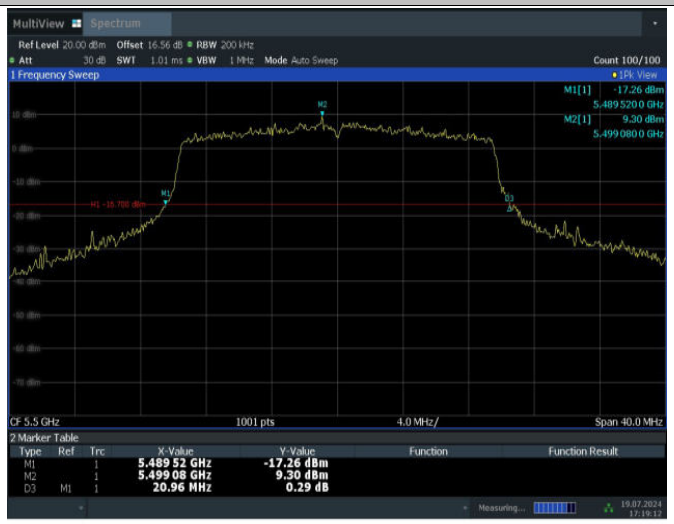
11AX20SISO_Ant2_5280



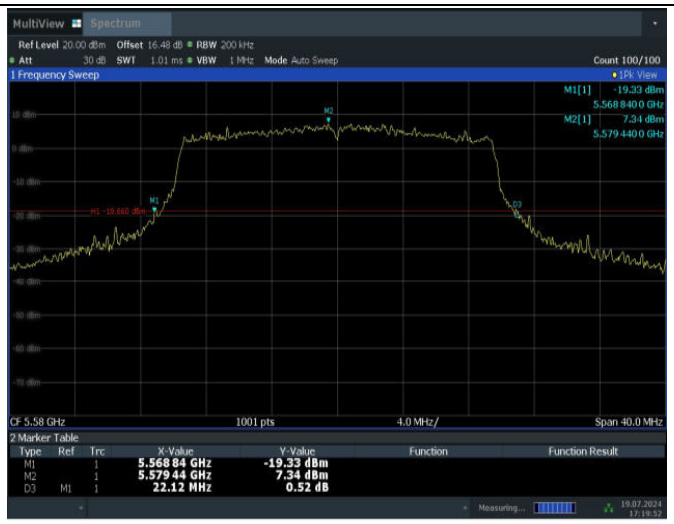
11AX20SISO_Ant2_5320



11AX20SISO_Ant2_5500

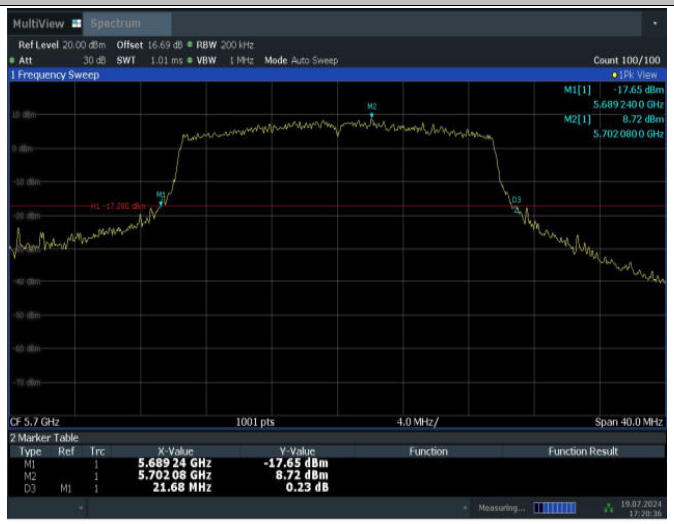


11AX20SISO_Ant2_5580



17:19:53 19.07.2024

11AX20SISO_Ant2_5700



17:20:36 19.07.2024

Conclusion: PASS

A.5. Radiated Unwanted Emission

A.5.1 Limits

Unwanted Emissions in the unrestricted bands shall not exceed the limits that shown in 15.407:

Standard	Limit
FCC 47 CFR Part 15.407	(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

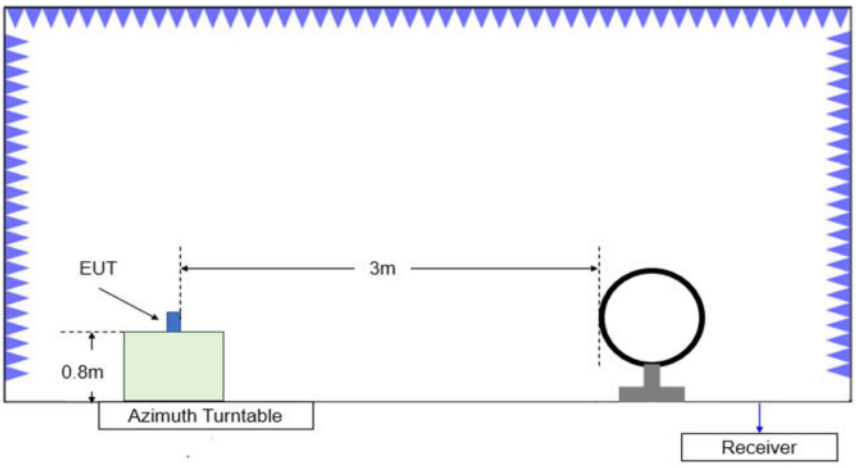
In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

Frequency (MHz)	Field strength(μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

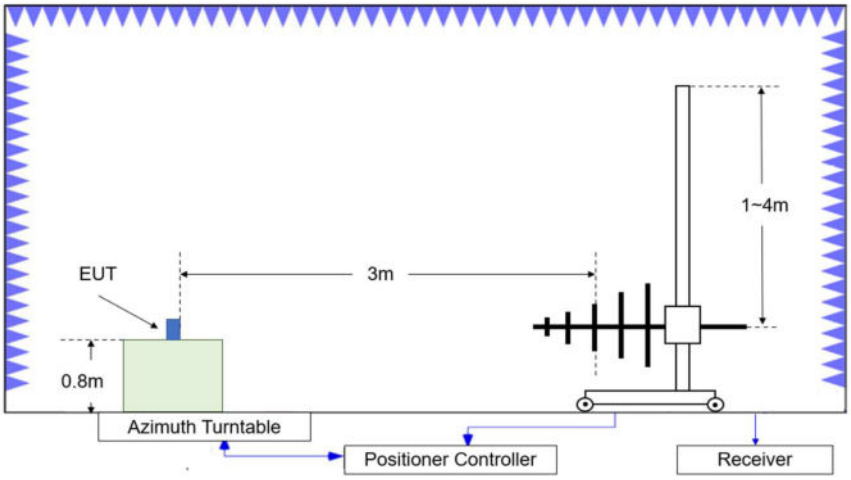
Frequency of emission (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Note: When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor (as defined in KDB 789033 II.G.2.d).

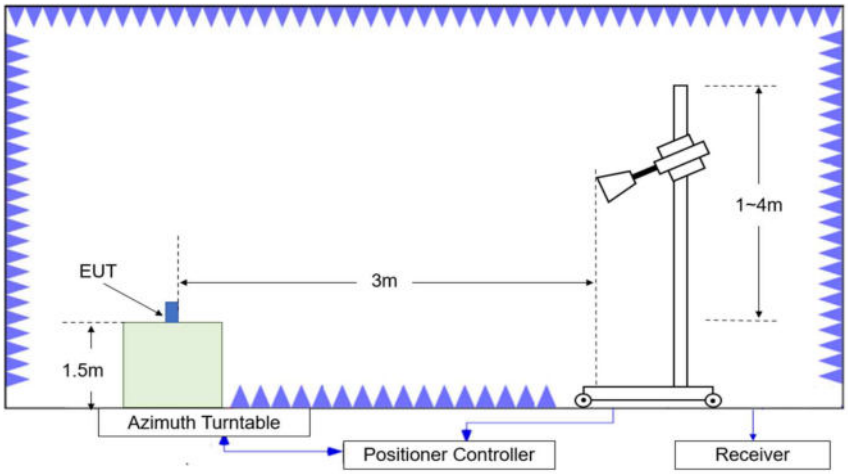
A.5.2 Test setup



Test Site Diagram (9kHz-30MHz)



Test Site Diagram (30MHz-1GHz)



Test Site Diagram (1GHz-40GHz)

A.5.3 Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10and KDB 789033 D02 v02r01.

Test setting

Frequency of emission (MHz)	RBW/VBW
30-1000	100kHz/300kHz
1000-4000	1MHz/3MHz
4000-18000	1MHz/3MHz
18000-26500	1MHz/3MHz
26500-40000	1MHz/3MHz

A.5.4 Calculation

1. The measurement results reported below is calculated by:

Measurement Results (dBμV/m) = $P_{measurement}$ (dBμV) + Cable Loss(dB) + Antenna Factor (dB/m)

Where: $P_{measurement}$ is the field strength recorded from the instrument

2. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

E=EIRP- 20log (*D)* +104.77

Where:

E is the field strength in dBμV/m

D is the measurement distance in meters

EIRP is the equivalent isotropically radiated power in dBm

Test note

1. The EUT is operating at its maximum duty cycle and its maximum power control level.
2. Investigation has been done on all modes and modulations/data rates. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.
3. Spurious emissions for all channels were investigated and almost the same below 1GHz. According to FCC 47 CFR §15.31, emission levels are not report much lower than the limit by over 20dB
4. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept.
5. EUT in each of three orthogonal axis emissions had been tested out only the worst case (axis data) recorded in the report.
6. Measurement frequencies were performed from 9 kHz to the 10^{th} harmonic of highest fundamental frequency or 40GHz, whichever is lower.
7. No spurious emissions were detected within 20dBof the limit below 30MHz. OFS and semi-chamber comparison testing had been performed and the result came out very similar. (KDB 414788)
8. The low/mid/high channels of all working mode with different bandwidths were all tested, only the worst ones were reported.

Measurement Results:

Average Results:

802.11a

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17994.500	40.68	-29.59	42.40	27.87	54.00	13.32	H
17997.800	40.56	-29.59	42.40	27.75	54.00	13.44	H
14492.100	36.27	-29.56	40.00	25.83	54.00	17.73	H
14497.050	36.25	-29.56	40.00	25.81	54.00	17.75	H
5147.380	36.13	-27.79	32.70	31.22	54.00	17.87	V
5149.060	36.08	-28.00	32.70	31.38	54.00	17.92	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17973.600	40.30	-29.59	42.40	27.49	54.00	13.70	V
17980.200	40.27	-29.59	42.40	27.46	54.00	13.73	H
14492.650	35.54	-29.56	40.00	25.10	54.00	18.46	H
14499.250	35.45	-29.56	40.00	25.01	54.00	18.55	H
5357.952	37.42	-27.82	33.50	31.75	54.00	16.58	H
5351.008	37.40	-27.82	33.50	31.73	54.00	16.60	H

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17990.650	40.17	-29.59	42.40	27.36	54.00	13.83	V
17969.200	40.12	-29.59	42.40	27.31	54.00	13.88	H
14494.850	35.69	-29.56	40.00	25.25	54.00	18.31	V
14497.600	35.60	-29.56	40.00	25.16	54.00	18.40	H
5386.060	35.99	-27.82	33.50	30.32	54.00	18.01	H
5404.900	35.95	-27.94	33.60	30.29	54.00	18.05	H

802.11n-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17998.350	40.47	-29.59	42.40	27.66	54.00	13.53	H
17972.500	40.39	-29.59	42.40	27.58	54.00	13.61	H
14499.250	35.59	-29.56	40.00	25.15	54.00	18.41	H
14491.550	35.50	-29.56	40.00	25.06	54.00	18.50	V
5149.320	37.28	-28.00	32.70	32.58	54.00	16.72	H
5147.860	36.88	-27.79	32.70	31.97	54.00	17.12	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17992.850	40.62	-29.59	42.40	27.81	54.00	13.38	H
17994.500	40.46	-29.59	42.40	27.65	54.00	13.54	H
14495.950	35.69	-29.56	40.00	25.25	54.00	18.31	H
14485.500	35.47	-29.56	40.00	25.03	54.00	18.53	H
5351.072	38.36	-27.82	33.50	32.69	54.00	15.64	V
5365.280	38.32	-27.82	33.50	32.65	54.00	15.68	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17991.750	40.27	-29.59	42.40	27.46	54.00	13.73	H
17982.400	40.21	-29.59	42.40	27.40	54.00	13.79	V
14496.500	35.83	-29.56	40.00	25.39	54.00	18.17	V
14495.950	35.82	-29.56	40.00	25.38	54.00	18.18	V
5427.565	37.96	-27.94	33.60	32.30	54.00	16.04	H
5419.405	37.94	-27.94	33.60	32.28	54.00	16.06	H

802.11n-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17977.450	40.39	-29.59	42.40	27.58	54.00	13.61	V
17998.900	40.23	-29.59	42.40	27.42	54.00	13.77	V
14499.250	35.68	-29.56	40.00	25.24	54.00	18.32	H
14491.550	35.64	-29.56	40.00	25.20	54.00	18.36	V
5149.340	39.05	-28.00	32.70	34.35	54.00	14.95	H
5149.280	39.03	-28.00	32.70	34.33	54.00	14.97	H

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17978.550	40.50	-29.59	42.40	27.69	54.00	13.50	V
17995.050	40.40	-29.59	42.40	27.59	54.00	13.60	H
14497.050	35.93	-29.56	40.00	25.49	54.00	18.07	H
14497.600	35.83	-29.56	40.00	25.39	54.00	18.17	V
5350.720	39.11	-27.82	33.50	33.44	54.00	14.89	H
5350.656	38.95	-27.82	33.50	33.28	54.00	15.05	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17992.300	40.42	-29.59	42.40	27.61	54.00	13.58	V
17981.850	40.26	-29.59	42.40	27.45	54.00	13.74	H
14493.200	35.77	-29.56	40.00	25.33	54.00	18.23	V
14497.050	35.62	-29.56	40.00	25.18	54.00	18.38	V
5436.715	38.12	-27.94	33.60	32.46	54.00	15.88	H
5421.415	38.02	-27.94	33.60	32.36	54.00	15.98	H

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Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17993.400	40.40	-29.59	42.40	27.59	54.00	13.60	H
17981.850	40.34	-29.59	42.40	27.53	54.00	13.66	V
14486.600	35.73	-29.56	40.00	25.29	54.00	18.27	H
14493.200	35.67	-29.56	40.00	25.23	54.00	18.33	H
5148.480	38.64	-27.79	32.70	33.73	54.00	15.36	H
5149.680	38.63	-28.00	32.70	33.93	54.00	15.37	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17973.600	40.48	-29.59	42.40	27.67	54.00	13.52	H
17989.000	40.44	-29.59	42.40	27.63	54.00	13.56	V
14486.600	35.71	-29.56	40.00	25.27	54.00	18.29	V
14495.950	35.47	-29.56	40.00	25.03	54.00	18.53	H
5357.664	39.53	-27.82	33.50	33.86	54.00	14.47	H
5350.592	39.47	-27.82	33.50	33.80	54.00	14.53	H

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17990.650	40.57	-29.59	42.40	27.76	54.00	13.43	V
17961.500	40.29	-29.59	42.40	27.48	54.00	13.71	H
14498.700	35.69	-29.56	40.00	25.25	54.00	18.31	V
14485.500	35.65	-29.56	40.00	25.21	54.00	18.35	V
5378.635	38.75	-27.82	33.50	33.08	54.00	15.25	H
5403.220	38.72	-27.94	33.60	33.06	54.00	15.28	H

802.11ac-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17963.150	40.32	-29.59	42.40	27.51	54.00	13.68	V
17988.450	40.27	-29.59	42.40	27.46	54.00	13.73	V
14488.800	35.65	-29.56	40.00	25.21	54.00	18.35	V
14498.150	35.65	-29.56	40.00	25.21	54.00	18.35	H
5149.220	39.49	-28.00	32.70	34.79	54.00	14.51	H
5149.160	39.22	-28.00	32.70	34.52	54.00	14.78	H

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17997.800	40.33	-29.59	42.40	27.52	54.00	13.67	H
17952.150	40.32	-29.59	42.40	27.51	54.00	13.68	V
14494.300	35.89	-29.56	40.00	25.45	54.00	18.11	H
14499.250	35.64	-29.56	40.00	25.20	54.00	18.36	H
5350.080	39.65	-27.82	33.50	33.98	54.00	14.35	H
5350.624	39.53	-27.82	33.50	33.86	54.00	14.47	H

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17980.200	40.64	-29.59	42.40	27.83	54.00	13.36	H
17960.950	40.38	-29.59	42.40	27.57	54.00	13.62	V
14497.050	36.04	-29.56	40.00	25.60	54.00	17.96	H
14498.150	35.78	-29.56	40.00	25.34	54.00	18.22	H
5386.615	38.72	-27.82	33.50	33.05	54.00	15.28	H
5376.385	38.69	-27.82	33.50	33.02	54.00	15.31	H

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Channel 42

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17976.350	40.49	-29.59	42.40	27.68	54.00	13.51	H
17986.800	40.25	-29.59	42.40	27.44	54.00	13.75	H
14487.150	35.83	-29.56	40.00	25.39	54.00	18.17	V
14498.150	35.66	-29.56	40.00	25.22	54.00	18.34	V
5149.700	43.30	-28.00	32.70	38.60	54.00	10.70	H
5149.960	43.00	-28.00	32.70	38.30	54.00	11.00	V

Channel 58

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17987.350	40.80	-29.59	42.40	27.99	54.00	13.20	V
17993.950	40.55	-29.59	42.40	27.74	54.00	13.45	V
14491.550	35.74	-29.56	40.00	25.30	54.00	18.26	H
14485.500	35.56	-29.56	40.00	25.12	54.00	18.44	H
5350.064	43.41	-27.82	33.50	37.74	54.00	10.59	H
5350.240	43.18	-27.82	33.50	37.51	54.00	10.82	H

Channel 106

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17996.150	40.25	-29.59	42.40	27.44	54.00	13.75	V
17991.200	40.23	-29.59	42.40	27.42	54.00	13.77	H
14485.500	35.33	-29.56	40.00	24.89	54.00	18.67	V
14479.450	35.32	-29.56	40.00	24.88	54.00	18.68	H
5457.415	43.32	-27.49	33.70	37.11	54.00	10.68	V
5458.120	43.08	-27.49	33.70	36.87	54.00	10.92	V

802.11ax-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17967.000	40.46	-29.59	42.40	27.65	54.00	13.54	V
17992.300	40.41	-29.59	42.40	27.60	54.00	13.59	V
14494.850	35.22	-29.56	40.00	24.78	54.00	18.78	V
14489.350	35.19	-29.56	40.00	24.75	54.00	18.81	H
5136.240	35.41	-27.79	32.70	30.50	54.00	18.59	V
5142.360	35.41	-27.79	32.70	30.50	54.00	18.59	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17979.100	40.66	-29.59	42.40	27.85	54.00	13.34	H
17986.800	40.38	-29.59	42.40	27.57	54.00	13.62	H
14498.700	35.65	-29.56	40.00	25.21	54.00	18.35	V
14499.800	35.52	-29.56	40.00	25.08	54.00	18.48	V
5361.312	38.17	-27.82	33.50	32.50	54.00	15.83	V
5361.152	38.03	-27.82	33.50	32.36	54.00	15.97	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17995.050	40.57	-29.59	42.40	27.76	54.00	13.43	V
17973.600	40.35	-29.59	42.40	27.54	54.00	13.65	V
14495.400	35.63	-29.56	40.00	25.19	54.00	18.37	V
14494.850	35.61	-29.56	40.00	25.17	54.00	18.39	V
5441.080	35.36	-27.94	33.60	29.70	54.00	18.64	V
5459.875	35.19	-27.49	33.70	28.98	54.00	18.81	V

802.11ax-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17989.550	40.61	-29.59	42.40	27.80	54.00	13.39	V
17978.550	40.38	-29.59	42.40	27.57	54.00	13.62	V
14499.800	35.56	-29.56	40.00	25.12	54.00	18.44	V
14491.550	35.36	-29.56	40.00	24.92	54.00	18.64	V
5149.300	38.46	-28.00	32.70	33.76	54.00	15.54	H
5149.980	38.36	-28.00	32.70	33.66	54.00	15.64	H

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17963.700	40.60	-29.59	42.40	27.79	54.00	13.40	H
17994.500	40.51	-29.59	42.40	27.70	54.00	13.49	V
14486.600	36.08	-29.56	40.00	25.64	54.00	17.92	H
14498.150	35.89	-29.56	40.00	25.45	54.00	18.11	V
5351.088	40.36	-27.82	33.50	34.69	54.00	13.64	V
5350.256	40.28	-27.82	33.50	34.61	54.00	13.72	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17981.300	40.53	-29.59	42.40	27.72	54.00	13.47	H
17995.600	40.51	-29.59	42.40	27.70	54.00	13.49	V
14490.450	35.68	-29.56	40.00	25.24	54.00	18.32	V
14499.800	35.62	-29.56	40.00	25.18	54.00	18.38	H
5459.830	35.77	-27.49	33.70	29.56	54.00	18.23	V
5459.770	35.73	-27.49	33.70	29.52	54.00	18.27	V

802.11ax-HT80

Channel 42

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17975.800	41.27	-29.59	42.40	28.46	54.00	12.73	H
17997.800	40.38	-29.59	42.40	27.57	54.00	13.62	H
14492.100	35.96	-29.56	40.00	25.52	54.00	18.04	H
14499.800	35.94	-29.56	40.00	25.50	54.00	18.06	V
5146.340	41.01	-27.79	32.70	36.10	54.00	12.99	H
5146.060	40.89	-27.79	32.70	35.98	54.00	13.11	H

Channel 58

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17974.700	40.77	-29.59	42.40	27.96	54.00	13.23	V
17998.350	40.26	-29.59	42.40	27.45	54.00	13.74	V
14497.600	35.73	-29.56	40.00	25.29	54.00	18.27	V
14489.350	35.71	-29.56	40.00	25.27	54.00	18.29	V
5353.984	40.68	-27.82	33.50	35.01	54.00	13.32	V
5354.080	40.26	-27.82	33.50	34.59	54.00	13.74	V

Channel 106

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17970.300	40.38	-29.59	42.40	27.57	54.00	13.62	V
17977.450	40.33	-29.59	42.40	27.52	54.00	13.67	V
14498.700	35.80	-29.56	40.00	25.36	54.00	18.20	V
14499.800	35.48	-29.56	40.00	25.04	54.00	18.52	H
5457.610	40.85	-27.49	33.70	34.64	54.00	13.15	V
5457.310	40.69	-27.49	33.70	34.48	54.00	13.31	V

802.11ax-HT160

Channel 50

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17969.750	40.36	-29.59	42.40	27.55	54.00	13.64	H
17991.750	40.35	-29.59	42.40	27.54	54.00	13.65	V
14492.100	35.60	-29.56	40.00	25.16	54.00	18.40	H
14483.300	35.58	-29.56	40.00	25.14	54.00	18.42	V
5127.780	39.99	-27.79	32.70	35.08	54.00	14.01	H
5127.500	39.98	-27.79	32.70	35.07	54.00	14.02	H

Channel 114

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17997.800	40.39	-29.59	42.40	27.58	54.00	13.61	H
17954.900	40.37	-29.59	42.40	27.56	54.00	13.63	H
14489.350	35.79	-29.56	40.00	25.35	54.00	18.21	H
14497.050	35.68	-29.56	40.00	25.24	54.00	18.32	V
5452.585	40.41	-27.49	33.70	34.20	54.00	13.59	V
5452.480	40.25	-27.49	33.70	34.04	54.00	13.75	V

PEAK Results:

802.11a

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17916.950	51.53	-29.59	42.40	38.72	74.00	22.47	H
17505.000	51.47	-29.07	42.15	38.39	68.20	16.73	H
13755.650	48.87	-31.18	40.80	39.25	68.20	19.33	H
14106.000	48.54	-30.20	40.50	38.24	68.20	19.66	H
5065.740	47.56	-28.19	32.80	42.95	74.00	26.44	V
5087.580	47.52	-28.19	32.80	42.91	74.00	26.48	V

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17967.000	51.92	-29.59	42.40	39.11	74.00	22.08	H
17556.150	51.37	-29.39	42.20	38.57	68.20	16.83	H
13717.150	49.06	-31.18	40.80	39.44	68.20	19.14	V
13738.050	48.65	-31.18	40.80	39.03	68.20	19.55	H
5361.520	48.76	-27.82	33.50	43.09	74.00	25.24	H
5354.000	48.29	-27.82	33.50	42.62	74.00	25.71	H

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17964.800	51.54	-29.59	42.40	38.73	74.00	22.46	H
17527.000	51.17	-29.39	42.20	38.37	68.20	17.03	H
13652.250	48.01	-31.29	40.65	38.65	68.20	20.19	V
13725.400	47.67	-31.18	40.80	38.05	68.20	20.53	H
5375.965	47.44	-27.82	33.50	41.77	74.00	26.56	H
5466.925	47.48	-27.49	33.70	41.27	68.20	20.72	H

802.11n-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17606.200	52.13	-29.60	42.25	39.48	68.20	16.07	H
17991.200	52.11	-29.59	42.40	39.30	74.00	21.89	V
13678.650	48.20	-30.98	40.70	38.48	68.20	20.00	V
13745.200	48.05	-31.18	40.80	38.43	68.20	20.15	V
5149.620	52.25	-28.00	32.70	47.55	74.00	21.75	V
5149.980	50.73	-28.00	32.70	46.03	74.00	23.27	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17973.050	51.92	-29.59	42.40	39.11	74.00	22.08	H
17942.800	51.50	-29.59	42.40	38.69	74.00	22.50	V
13660.500	48.04	-31.29	40.65	38.68	68.20	20.16	V
13751.250	47.76	-31.18	40.80	38.14	68.20	20.44	V
5355.360	51.52	-27.82	33.50	45.85	74.00	22.48	V
5350.192	51.41	-27.82	33.50	45.74	74.00	22.59	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17978.000	51.27	-29.59	42.40	38.46	74.00	22.73	H
17990.650	51.23	-29.59	42.40	38.42	74.00	22.77	V
13659.400	47.83	-31.29	40.65	38.47	68.20	20.37	V
14515.750	47.78	-30.55	39.85	38.48	68.20	20.42	H
5427.670	49.67	-27.94	33.60	44.01	74.00	24.33	H
5465.845	50.12	-27.49	33.70	43.91	68.20	18.08	H

802.11n-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17907.050	51.21	-29.59	42.40	38.40	74.00	22.79	H
17607.850	51.20	-29.60	42.25	38.55	68.20	17.00	V
13765.550	48.45	-30.98	40.90	38.53	68.20	19.75	H
13700.650	47.92	-30.98	40.70	38.20	68.20	20.28	H
5149.820	49.06	-28.00	32.70	44.36	74.00	24.94	V
5145.800	49.05	-27.79	32.70	44.14	74.00	24.95	H

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17914.200	51.41	-29.59	42.40	38.60	74.00	22.59	V
17604.000	51.24	-29.60	42.25	38.59	68.20	16.96	V
13738.600	48.79	-31.18	40.80	39.17	68.20	19.41	V
14288.050	47.96	-30.12	40.30	37.78	68.20	20.24	H
5353.984	50.33	-27.82	33.50	44.66	74.00	23.67	V
5459.392	50.06	-27.49	33.70	43.85	74.00	23.94	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17980.750	51.89	-29.59	42.40	39.08	74.00	22.11	V
17425.800	51.23	-28.70	42.10	37.83	68.20	16.97	H
13817.250	48.17	-30.20	40.90	37.47	68.20	20.03	V
14097.200	48.13	-30.20	40.50	37.83	68.20	20.07	H
5408.725	49.20	-27.94	33.60	43.54	74.00	24.80	H
5468.650	48.90	-27.49	33.70	42.69	68.20	19.30	H

802.11ac-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17596.850	51.62	-29.60	42.25	38.97	68.20	16.58	H
17483.550	51.60	-29.07	42.15	38.52	68.20	16.60	V
13721.550	48.39	-31.18	40.80	38.77	68.20	19.81	H
13739.150	47.95	-31.18	40.80	38.33	68.20	20.25	V
5148.380	51.03	-27.79	32.70	46.12	74.00	22.97	H
5117.360	49.90	-27.79	32.70	44.99	74.00	24.10	V

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17491.250	51.83	-29.07	42.15	38.75	68.20	16.37	V
17571.000	51.59	-29.39	42.20	38.79	68.20	16.61	V
14200.600	48.50	-30.42	40.40	38.52	68.20	19.70	V
13718.250	48.10	-31.18	40.80	38.48	68.20	20.10	V
5350.064	50.74	-27.82	33.50	45.07	74.00	23.26	H
5354.432	50.40	-27.82	33.50	44.73	74.00	23.60	H

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17997.800	52.13	-29.59	42.40	39.32	74.00	21.87	V
17989.000	52.01	-29.59	42.40	39.20	74.00	21.99	H
14205.000	48.40	-30.42	40.40	38.42	68.20	19.80	H
13761.700	47.91	-31.18	40.80	38.29	68.20	20.29	H
5457.250	50.05	-27.49	33.70	43.84	74.00	23.95	H
5465.995	49.73	-27.49	33.70	43.52	68.20	18.47	V

802.11ac-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17952.150	51.78	-29.59	42.40	38.97	74.00	22.22	H
17980.200	51.23	-29.59	42.40	38.42	74.00	22.77	V
13708.350	48.48	-30.98	40.70	38.76	68.20	19.72	H
13760.050	48.27	-31.18	40.80	38.65	68.20	19.93	V
5149.760	51.09	-28.00	32.70	46.39	74.00	22.91	H
5149.540	50.03	-28.00	32.70	45.33	74.00	23.97	H

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17912.550	51.59	-29.59	42.40	38.78	74.00	22.41	H
17989.550	51.33	-29.59	42.40	38.52	74.00	22.67	H
14196.750	47.92	-30.42	40.40	37.94	68.20	20.28	H
14170.900	47.90	-30.42	40.40	37.92	68.20	20.30	V
5350.992	50.08	-27.82	33.50	44.41	74.00	23.92	V
5350.512	49.87	-27.82	33.50	44.20	74.00	24.13	H

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17978.000	51.36	-29.59	42.40	38.55	74.00	22.64	H
17498.950	51.16	-29.07	42.15	38.08	68.20	17.04	V
14701.650	48.44	-30.04	39.40	39.08	68.20	19.76	V
14139.550	48.37	-30.93	40.45	38.85	68.20	19.83	V
5424.685	50.52	-27.94	33.60	44.86	74.00	23.48	H
5467.795	50.58	-27.49	33.70	44.37	68.20	17.62	V