



FCC PART 15E TEST REPORT No.23T04Z80619-08

for

TCL Communication Ltd.

GSM/UMTS/LTE mobile phone

T509A

FCC ID: 2ACCJB216

with

Hardware Version: 05

Software Version: BL3F

Issued Date: 2024-01-02

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

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
23T04Z80619-08	Rev.0	1st edition	2024-01-02

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

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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: 2023-11-28
Testing End Date: 2024-01-02

1.5. Signature



Yao Xingyu
(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: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
Park, Shatin, NT, Hong Kong
City: Hong Kong
Postal Code: /
Country: China
Telephone: 0086-755-3661 1621
Fax: 0086-755-36612000-81722

2.2. Manufacturer Information

Company Name: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
Park, Shatin, NT, Hong Kong
City: Hong Kong
Postal Code: /
Country: China
Telephone: 0086-755-3661 1621
Fax: 0086-755-36612000-81722

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

3.1. About EUT

Description	GSM/UMTS/LTE mobile phone
Model name	T509A
FCC ID	2ACCJB216
WLAN Frequency Band	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Nominal Voltage	3.87V
Extreme High Voltage	4.45V
Extreme Low Voltage	3.6V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT06a	359735330000819/ 359735330000934	05	BL3F	2023-11-28
UT13a	359735330001056/ 359735330001239	05	BL3F	2023-12-19

*EUT ID: is used to identify the test sample in the lab internally.
 UT06a is used for Conduction test, UT13a is used for Radiation test.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	Manufacture
AE1	Battery	TLp049B8	HuiZhou GanFeng LiEnergy Battery Technology Co., Ltd.
AE2	Charger	CG10A0502000UU	Huizhou Juwei Electronics Co.,Ltd
AE3	USB Cable1	JWUB1686-M01R	Huizhou Juwei Electronics Co.,Ltd
AE4	USB Cable2	FKY-23-367	Qiyang Fukangyuan Electronic Technology Co., Ltd.

*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 GSM/UMTS/LTE mobile phone 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	3.87V
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	2024-07-04
2	Test Receiver	ESCI	100344	R&S	13 Months	2024-02-21
3	LISN	ENV216	101200	R&S	13 Months	2024-06-05
4	Attenuator	10dB/2W	/	Rosenberger	/	/
5	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103023	R&S	13 Months	2024-07-08
2	EMI Antenna	VULB 9163	01222	SCHWARZBECK	13 Months	2024-02-28
3	EMI Antenna	3115	6914	ETS-Lindgren	13 Months	2024-04-25
4	EMI Antenna	HF-H2-22	829324/007	Rohde & Schwarz	13 Months	2024-01-22
5	EMI Antenna	3116	2661	ETS-Lindgren	13 Months	2024-02-28

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)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

8.6 Radiated Unwanted Emission

Frequency Range	Uncertainty(dB) (k=2)
9kHz-30MHz	4.92
$30\text{MHz} \leq f \leq 1\text{GHz}$	4.72
$1\text{GHz} \leq f \leq 18\text{GHz}$	4.84
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.12

8.7 AC Power-line Conducted Emission

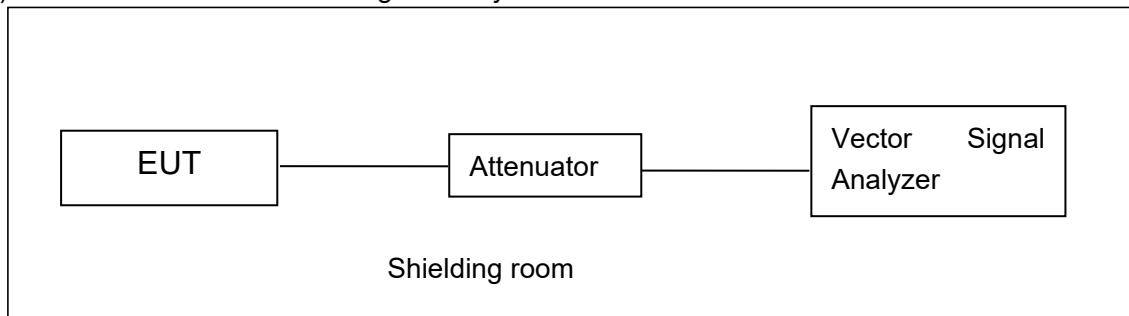
Measurement Uncertainty : 3.08dB,k=2

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

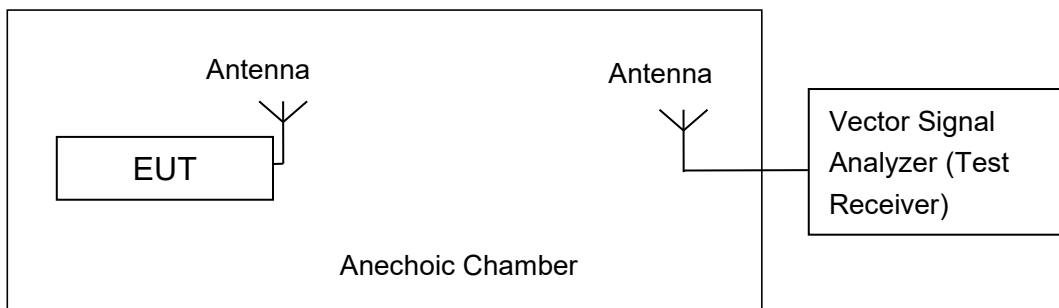


A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 3MHz;



The measurement is made according to KDB 789033

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. 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 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

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 measurement method SA-2 is made according to KDB 789033

A.2.1 Antenna Gain

Antenna gain is 1.5dBi and the value is supplied by the applicant or manufacturer.

A.2.2 Maximum output Power-Conducted

EUT ID: UT06a

Measurement Results:

802.11a mode

Mode	Frequency	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	15.03	/	/	/	/	/	/	/
	5200MHz	15.24	/	/	/	/	/	/	/
	5240MHz	15.56	/	/	/	/	/	/	/
	5260MHz	15.25	/	/	/	/	/	/	/
	5280MHz	15.28	/	/	/	/	/	/	/
	5320MHz	15.33	/	/	/	/	/	/	/
	5500MHz	15.40	/	/	/	/	/	/	/
	5580MHz	15.52	/	/	/	/	/	/	/
	5700MHz	15.19	/	/	/	/	/	/	/
5720MHz	15.24	/	/	/	/	/	/	/	

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	15.17	/	/	/	/	/	/	/
	5200MHz	15.49	/	/	/	/	/	/	/
	5240MHz	15.73	/	/	/	/	/	/	/
	5260MHz	15.46	/	/	/	/	/	/	/
	5280MHz	15.39	/	/	/	/	/	/	/
	5320MHz	15.72	/	/	/	/	/	/	/
	5500MHz	15.66	/	/	/	/	/	/	/

	5580MHz	15.08	/	/	/	/	/	/	/
	5700MHz	15.03	/	/	/	/	/	/	/
	5720MHz	15.42	/	/	/	/	/	/	/

The data rate MCS0 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	15.39	/	/	/	/	/	/	/	/
	5200MHz	15.28	/	/	/	/	/	/	/	/
	5240MHz	15.16	/	/	/	/	/	/	/	/
	5260MHz	15.32	/	/	/	/	/	/	/	/
	5280MHz	15.06	/	/	/	/	/	/	/	/
	5320MHz	15.18	/	/	/	/	/	/	/	/
	5500MHz	15.49	/	/	/	/	/	/	/	/
	5580MHz	15.26	/	/	/	/	/	/	/	/
	5700MHz	15.33	/	/	/	/	/	/	/	/
	5720MHz	15.31	/	/	/	/	/	/	/	/

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	14.51	/	/	/	/	/	/	/
	5230MHz	14.79	/	/	/	/	/	/	/
	5270MHz	14.45	/	/	/	/	/	/	/
	5310MHz	14.72	/	/	/	/	/	/	/
	5510MHz	14.99	/	/	/	/	/	/	/
	5550MHz	14.72	/	/	/	/	/	/	/
	5670MHz	14.69	/	/	/	/	/	/	/
	5710MHz	14.58	/	/	/	/	/	/	/

The data rate MCS0 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	14.95	/	/	/	/	/	/	/	/	/
	5230MHz	14.98	/	/	/	/	/	/	/	/	/
	5270MHz	14.89	/	/	/	/	/	/	/	/	/
	5310MHz	14.74	/	/	/	/	/	/	/	/	/
	5510MHz	14.98	/	/	/	/	/	/	/	/	/
	5550MHz	14.82	/	/	/	/	/	/	/	/	/
	5670MHz	14.76	/	/	/	/	/	/	/	/	/
5710MHz	14.61	/	/	/	/	/	/	/	/	/	

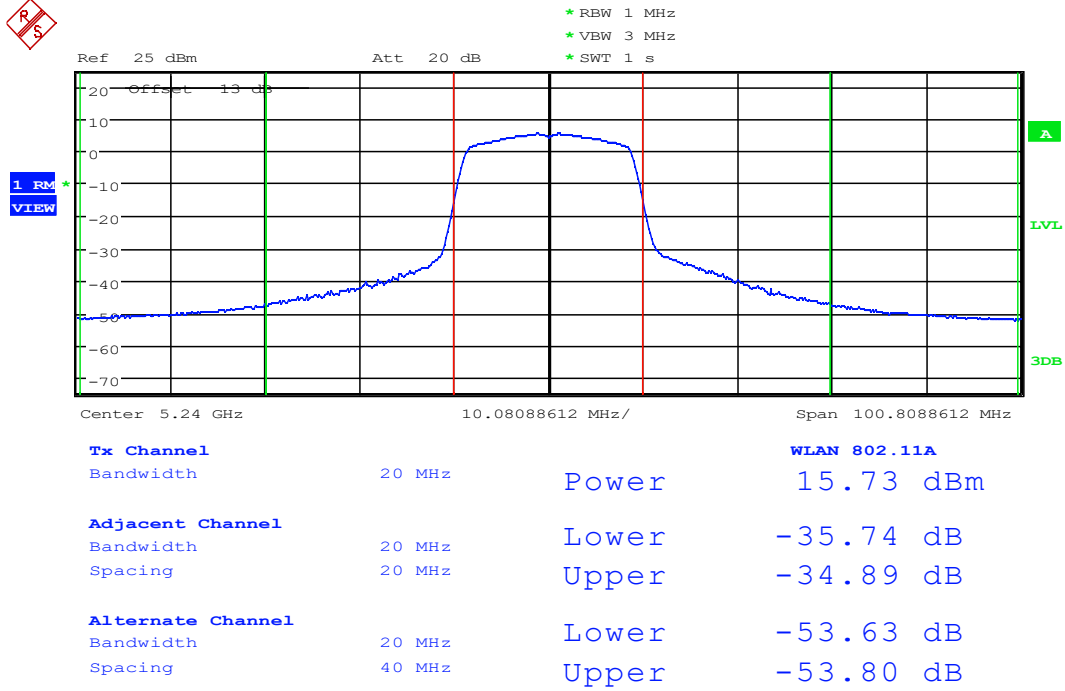
The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

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	14.75	/	/	/	/	/	/	/	/	/
	5290MHz	14.77	/	/	/	/	/	/	/	/	/
	5530MHz	14.91	/	/	/	/	/	/	/	/	/
	5610MHz	14.89	/	/	/	/	/	/	/	/	/
	5690MHz	14.71	/	/	/	/	/	/	/	/	/

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

The duty cycle of all mode are 100%



Date: 1.JAN.2024 14:13:54

Maximum output Power: 11n20 CH48

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

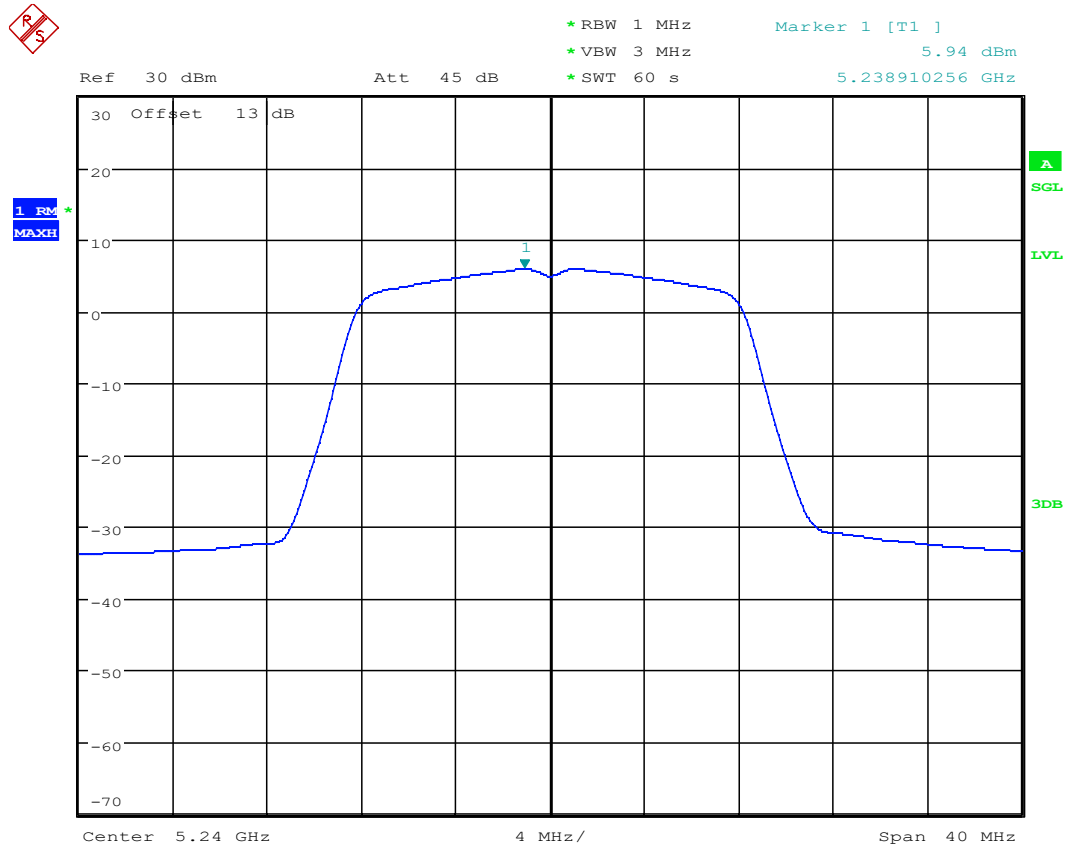
The output power measurement method Section F is made according to KDB 789033

EUT ID: UT06a

Measurement Results:

Mode	Frequency	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	5.72	P
	5200 MHz	5.63	P
	5240 MHz	5.94	P
	5260 MHz	5.59	P
	5280 MHz	5.56	P
	5320 MHz	5.34	P
	5500 MHz	5.52	P
	5580 MHz	5.71	P
	5700 MHz	5.29	P
	5720 MHz	5.11	P
802.11n HT20	5180 MHz	4.88	P
	5200 MHz	4.57	P
	5240 MHz	4.77	P
	5260 MHz	4.86	P
	5280 MHz	4.49	P
	5320 MHz	4.75	P
	5500 MHz	4.90	P
	5580 MHz	4.97	P
	5700 MHz	4.63	P
	5720 MHz	4.58	P
802.11n HT40	5190 MHz	1.73	P
	5230 MHz	1.98	P
	5270 MHz	1.45	P
	5310 MHz	1.83	P
	5510 MHz	2.13	P
	5550 MHz	1.82	P
	5670 MHz	1.91	P
	5710 MHz	1.80	P
802.11ac VHT80	5210 MHz	-1.92	P
	5290 MHz	-1.94	P

	5530 MHz	-1.34	P
	5610 MHz	-1.21	P
	5690 MHz	-1.53	P



Date: 2.JAN.2024 14:44:16

Peak Power Spectral Density:11a CH48

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
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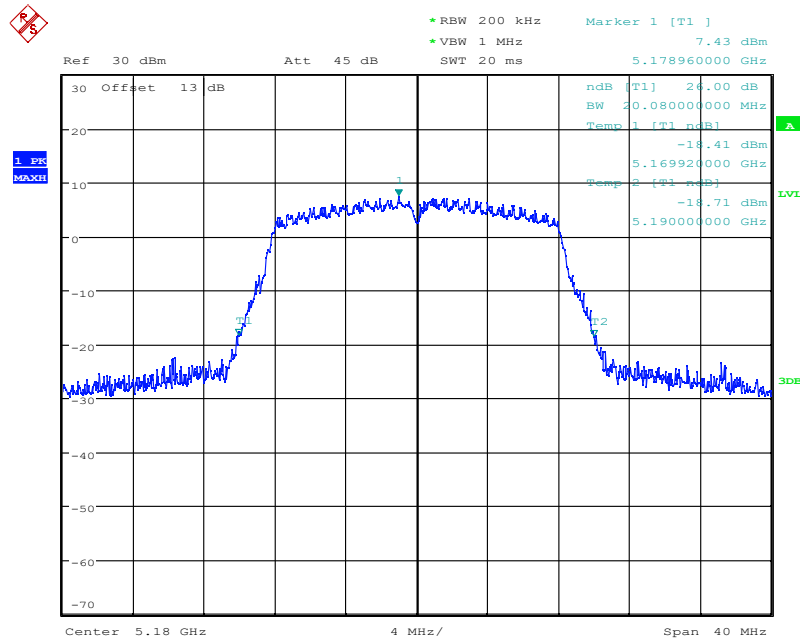
EUT ID: UT06a

Measurement Result:

Mode	Frequency	26dB Emission Bandwidth (MHz)		conclusion
		Fig.	Value	
802.11a	5180 MHz	Fig.1	20.08	P
	5200 MHz	Fig.2	20.16	P
	5240 MHz	Fig.3	20.04	P
	5260 MHz	Fig.4	20.00	P
	5280 MHz	Fig.5	20.04	P
	5320 MHz	Fig.6	20.16	P
	5500 MHz	Fig.7	20.12	P
	5580 MHz	Fig.8	20.04	P
	5700 MHz	Fig.9	20.16	P
	5720 MHz	Fig.10	20.16	P
802.11n HT20	5180 MHz	Fig.11	20.56	P
	5200 MHz	Fig.12	20.48	P
	5240 MHz	Fig.13	20.24	P
	5260 MHz	Fig.14	20.52	P
	5280 MHz	Fig.15	20.32	P
	5320 MHz	Fig.16	20.40	P
	5500 MHz	Fig.17	20.28	P
	5580 MHz	Fig.18	20.40	P
	5700 MHz	Fig.19	20.28	P
	5720 MHz	Fig.20	20.24	P
802.11n HT40	5190 MHz	Fig.21	41.04	P
	5230 MHz	Fig.22	40.96	P
	5270 MHz	Fig.23	41.12	P
	5310 MHz	Fig.24	41.04	P
	5510 MHz	Fig.25	41.04	P
	5550 MHz	Fig.26	41.04	P
	5670 MHz	Fig.27	41.28	P
	5710 MHz	Fig.28	41.04	P
802.11ac	5210MHz	Fig.29	81.60	P

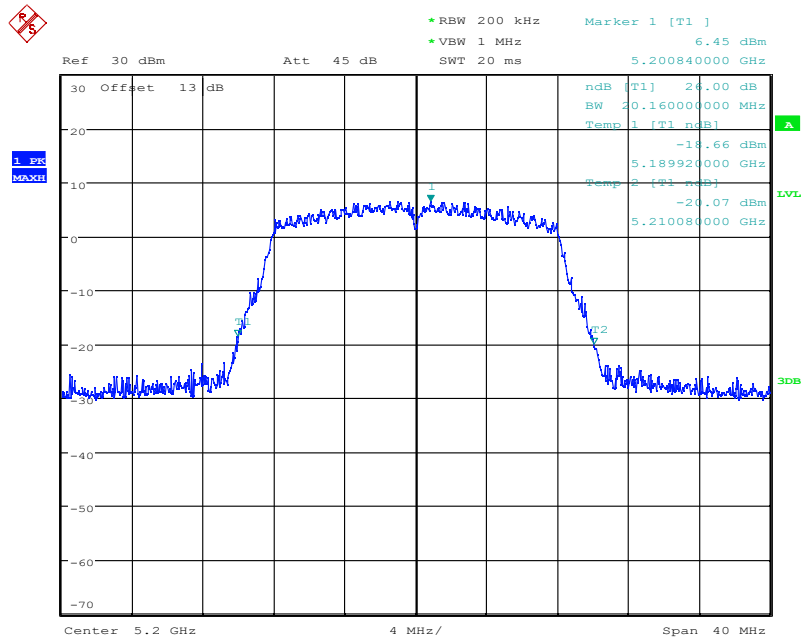
VHT80	5290MHz	Fig.30	81.92	P
	5530MHz	Fig.31	81.60	P
	5610 MHz	Fig.32	81.76	P
	5690MHz	Fig.33	81.76	P

Test graphs as below:



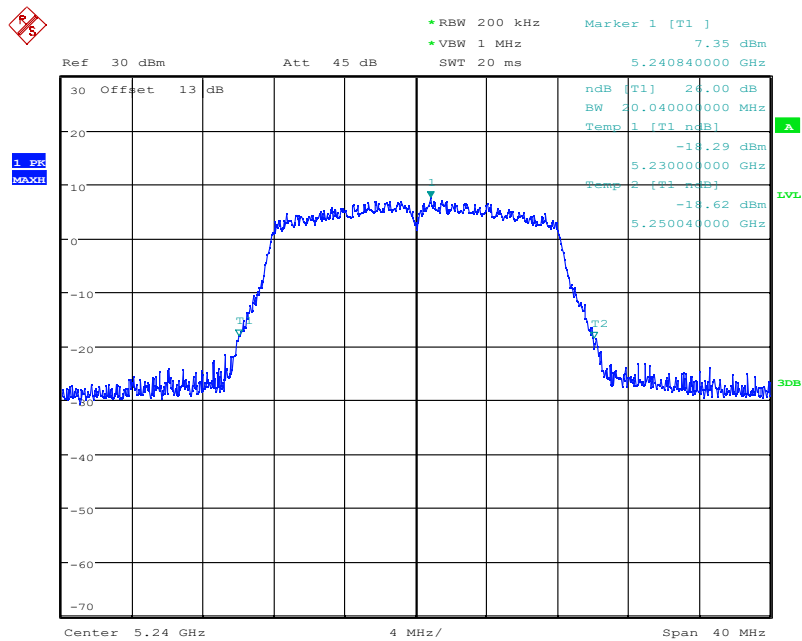
Date: 25.DEC.2023 09:28:07

Fig.1 26dB Emission Bandwidth (802.11a, 5180MHz)



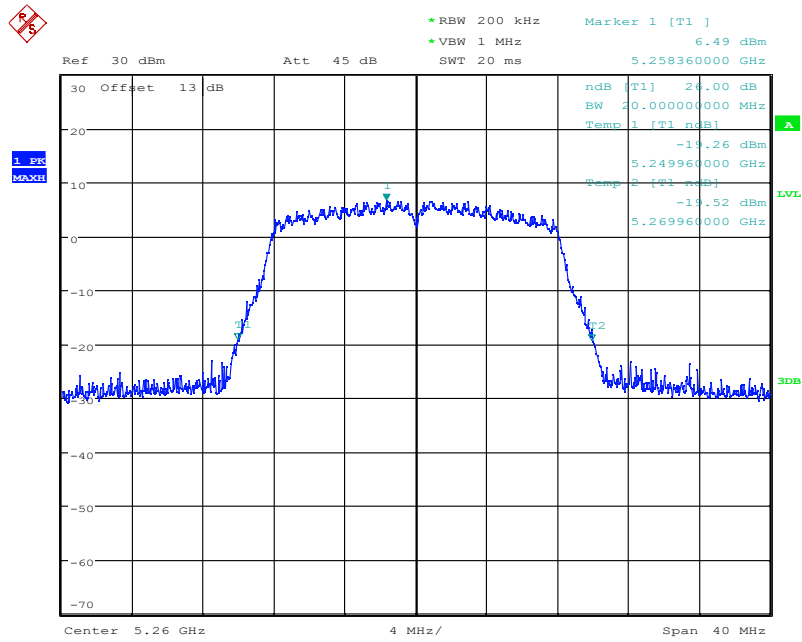
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Fig.2 26dB Emission Bandwidth (802.11a, 5200MHz)



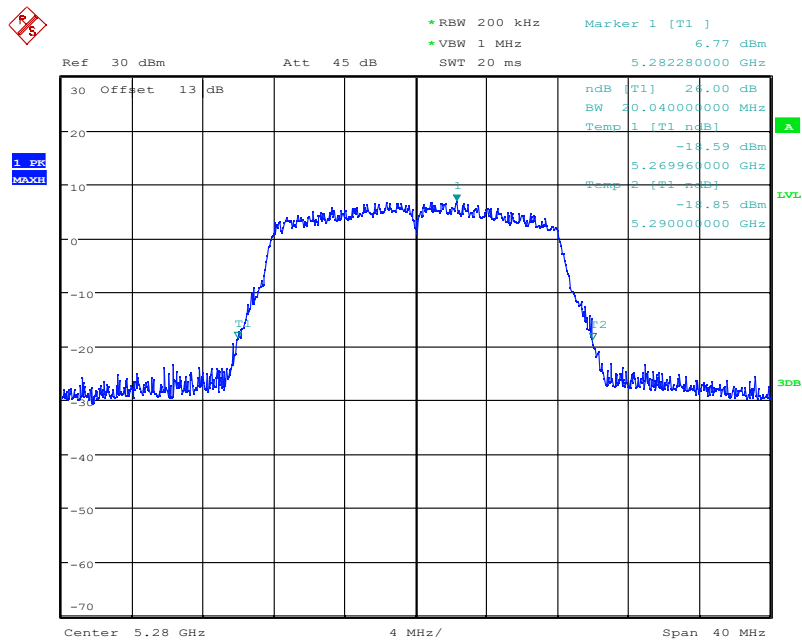
Date: 25.DEC.2023 09:30:42

Fig.3 26dB Emission Bandwidth (802.11a, 5240MHz)



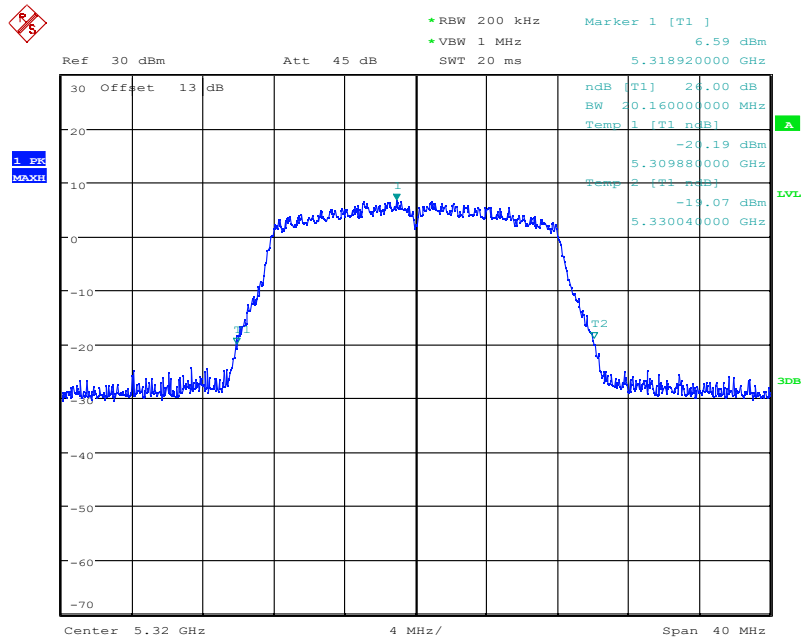
Date: 25.DEC.2023 09:33:15

Fig.4 26dB Emission Bandwidth (802.11a, 5260MHz)



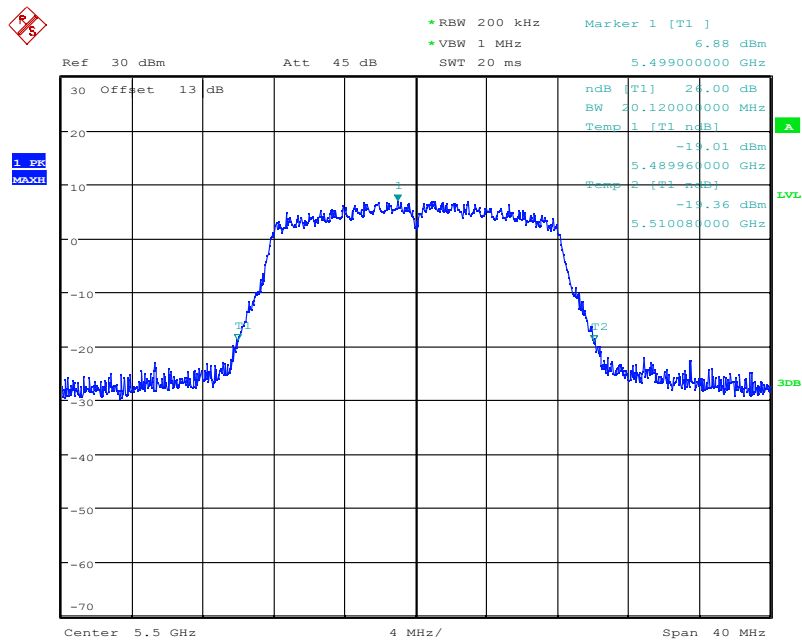
Date: 25.DEC.2023 09:37:12

Fig.5 26dB Emission Bandwidth (802.11a, 5280MHz)



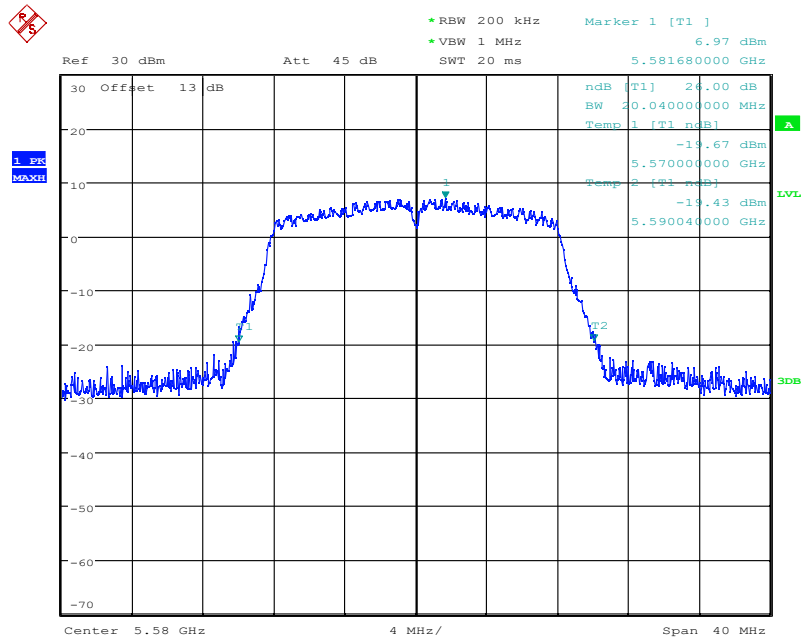
Date: 25.DEC.2023 09:44:58

Fig.6 26dB Emission Bandwidth (802.11a, 5320MHz)



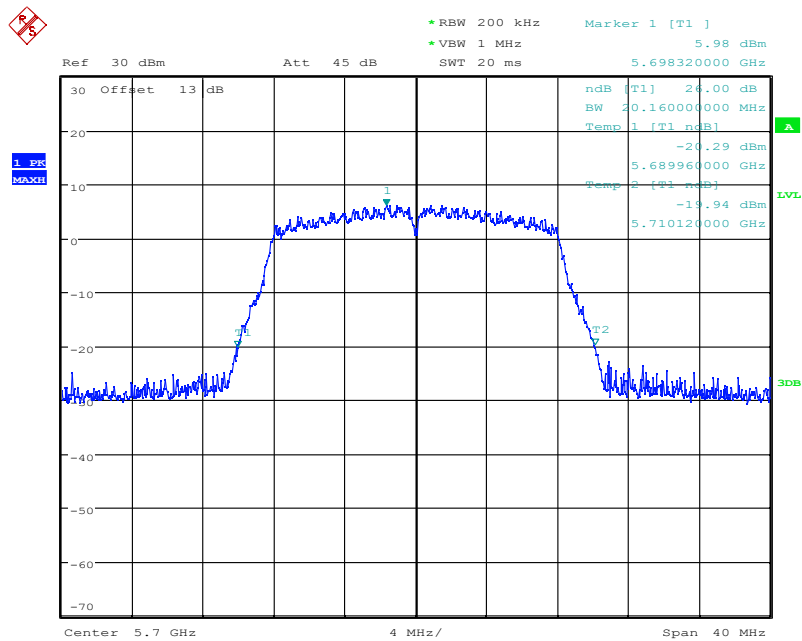
Date: 25.DEC.2023 13:11:01

Fig.7 26dB Emission Bandwidth (802.11a, 5500MHz)



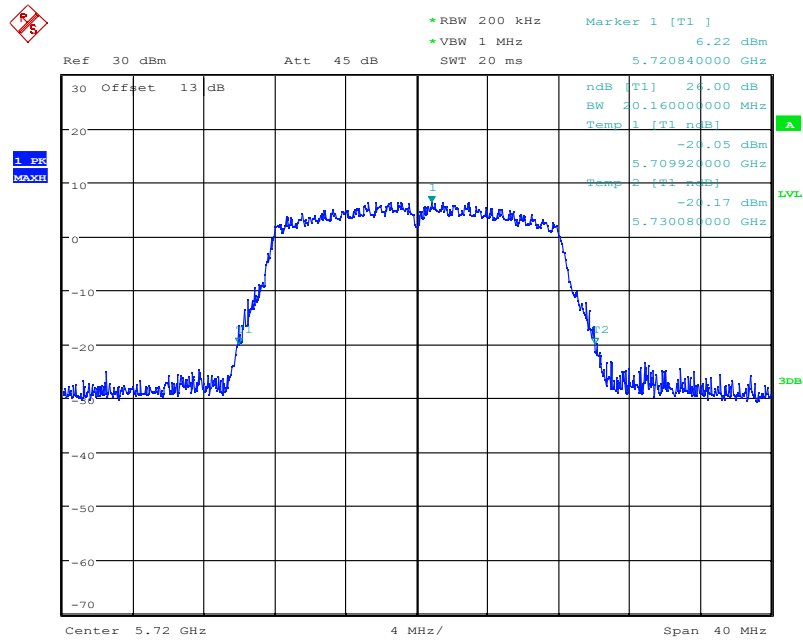
Date: 25.DEC.2023 13:13:25

Fig.8 26dB Emission Bandwidth (802.11a, 5580MHz)



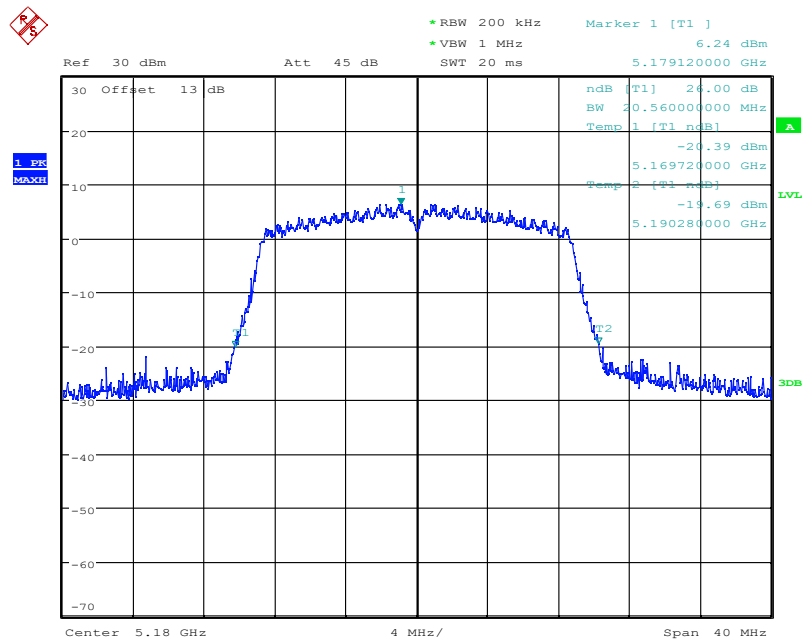
Date: 25.DEC.2023 13:16:50

Fig.9 26dB Emission Bandwidth (802.11a, 5700MHz)



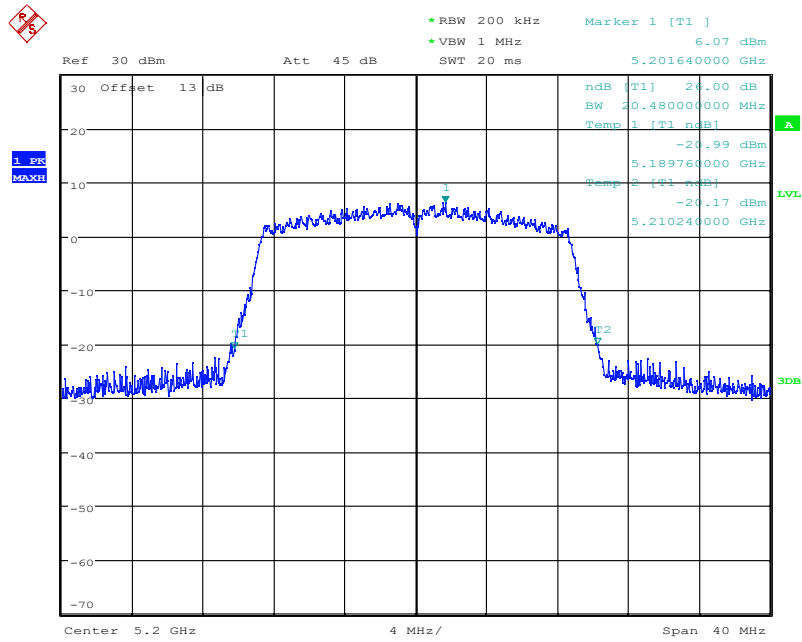
Date: 25.DEC.2023 13:17:17

Fig.10 26dB Emission Bandwidth (802.11a, 5720MHz)



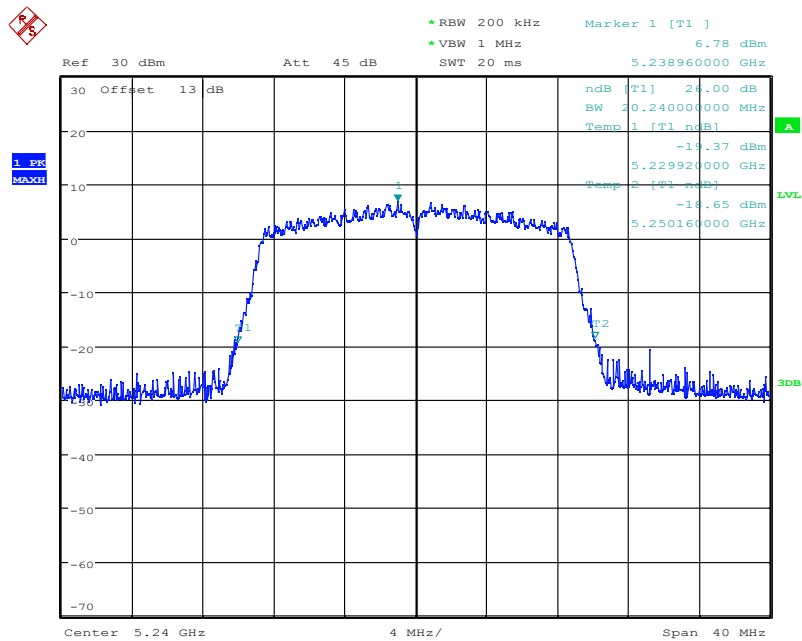
Date: 1.JAN.2024 14:46:17

Fig.11 26dB Emission Bandwidth (802.11n-HT20, 5180MHz)



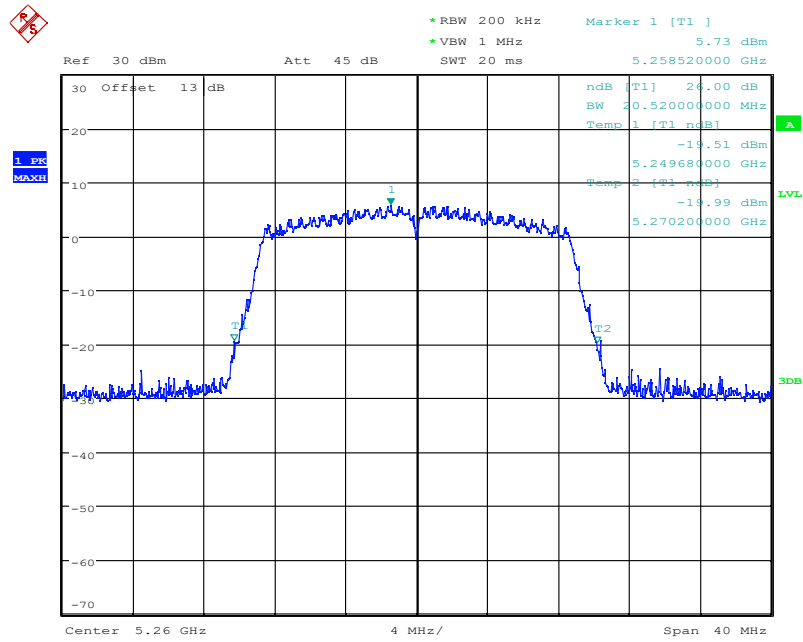
Date: 1.JAN.2024 14:46:39

Fig.12 26dB Emission Bandwidth (802.11n-HT20, 5200MHz)



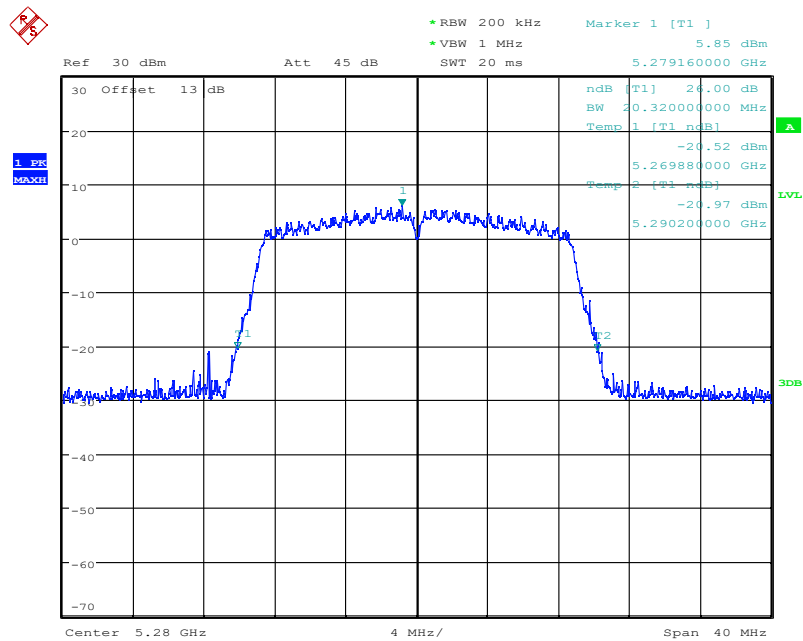
Date: 1.JAN.2024 14:47:01

Fig.13 26dB Emission Bandwidth (802.11n-HT20, 5240MHz)



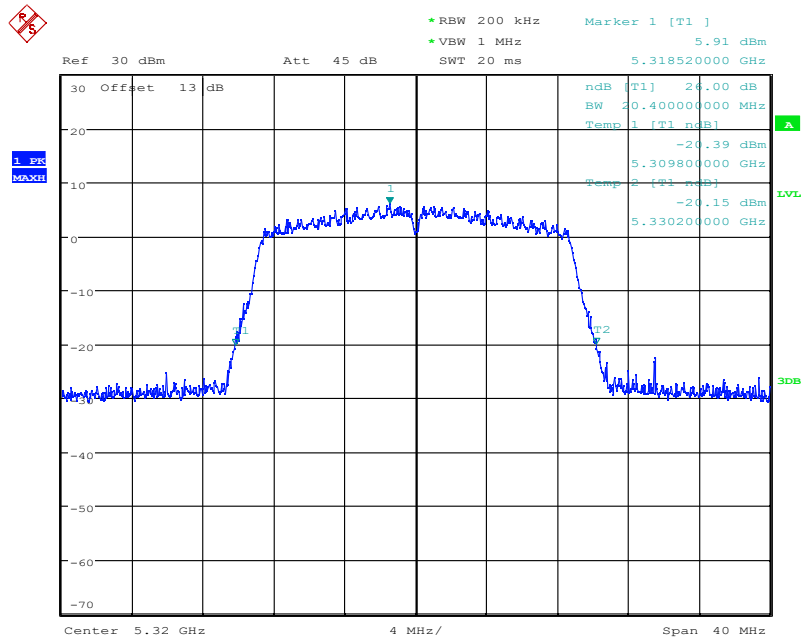
Date: 1.JAN.2024 14:47:25

Fig.14 26dB Emission Bandwidth (802.11n-HT20, 5260MHz)



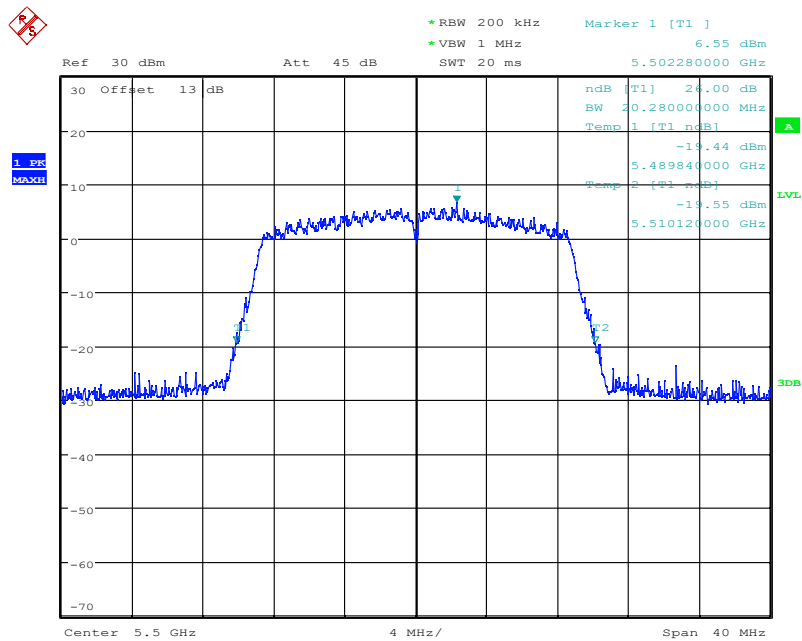
Date: 1.JAN.2024 14:47:46

Fig.15 26dB Emission Bandwidth (802.11n-HT20, 5280MHz)



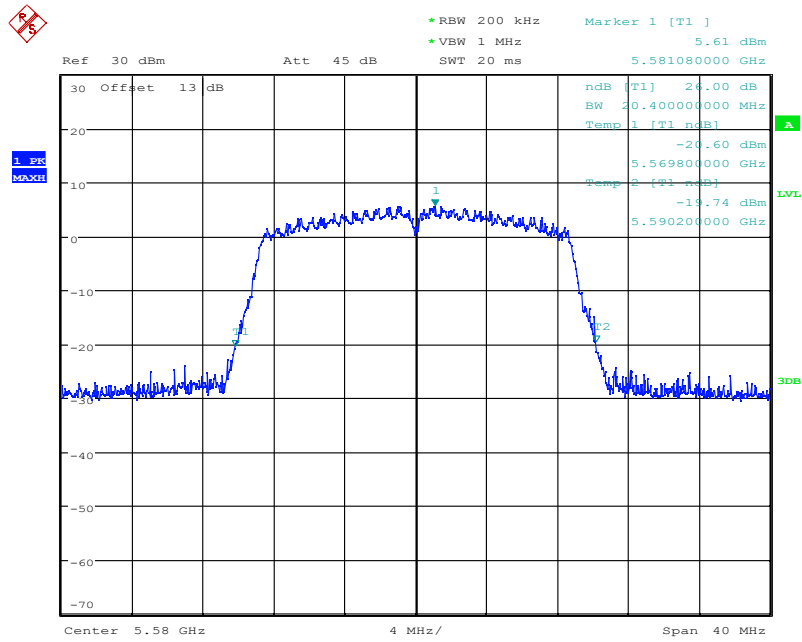
Date: 1.JAN.2024 14:48:07

Fig.16 26dB Emission Bandwidth (802.11n-HT20, 5320MHz)



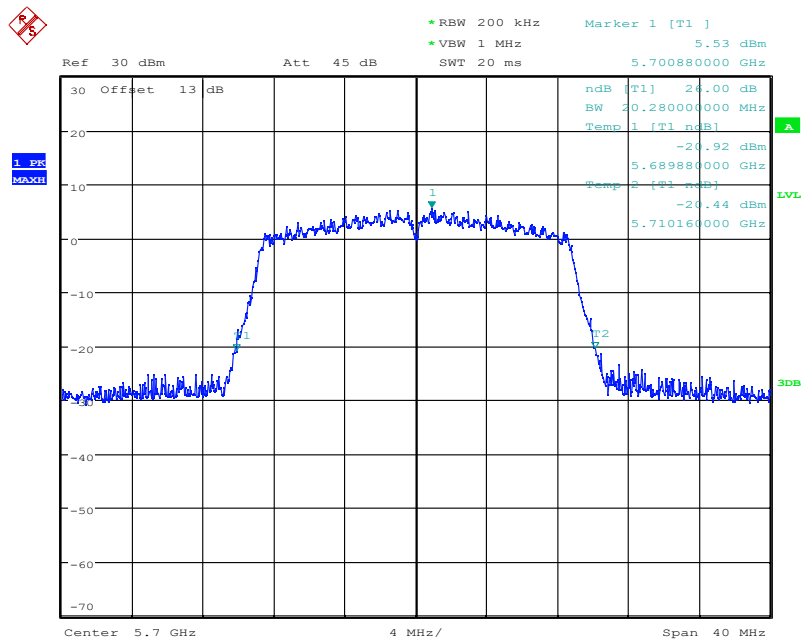
Date: 1.JAN.2024 14:48:41

Fig.17 26dB Emission Bandwidth (802.11n-HT20, 5500MHz)



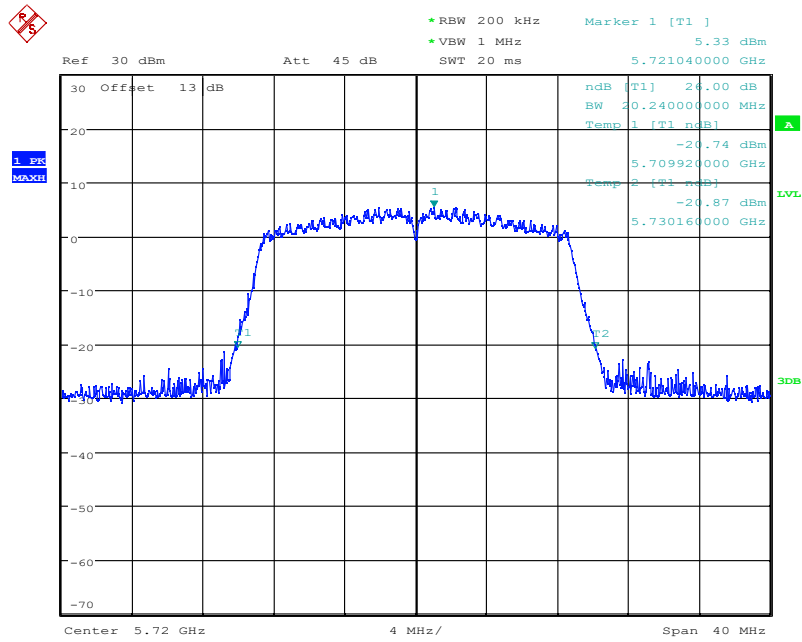
Date: 1.JAN.2024 14:49:06

Fig.18 26dB Emission Bandwidth (802. 11n-HT20, 5580MHz)



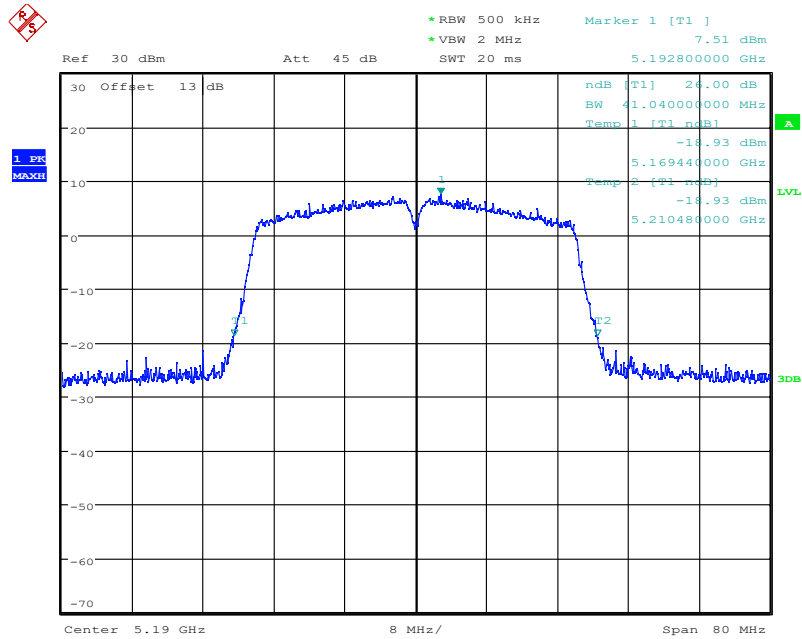
Date: 1.JAN.2024 14:49:29

Fig.19 26dB Emission Bandwidth (802. 11n-HT20, 5700MHz)



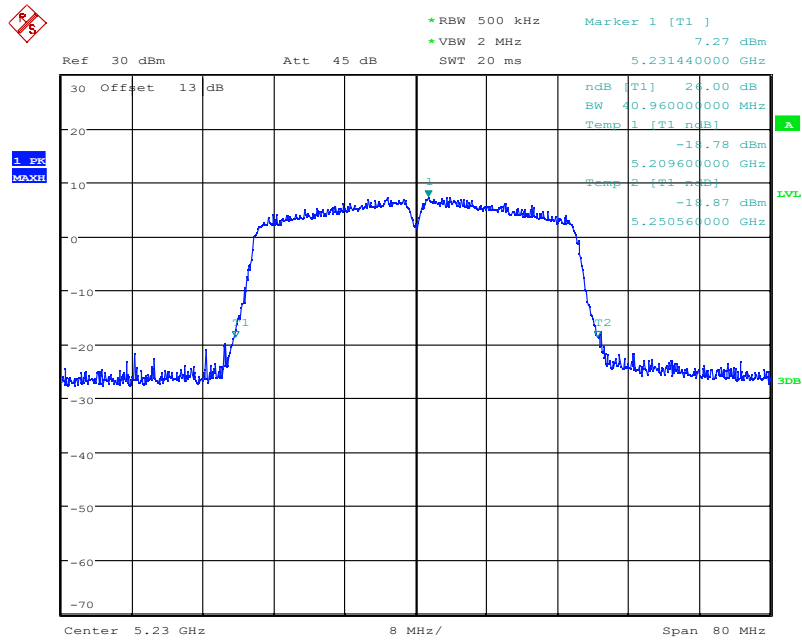
Date: 1.JAN.2024 14:49:56

Fig.20 26dB Emission Bandwidth (802. 11n-HT20, 5720MHz)



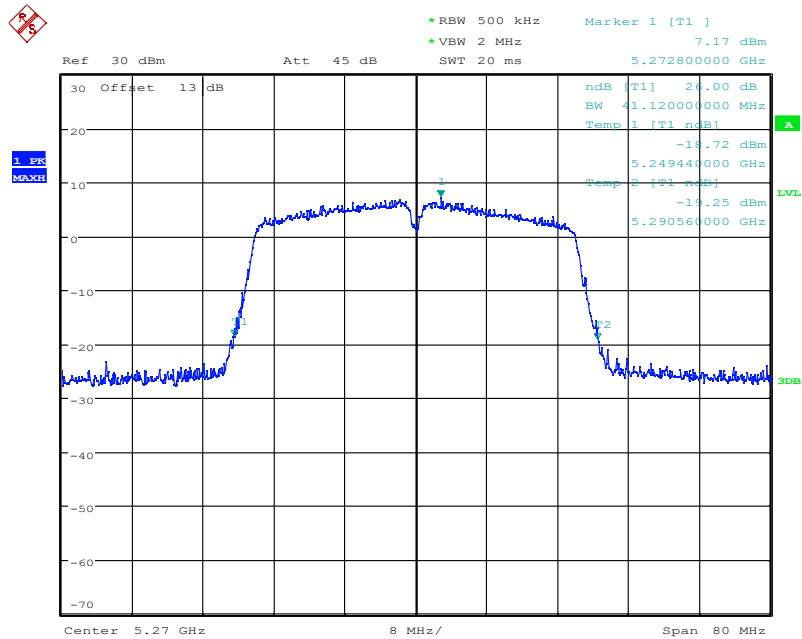
Date: 25.DEC.2023 13:43:15

Fig.21 26dB Emission Bandwidth (802.11n-HT40, 5190MHz)



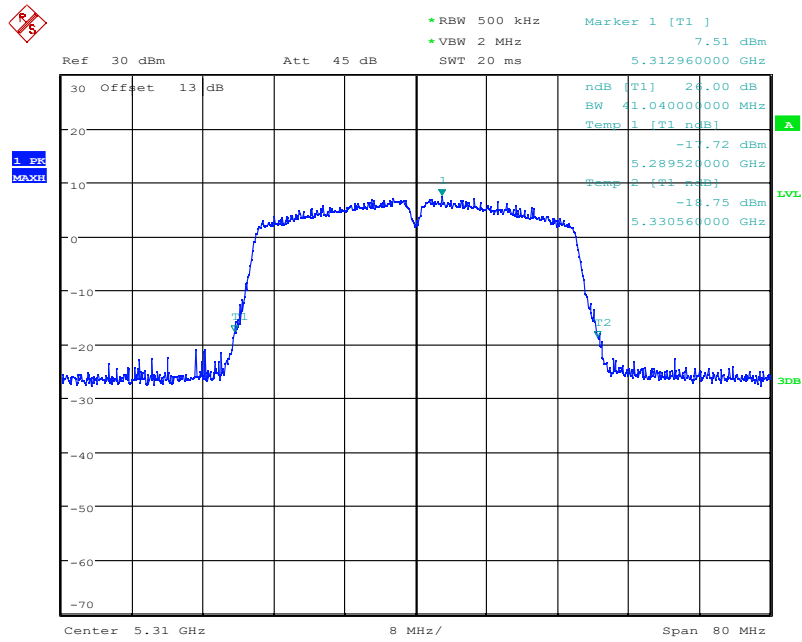
Date: 25.DEC.2023 13:46:17

Fig.22 26dB Emission Bandwidth (802.11n-HT40, 5230MHz)



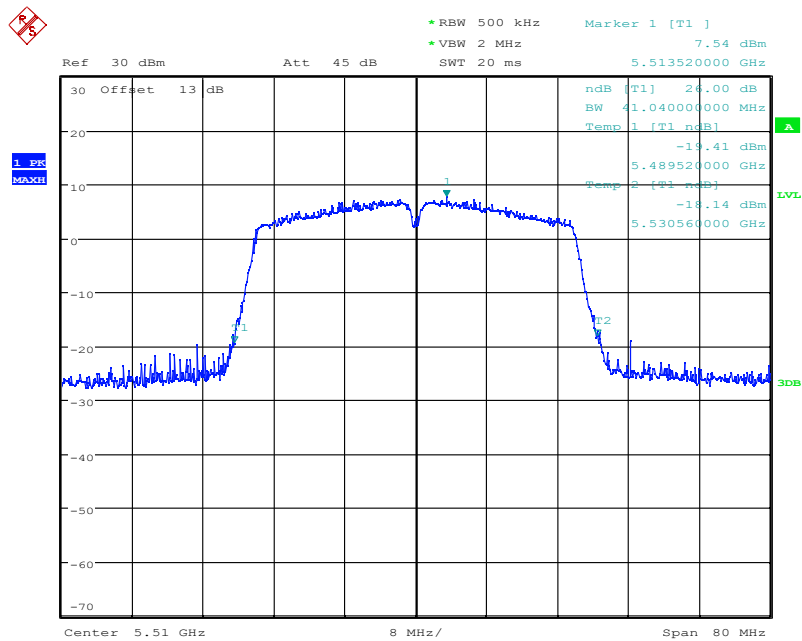
Date: 25.DEC.2023 13:49:15

Fig.23 26dB Emission Bandwidth (802.11n-HT40, 5270MHz)



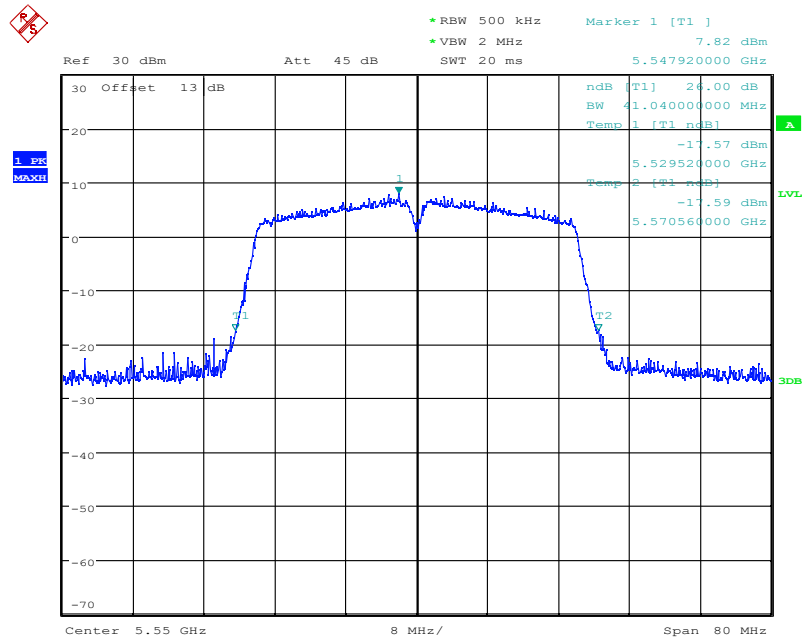
Date: 25.DEC.2023 13:49:36

Fig.24 26dB Emission Bandwidth (802.11n-HT40, 5310MHz)



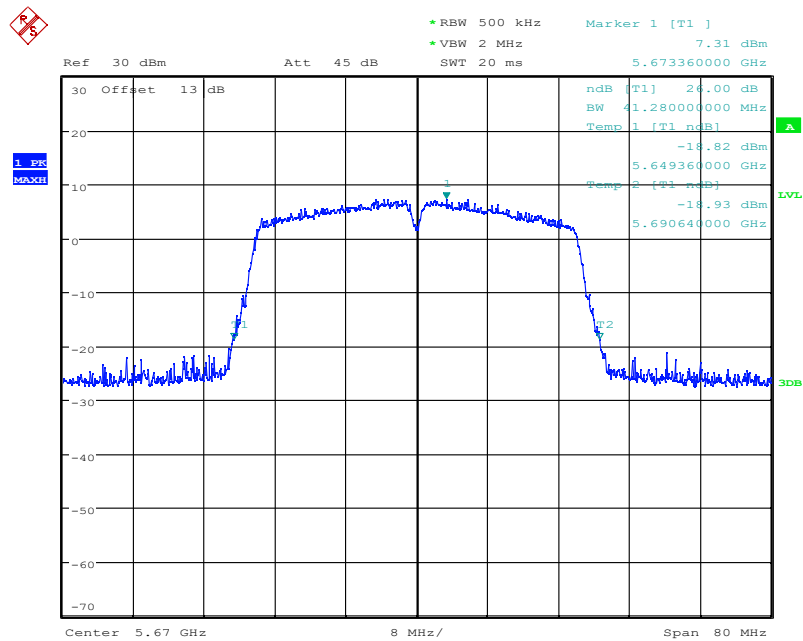
Date: 25.DEC.2023 13:53:56

Fig.25 26dB Emission Bandwidth (802.11n-HT40, 5510MHz)



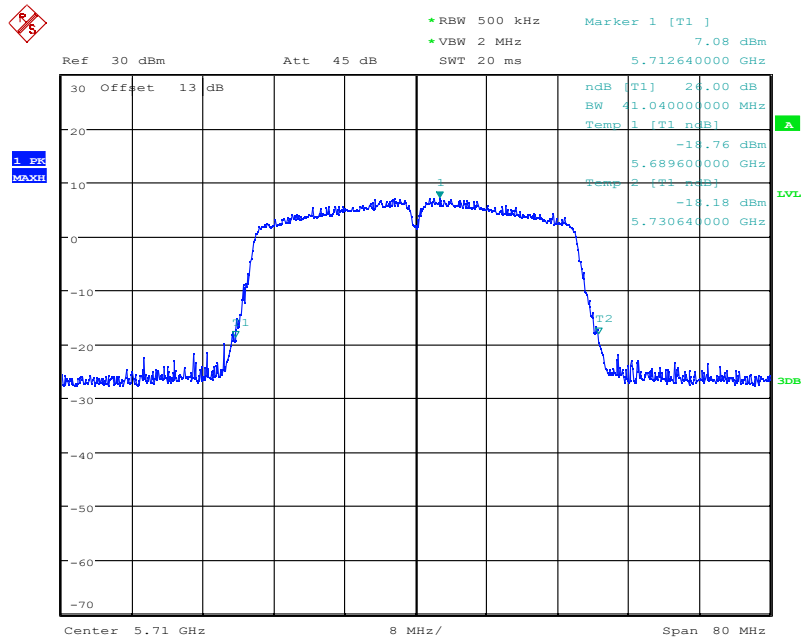
Date: 25.DEC.2023 13:57:06

Fig.26 26dB Emission Bandwidth (802. 11n-HT40, 5550MHz)



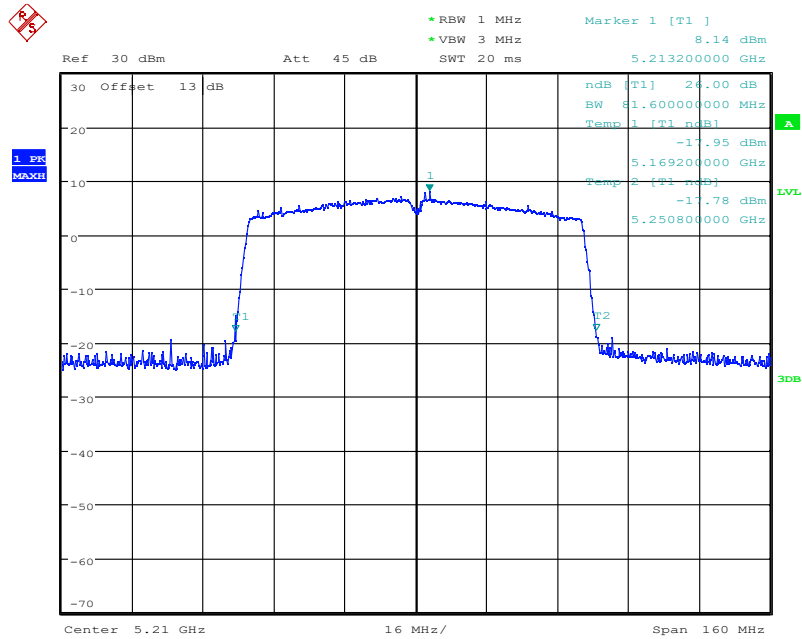
Date: 25.DEC.2023 13:57:34

Fig.27 26dB Emission Bandwidth (802. 11n-HT40, 5670MHz)



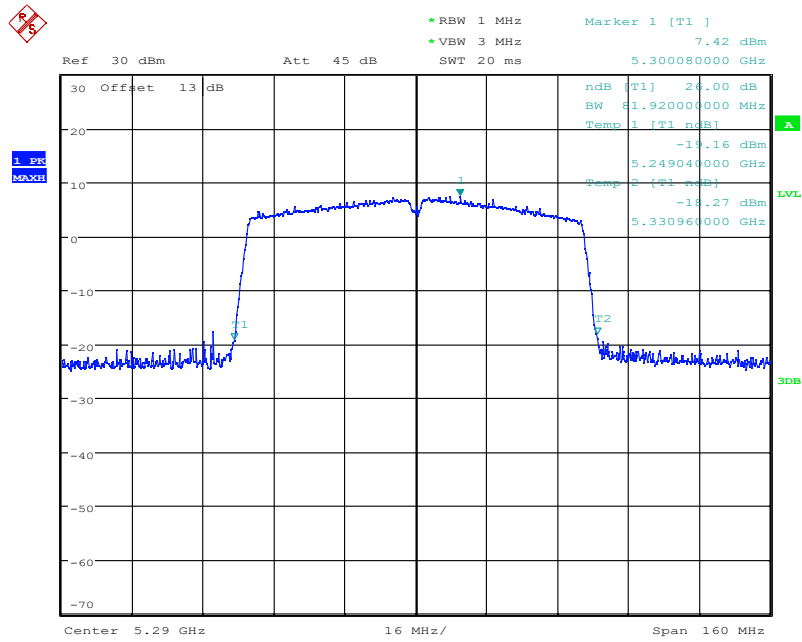
Date: 25.DEC.2023 14:00:33

Fig.28 26dB Emission Bandwidth (802. 11n-HT40, 5710MHz)



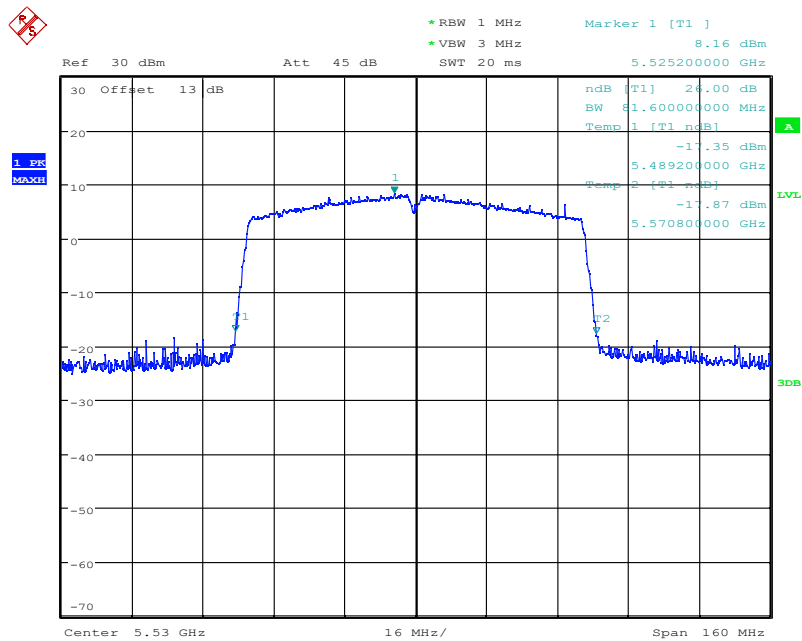
Date: 25.DEC.2023 14:02:12

Fig.29 26dB Emission Bandwidth (802. 11ac-VHT80, 5210MHz)



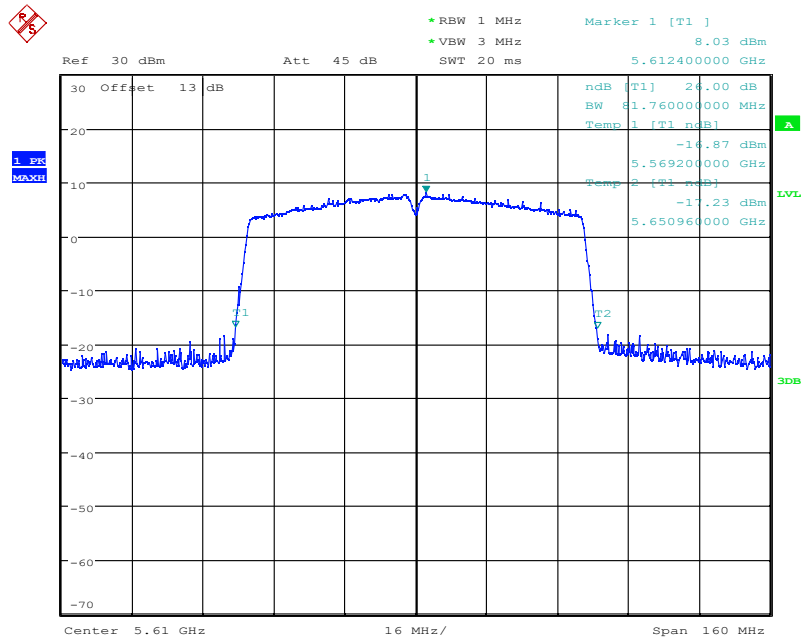
Date: 25.DEC.2023 14:02:34

Fig.30 26dB Emission Bandwidth (802. 11ac-VHT80, 5290MHz)



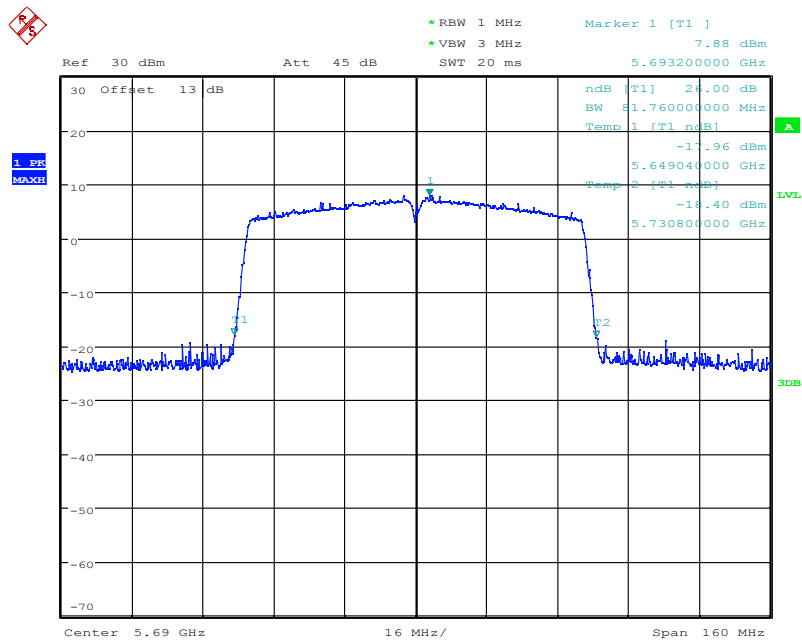
Date: 25.DEC.2023 14:06:09

Fig.31 26dB Emission Bandwidth (802. 11ac-VHT80, 5530MHz)



Date: 25.DEC.2023 14:09:08

Fig.32 26dB Emission Bandwidth (802. 11ac-VHT80, 5610MHz)



Date: 25.DEC.2023 14:09:29

Fig.33 26dB Emission Bandwidth (802. 11ac-VHT80, 5690MHz)

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.

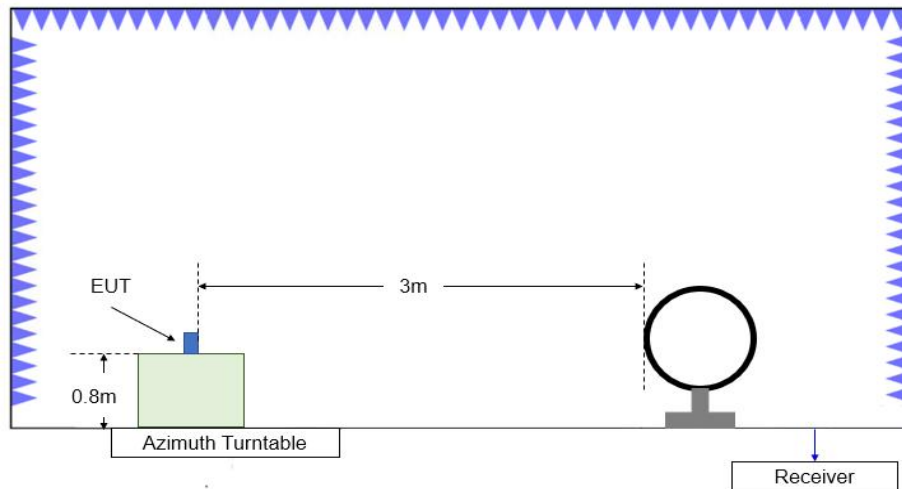
In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

Frequency (MHz)	Field strength(μ V/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

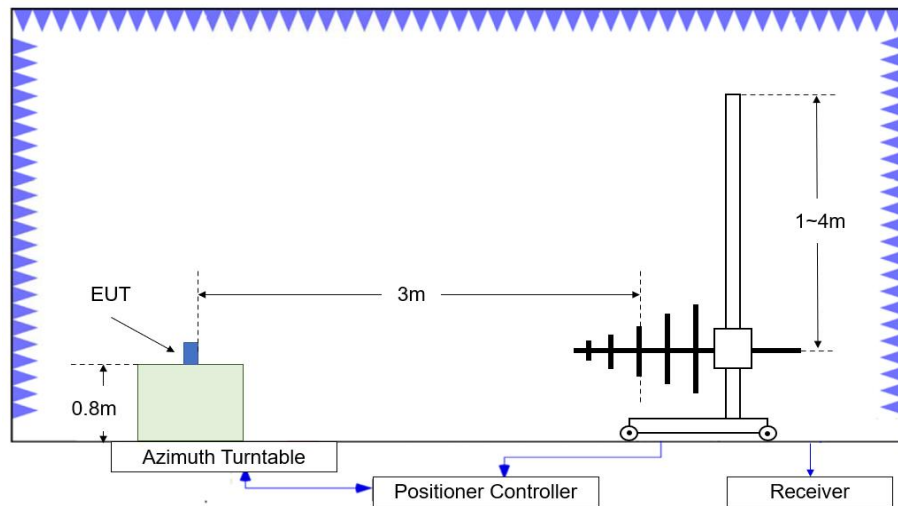
Frequency of emission (MHz)	Field strength (μ V/m)	Field strength (dBuV/m)	Measurement distance (m)
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

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).

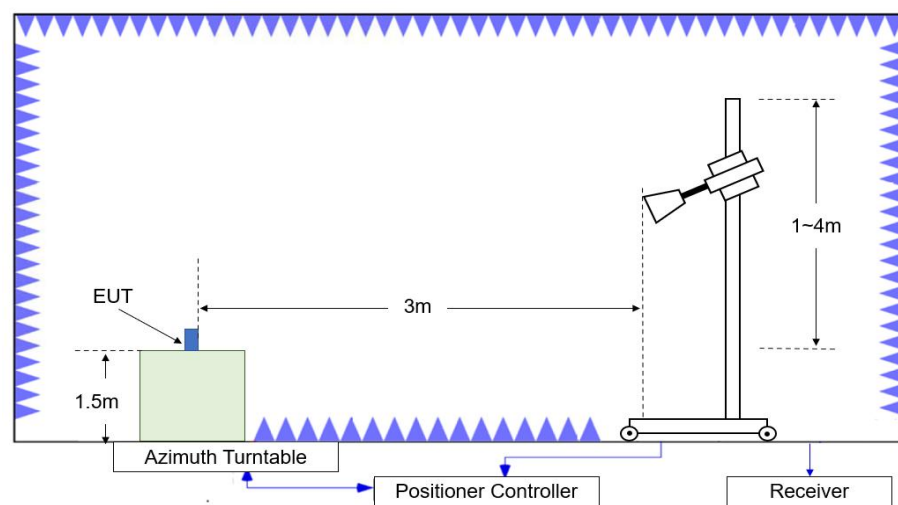
A.5.2 Test setup



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 C63.10 and 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 (dB μ V/m) = $P_{\text{measurement}}$ (dB μ V) + Cable Loss(dB) + Antenna Factor (dB/m)

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

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

$$E = \text{EIRP} - 20 \log(D) + 104.77$$

Where:

E is the field strength in dB μ V/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 10th harmonic of highest fundamental frequency or 40GHz, whichever is lower.
7. No spurious emissions were detected within 20dB of the limit below 30MHz. OFS and semi-chamber comparison testing had been performed and the result came out very similar. (KDB 414788)

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)
17937.300	41.69	-29.59	45.95	25.33	54.00	12.31	H
17953.800	41.63	-29.59	45.95	25.27	54.00	12.37	V
12308.967	38.18	-32.12	39.00	31.30	54.00	15.82	H
12306.767	38.00	-32.12	39.00	31.12	54.00	16.00	H
5148.910	47.39	-28.00	34.00	41.39	54.00	6.61	H
5149.930	46.79	-28.00	34.00	40.79	54.00	7.21	H

Channel 40

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)
17928.500	41.33	-29.59	45.95	24.97	54.00	12.67	H
17978.000	41.33	-29.59	45.95	24.97	54.00	12.67	H
12332.067	38.43	-32.39	38.95	31.87	54.00	15.57	H
12332.433	38.06	-32.39	38.95	31.50	54.00	15.94	V
8384.900	33.98	-34.42	37.30	31.10	54.00	20.02	H
8329.533	33.84	-34.93	37.20	31.57	54.00	20.16	H

Channel 48

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)
17947.567	41.55	-29.59	45.95	25.19	54.00	12.45	H
17975.433	41.45	-29.59	45.95	25.09	54.00	12.55	H
12329.867	38.57	-32.39	38.95	32.01	54.00	15.43	H
12311.533	38.07	-32.12	39.00	31.19	54.00	15.93	H
9054.800	34.41	-34.00	37.80	30.61	54.00	19.59	H
9142.433	34.11	-34.20	37.70	30.61	54.00	19.89	V

Channel 52

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)
17980.933	42.69	-29.59	45.95	26.33	54.00	11.31	V
17977.267	42.06	-29.59	45.95	25.70	54.00	11.94	H
12333.167	39.59	-32.39	38.95	33.03	54.00	14.41	V
12329.867	38.61	-32.39	38.95	32.05	54.00	15.39	V
9171.400	35.18	-34.47	37.70	31.95	54.00	18.82	V
9158.933	34.78	-34.47	37.70	31.55	54.00	19.22	H

Channel 56

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	42.00	-29.59	45.95	25.64	54.00	12.00	V
17976.533	41.80	-29.59	45.95	25.44	54.00	12.20	V
12332.067	38.06	-32.39	38.95	31.50	54.00	15.94	H
12313.733	38.01	-32.12	39.00	31.13	54.00	15.99	H
8353.000	34.22	-34.93	37.20	31.95	54.00	19.78	V
8316.700	34.20	-34.84	37.10	31.93	54.00	19.80	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)
17975.433	41.60	-29.59	45.95	25.24	54.00	12.40	H
17975.800	41.60	-29.59	45.95	25.24	54.00	12.40	H
12330.967	38.40	-32.39	38.95	31.84	54.00	15.60	H
12330.600	38.16	-32.39	38.95	31.60	54.00	15.84	V
5351.672	50.55	-27.82	34.20	44.17	54.00	3.45	H
5350.136	50.51	-27.82	34.20	44.13	54.00	3.49	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)
17977.633	41.41	-29.59	45.95	25.05	54.00	12.59	H
17975.067	40.86	-29.59	45.95	24.50	54.00	13.14	V
12329.867	38.20	-32.39	38.95	31.64	54.00	15.80	H
12327.667	37.85	-32.39	38.95	31.29	54.00	16.15	V
5458.405	44.74	-27.49	34.20	38.03	54.00	9.26	V
5459.807	44.59	-27.49	34.20	37.88	54.00	9.41	H

Channel 120

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)
17961.867	41.71	-29.59	45.95	25.35	54.00	12.29	V
17973.967	41.29	-29.59	45.95	24.93	54.00	12.71	H
12330.233	37.76	-32.39	38.95	31.20	54.00	16.24	V
12264.967	37.55	-32.37	38.95	30.97	54.00	16.45	H
9134.733	33.27	-34.20	37.70	29.77	54.00	20.73	V
8348.967	33.26	-34.93	37.20	30.99	54.00	20.74	H

Channel 140

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)
17976.533	41.07	-29.59	45.95	24.71	54.00	12.93	H
17978.733	41.05	-29.59	45.95	24.69	54.00	12.95	V
12310.800	37.49	-32.12	39.00	30.61	54.00	16.51	H
12265.700	37.46	-32.37	38.95	30.88	54.00	16.54	V
8348.967	33.34	-34.93	37.20	31.07	54.00	20.66	V
9127.767	33.22	-34.20	37.70	29.72	54.00	20.78	H

Channel 144

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)
17937.667	40.94	-29.59	45.95	24.58	54.00	13.06	V
17947.567	40.91	-29.59	45.95	24.55	54.00	13.09	H
12264.600	37.21	-32.37	38.95	30.63	54.00	16.79	V
12309.333	37.13	-32.12	39.00	30.25	54.00	16.87	H
9135.467	33.34	-34.20	37.70	29.84	54.00	20.66	V
9049.667	33.20	-34.00	37.80	29.40	54.00	20.80	V

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)
17940.600	42.11	-29.59	45.95	25.75	54.00	11.89	V
17948.667	41.42	-29.59	45.95	25.06	54.00	12.58	V
12331.333	38.46	-32.39	38.95	31.90	54.00	15.54	V
12332.433	38.12	-32.39	38.95	31.56	54.00	15.88	V
5149.390	44.01	-28.00	34.00	38.01	54.00	9.99	V
5148.700	43.66	-28.00	34.00	37.66	54.00	10.34	V

Channel 40

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)
17980.933	41.25	-29.59	45.95	24.89	54.00	12.75	V
17910.167	41.08	-29.59	45.95	24.72	54.00	12.92	V
12300.900	37.74	-32.12	39.00	30.86	54.00	16.26	V
12332.433	37.69	-32.39	38.95	31.13	54.00	16.31	V
9137.667	34.03	-34.20	37.70	30.53	54.00	19.97	V
9145.733	33.84	-34.20	37.70	30.34	54.00	20.16	V

Channel 48

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)
17942.433	41.44	-29.59	45.95	25.08	54.00	12.56	V
17943.167	41.23	-29.59	45.95	24.87	54.00	12.77	V
12331.333	38.03	-32.39	38.95	31.47	54.00	15.97	V
12330.967	37.98	-32.39	38.95	31.42	54.00	16.02	H
8287.000	34.06	-34.84	37.10	31.79	54.00	19.94	V
9129.233	33.84	-34.20	37.70	30.34	54.00	20.16	H

Channel 52

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)
17973.967	41.60	-29.59	45.95	25.24	54.00	12.40	H
17978.367	41.43	-29.59	45.95	25.07	54.00	12.57	H
12309.333	38.05	-32.12	39.00	31.17	54.00	15.95	V
12332.800	38.01	-32.39	38.95	31.45	54.00	15.99	V
9154.167	33.81	-34.20	37.70	30.31	54.00	20.19	H
8489.767	33.75	-34.28	37.30	30.73	54.00	20.25	H

Channel 56

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)
17980.567	41.70	-29.59	45.95	25.34	54.00	12.30	V
17974.333	41.65	-29.59	45.95	25.29	54.00	12.35	V
12332.433	38.37	-32.39	38.95	31.81	54.00	15.63	H
12309.700	38.30	-32.12	39.00	31.42	54.00	15.70	V
9145.367	34.00	-34.20	37.70	30.50	54.00	20.00	H
9153.433	33.92	-34.20	37.70	30.42	54.00	20.08	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)
17953.433	41.76	-29.59	45.95	25.40	54.00	12.24	H
17983.867	41.56	-29.59	45.95	25.20	54.00	12.44	H
12305.667	37.67	-32.12	39.00	30.79	54.00	16.33	V
12308.967	37.65	-32.12	39.00	30.77	54.00	16.35	H
5350.248	47.20	-27.82	34.20	40.82	54.00	6.80	V
5350.792	47.20	-27.82	34.20	40.82	54.00	6.80	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)
17980.200	40.92	-29.59	45.95	24.56	54.00	13.08	H
17977.267	40.82	-29.59	45.95	24.46	54.00	13.18	H
12305.667	37.34	-32.12	39.00	30.46	54.00	16.66	V
12306.033	37.11	-32.12	39.00	30.23	54.00	16.89	V
5459.328	45.17	-27.49	34.20	38.46	54.00	8.83	H
5459.658	44.77	-27.49	34.20	38.06	54.00	9.23	V

Channel 120

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)
17950.867	41.06	-29.59	45.95	24.70	54.00	12.94	V
17979.467	40.93	-29.59	45.95	24.57	54.00	13.07	H
12307.133	37.62	-32.12	39.00	30.74	54.00	16.38	V
12304.567	37.55	-32.12	39.00	30.67	54.00	16.45	H
9124.833	33.27	-34.20	37.70	29.77	54.00	20.73	V
9140.600	33.22	-34.20	37.70	29.72	54.00	20.78	H

Channel 140

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)
17973.233	41.16	-29.59	45.95	24.80	54.00	12.84	V
17953.067	41.13	-29.59	45.95	24.77	54.00	12.87	V
12332.433	37.51	-32.39	38.95	30.95	54.00	16.49	H
12263.133	37.42	-32.37	38.95	30.84	54.00	16.58	H
9149.033	33.49	-34.20	37.70	29.99	54.00	20.51	V
8361.433	33.08	-34.93	37.20	30.81	54.00	20.92	H

Channel 144

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)
17951.967	41.31	-29.59	45.95	24.95	54.00	12.69	H
17957.467	41.02	-29.59	45.95	24.66	54.00	12.98	H
12333.167	37.38	-32.39	38.95	30.82	54.00	16.62	H
12311.167	37.24	-32.12	39.00	30.36	54.00	16.76	V
9140.967	33.38	-34.20	37.70	29.88	54.00	20.62	H
9162.233	33.20	-34.47	37.70	29.97	54.00	20.80	V

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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)
17951.600	40.93	-29.59	45.95	24.57	54.00	13.07	H
17942.800	40.91	-29.59	45.95	24.55	54.00	13.09	V
12308.233	37.74	-32.12	39.00	30.86	54.00	16.26	H
12310.433	37.44	-32.12	39.00	30.56	54.00	16.56	V
5149.440	48.56	-28.00	34.00	42.56	54.00	5.44	H
5149.870	48.46	-28.00	34.00	42.46	54.00	5.54	H

Channel 46

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)
17949.033	41.09	-29.59	45.95	24.73	54.00	12.91	V
17950.133	41.08	-29.59	45.95	24.72	54.00	12.92	V
12332.800	37.22	-32.39	38.95	30.66	54.00	16.78	H
12311.900	37.18	-32.12	39.00	30.30	54.00	16.82	V
8213.300	33.83	-34.94	36.90	31.87	54.00	20.17	H
9130.333	33.18	-34.20	37.70	29.68	54.00	20.82	V

Channel 54

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)
17985.700	41.55	-29.59	45.95	25.19	54.00	12.45	H
17971.033	41.35	-29.59	45.95	24.99	54.00	12.65	V
12302.000	38.36	-32.12	39.00	31.48	54.00	15.64	H
12305.300	37.86	-32.12	39.00	30.98	54.00	16.14	H
9082.667	33.69	-34.52	37.70	30.51	54.00	20.31	H
9129.600	33.64	-34.20	37.70	30.14	54.00	20.36	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)
17946.100	41.24	-29.59	45.95	24.88	54.00	12.76	H
17979.100	41.22	-29.59	45.95	24.86	54.00	12.78	V
12306.400	37.84	-32.12	39.00	30.96	54.00	16.16	H
12310.433	37.82	-32.12	39.00	30.94	54.00	16.18	H
5350.056	50.84	-27.82	34.20	44.46	54.00	3.16	V
5351.616	50.35	-27.82	34.20	43.97	54.00	3.65	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)
17957.100	41.56	-29.59	45.95	25.20	54.00	12.44	H
17976.167	41.09	-29.59	45.95	24.73	54.00	12.91	V
12307.133	37.54	-32.12	39.00	30.66	54.00	16.46	V
12308.233	37.39	-32.12	39.00	30.51	54.00	16.61	H
5459.252	48.54	-27.49	34.20	41.83	54.00	5.46	V
5459.898	48.28	-27.49	34.20	41.57	54.00	5.72	H

Channel 118

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)
17951.600	42.03	-29.59	45.95	25.67	54.00	11.97	V
17945.367	41.18	-29.59	45.95	24.82	54.00	12.82	H
12333.167	37.98	-32.39	38.95	31.42	54.00	16.02	H
12330.600	37.90	-32.39	38.95	31.34	54.00	16.10	H
9158.567	33.58	-34.47	37.70	30.35	54.00	20.42	H
8496.367	33.40	-34.28	37.30	30.38	54.00	20.60	V

Channel 134

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)
17953.433	40.83	-29.59	45.95	24.47	54.00	13.17	H
17951.600	40.70	-29.59	45.95	24.34	54.00	13.30	H
12265.700	37.67	-32.37	38.95	31.09	54.00	16.33	V
12328.767	37.29	-32.39	38.95	30.73	54.00	16.71	V
9090.733	33.24	-34.52	37.70	30.06	54.00	20.76	H
8355.933	32.95	-34.93	37.20	30.68	54.00	21.05	H

Channel 142

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)
17976.900	41.06	-29.59	45.95	24.70	54.00	12.94	H
17949.033	41.03	-29.59	45.95	24.67	54.00	12.97	H
12304.933	37.70	-32.12	39.00	30.82	54.00	16.30	V
12332.433	37.68	-32.39	38.95	31.12	54.00	16.32	V
9126.300	33.42	-34.20	37.70	29.92	54.00	20.58	V
8494.900	33.31	-34.28	37.30	30.29	54.00	20.69	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)
17974.700	41.50	-29.59	45.95	25.14	54.00	12.50	V
17972.867	41.36	-29.59	45.95	25.00	54.00	12.64	H
12303.100	38.04	-32.12	39.00	31.16	54.00	15.96	H
12331.700	37.80	-32.39	38.95	31.24	54.00	16.20	V
5148.830	45.02	-28.00	34.00	39.02	54.00	8.98	V
5149.610	44.32	-28.00	34.00	38.32	54.00	9.68	H

Channel 40

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)
17909.433	41.16	-29.59	45.95	24.80	54.00	12.84	V
17979.467	40.80	-29.59	45.95	24.44	54.00	13.20	V
12332.800	37.79	-32.39	38.95	31.23	54.00	16.21	V
12309.333	37.64	-32.12	39.00	30.76	54.00	16.36	V
9140.233	33.93	-34.20	37.70	30.43	54.00	20.07	V
9136.200	33.67	-34.20	37.70	30.17	54.00	20.33	H

Channel 48

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)
17974.333	41.46	-29.59	45.95	25.10	54.00	12.54	V
17975.067	41.21	-29.59	45.95	24.85	54.00	12.79	H
12332.433	37.49	-32.39	38.95	30.93	54.00	16.51	H
12332.800	37.25	-32.39	38.95	30.69	54.00	16.75	V
9136.200	33.36	-34.20	37.70	29.86	54.00	20.64	H
9120.800	33.31	-34.20	37.70	29.81	54.00	20.69	V

Channel 52

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)
17976.533	41.35	-29.59	45.95	24.99	54.00	12.65	H
17978.367	41.31	-29.59	45.95	24.95	54.00	12.69	H
12314.100	38.02	-32.12	39.00	31.14	54.00	15.98	H
12313.367	37.93	-32.12	39.00	31.05	54.00	16.07	H
9142.800	34.07	-34.20	37.70	30.57	54.00	19.93	V
9148.300	34.05	-34.20	37.70	30.55	54.00	19.95	V

Channel 56

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)
17956.367	41.50	-29.59	45.95	25.14	54.00	12.50	H
17951.233	41.42	-29.59	45.95	25.06	54.00	12.58	V
12332.067	37.89	-32.39	38.95	31.33	54.00	16.11	H
12331.333	37.86	-32.39	38.95	31.30	54.00	16.14	V
9136.200	33.84	-34.20	37.70	30.34	54.00	20.16	H
9089.633	33.64	-34.52	37.70	30.46	54.00	20.36	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)
17979.467	41.55	-29.59	45.95	25.19	54.00	12.45	V
17951.600	41.30	-29.59	45.95	24.94	54.00	12.70	H
12311.533	37.85	-32.12	39.00	30.97	54.00	16.15	H
12296.867	37.69	-32.12	39.00	30.81	54.00	16.31	V
5350.096	49.50	-27.82	34.20	43.12	54.00	4.50	H
5350.088	48.49	-27.82	34.20	42.11	54.00	5.51	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)
17975.433	41.21	-29.59	45.95	24.85	54.00	12.79	V
17944.267	41.16	-29.59	45.95	24.80	54.00	12.84	V
12270.100	37.32	-32.37	38.95	30.74	54.00	16.68	V
12304.567	37.20	-32.12	39.00	30.32	54.00	16.80	H
5459.102	44.87	-27.49	34.20	38.16	54.00	9.13	V
5458.555	44.50	-27.49	34.20	37.79	54.00	9.50	H

Channel 120

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)
17949.033	40.99	-29.59	45.95	24.63	54.00	13.01	V
17951.233	40.79	-29.59	45.95	24.43	54.00	13.21	V
12331.333	37.74	-32.39	38.95	31.18	54.00	16.26	V
12308.967	37.66	-32.12	39.00	30.78	54.00	16.34	H
9143.900	33.56	-34.20	37.70	30.06	54.00	20.44	H
9127.033	33.38	-34.20	37.70	29.88	54.00	20.62	V

Channel 140

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)
17982.033	40.71	-29.59	45.95	24.35	54.00	13.29	H
17958.567	40.63	-29.59	45.95	24.27	54.00	13.37	H
12308.233	37.59	-32.12	39.00	30.71	54.00	16.41	V
12331.333	37.36	-32.39	38.95	30.80	54.00	16.64	H
9158.567	33.40	-34.47	37.70	30.17	54.00	20.60	H
9150.133	33.12	-34.20	37.70	29.62	54.00	20.88	H

Channel 144

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)
17976.900	41.06	-29.59	45.95	24.70	54.00	12.94	H
17949.033	41.03	-29.59	45.95	24.67	54.00	12.97	H
12304.933	37.70	-32.12	39.00	30.82	54.00	16.30	V
12332.433	37.68	-32.39	38.95	31.12	54.00	16.32	V
9126.300	33.42	-34.20	37.70	29.92	54.00	20.58	V
8494.900	33.31	-34.28	37.30	30.29	54.00	20.69	H

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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)
17932.167	40.77	-29.59	45.95	24.41	54.00	13.23	H
17957.100	40.66	-29.59	45.95	24.30	54.00	13.34	V
12330.967	37.54	-32.39	38.95	30.98	54.00	16.46	H
12304.200	37.45	-32.12	39.00	30.57	54.00	16.55	V
5148.880	46.69	-28.00	34.00	40.69	54.00	7.31	H
5146.460	46.41	-27.79	34.00	40.20	54.00	7.59	H

Channel 46

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)
17957.100	40.88	-29.59	45.95	24.52	54.00	13.12	V
17949.400	40.79	-29.59	45.95	24.43	54.00	13.21	H
12332.433	37.18	-32.39	38.95	30.62	54.00	16.82	H
12332.800	36.92	-32.39	38.95	30.36	54.00	17.08	H
9076.433	33.32	-34.52	37.70	30.14	54.00	20.68	H
9112.000	33.24	-34.20	37.70	29.74	54.00	20.76	V

Channel 54

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)
17948.300	41.17	-29.59	45.95	24.81	54.00	12.83	V
17981.300	41.16	-29.59	45.95	24.80	54.00	12.84	V
12328.400	38.06	-32.39	38.95	31.50	54.00	15.94	H
12331.333	37.89	-32.39	38.95	31.33	54.00	16.11	H
9172.867	33.76	-34.47	37.70	30.53	54.00	20.24	H
9134.000	33.56	-34.20	37.70	30.06	54.00	20.44	V

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)
17956.000	41.23	-29.59	45.95	24.87	54.00	12.77	V
17955.267	41.19	-29.59	45.95	24.83	54.00	12.81	V
12309.700	37.66	-32.12	39.00	30.78	54.00	16.34	H
12308.600	37.61	-32.12	39.00	30.73	54.00	16.39	V
5350.576	51.00	-27.82	34.20	44.62	54.00	3.00	H
5350.528	50.97	-27.82	34.20	44.59	54.00	3.03	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)
17977.633	41.17	-29.59	45.95	24.81	54.00	12.83	V
17976.533	40.98	-29.59	45.95	24.62	54.00	13.02	H
12332.433	37.93	-32.39	38.95	31.37	54.00	16.07	H
12330.967	37.23	-32.39	38.95	30.67	54.00	16.77	V
5459.807	48.67	-27.49	34.20	41.96	54.00	5.33	V
5459.710	48.62	-27.49	34.20	41.91	54.00	5.38	V

Channel 118

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)
17946.833	41.11	-29.59	45.95	24.75	54.00	12.89	H
17948.667	40.80	-29.59	45.95	24.44	54.00	13.20	H
12332.433	37.39	-32.39	38.95	30.83	54.00	16.61	V
12309.700	37.28	-32.12	39.00	30.40	54.00	16.72	V
9141.333	33.13	-34.20	37.70	29.63	54.00	20.87	H
8489.033	33.11	-34.28	37.30	30.09	54.00	20.89	H

Channel 134

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)
17948.300	41.30	-29.59	45.95	24.94	54.00	12.70	V
17949.400	40.89	-29.59	45.95	24.53	54.00	13.11	H
12309.700	37.23	-32.12	39.00	30.35	54.00	16.77	V
12304.933	37.07	-32.12	39.00	30.19	54.00	16.93	V
9129.600	33.34	-34.20	37.70	29.84	54.00	20.66	V
9163.333	32.93	-34.47	37.70	29.70	54.00	21.07	V

Channel 142

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)
17948.667	40.99	-29.59	45.95	24.63	54.00	13.01	H
17977.267	40.99	-29.59	45.95	24.63	54.00	13.01	H
12330.967	37.72	-32.39	38.95	31.16	54.00	16.28	H
12310.067	37.40	-32.12	39.00	30.52	54.00	16.60	H
9166.267	33.73	-34.47	37.70	30.50	54.00	20.27	H
9139.500	33.41	-34.20	37.70	29.91	54.00	20.59	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)
17949.767	41.49	-29.59	45.95	25.13	54.00	12.51	H
17952.333	41.49	-29.59	45.95	25.13	54.00	12.51	H
12307.133	38.17	-32.12	39.00	31.29	54.00	15.83	V
12311.167	38.03	-32.12	39.00	31.15	54.00	15.97	H
5147.030	52.17	-27.79	34.00	45.96	54.00	1.83	H
5148.840	52.08	-28.00	34.00	46.08	54.00	1.92	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)
17981.300	41.93	-29.59	45.95	25.57	54.00	12.07	H
17951.233	41.30	-29.59	45.95	24.94	54.00	12.70	H
12328.033	37.56	-32.39	38.95	31.00	54.00	16.44	V
12305.667	37.55	-32.12	39.00	30.67	54.00	16.45	H
5357.936	53.95	-27.82	34.20	47.57	54.00	0.05	V
5353.808	53.61	-27.82	34.20	47.23	54.00	0.39	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)
17946.467	41.38	-29.59	45.95	25.02	54.00	12.62	H
17981.667	41.08	-29.59	45.95	24.72	54.00	12.92	V
12306.400	37.51	-32.12	39.00	30.63	54.00	16.49	H
12332.433	37.42	-32.39	38.95	30.86	54.00	16.58	H
5458.075	52.10	-27.49	34.20	45.39	54.00	1.90	V
5453.365	51.68	-27.49	34.20	44.97	54.00	2.32	H

Channel 122

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)
17976.900	40.86	-29.59	45.95	24.50	54.00	13.14	H
17950.500	40.82	-29.59	45.95	24.46	54.00	13.18	H
12332.800	37.73	-32.39	38.95	31.17	54.00	16.27	V
12311.167	37.67	-32.12	39.00	30.79	54.00	16.33	H
9137.667	33.18	-34.20	37.70	29.68	54.00	20.82	H
9140.967	33.15	-34.20	37.70	29.65	54.00	20.85	H

Channel 138

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)
17980.567	41.18	-29.59	45.95	24.82	54.00	12.82	V
17976.167	41.14	-29.59	45.95	24.78	54.00	12.86	H
12309.700	37.52	-32.12	39.00	30.64	54.00	16.48	V
12308.967	37.42	-32.12	39.00	30.54	54.00	16.58	V
9147.933	33.67	-34.20	37.70	30.17	54.00	20.33	V
9134.000	33.24	-34.20	37.70	29.74	54.00	20.76	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)
17946.467	50.53	-29.59	45.95	34.17	74.00	23.47	H
17953.433	50.28	-29.59	45.95	33.92	74.00	23.72	V
12330.600	46.89	-32.39	38.95	40.33	74.00	27.11	H
12333.167	46.84	-32.39	38.95	40.28	74.00	27.16	V
5149.020	60.75	-28.00	34.00	54.75	74.00	13.25	H
5148.270	60.40	-27.79	34.00	54.19	74.00	13.60	H

Channel 40

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)
17978.367	49.65	-29.59	45.95	33.29	74.00	24.35	H
17979.100	49.64	-29.59	45.95	33.28	74.00	24.36	H
12301.633	46.93	-32.12	39.00	40.05	74.00	27.07	V
12328.400	46.17	-32.39	38.95	39.61	74.00	27.83	V
10246.100	43.55	-34.09	38.00	39.64	68.20	24.65	V
10233.267	43.13	-34.09	38.00	39.22	68.20	25.07	V

Channel 48

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)
17947.567	50.23	-29.59	45.95	33.87	74.00	23.77	V
17957.833	49.98	-29.59	45.95	33.62	74.00	24.02	V
12331.333	46.60	-32.39	38.95	40.04	74.00	27.40	V
12285.867	45.92	-32.12	39.00	39.04	74.00	28.08	H
8340.900	43.06	-34.93	37.20	40.79	74.00	30.94	H
10323.467	42.80	-33.88	38.00	38.68	68.20	25.40	H

Channel 52

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)
17134.300	50.39	-29.31	41.70	38.00	68.20	17.81	H
17984.600	50.38	-29.59	45.95	34.02	74.00	23.62	V
12332.800	47.23	-32.39	38.95	40.67	74.00	26.77	H
12331.333	46.87	-32.39	38.95	40.31	74.00	27.13	V
9935.167	44.15	-33.69	37.90	39.94	68.20	24.05	V
8358.133	44.03	-34.93	37.20	41.76	74.00	29.97	V

Channel 56

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)
17983.500	50.60	-29.59	45.95	34.24	74.00	23.40	V
17965.533	50.35	-29.59	45.95	33.99	74.00	23.65	V
12308.600	47.43	-32.12	39.00	40.55	74.00	26.57	V
12300.533	46.61	-32.12	39.00	39.73	74.00	27.39	H
9767.967	43.05	-33.67	38.00	38.72	68.20	25.15	H
10287.167	42.98	-33.82	38.00	38.80	68.20	25.22	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)
17954.900	50.19	-29.59	45.95	33.83	74.00	23.81	V
15979.667	50.00	-29.36	38.30	41.06	74.00	24.00	V
12307.133	46.41	-32.12	39.00	39.53	74.00	27.59	V
12332.800	46.33	-32.39	38.95	39.77	74.00	27.67	H
5353.696	63.38	-27.82	34.20	57.00	74.00	10.62	H
5350.656	62.51	-27.82	34.20	56.13	74.00	11.49	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)
17955.267	49.81	-29.59	45.95	33.45	74.00	24.19	V
16495.567	49.72	-29.90	39.00	40.62	68.20	18.48	V
12265.700	46.10	-32.37	38.95	39.52	74.00	27.90	H
12325.467	46.03	-32.12	39.00	39.15	74.00	27.97	V
5458.855	58.73	-27.49	34.20	52.02	74.00	15.27	H
5468.837	62.71	-27.49	34.20	56.00	68.20	5.49	H

Channel 120

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)
17972.133	49.64	-29.59	45.95	33.28	74.00	24.36	H
17095.067	49.57	-29.25	41.40	37.42	68.20	18.63	H
12330.967	46.44	-32.39	38.95	39.88	74.00	27.56	V
12324.367	46.13	-32.12	39.00	39.25	74.00	27.87	H
9620.200	42.57	-34.18	37.60	39.15	68.20	25.63	H
9112.367	42.22	-34.20	37.70	38.72	74.00	31.78	H

Channel 140

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)
17998.533	49.74	-29.59	45.95	33.38	74.00	24.26	V
17980.933	49.13	-29.59	45.95	32.77	74.00	24.87	H
12310.067	46.35	-32.12	39.00	39.47	74.00	27.65	H
12332.067	45.50	-32.39	38.95	38.94	74.00	28.50	V
5726.738	60.69	-27.47	34.10	54.06	68.20	7.51	V
5726.291	59.62	-27.47	34.10	52.99	68.20	8.58	V

Channel 144

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)
17955.633	49.92	-29.59	45.95	33.56	74.00	24.08	H
17979.833	49.45	-29.59	45.95	33.09	74.00	24.55	V
12333.167	46.22	-32.39	38.95	39.66	74.00	27.78	V
12313.000	44.96	-32.12	39.00	38.08	74.00	29.04	H
9600.400	42.42	-34.13	37.50	39.05	68.20	25.78	V
10152.600	42.01	-33.67	38.05	37.63	68.20	26.19	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)
17947.933	50.37	-29.59	45.95	34.01	74.00	23.63	V
17973.600	49.77	-29.59	45.95	33.41	74.00	24.23	V
12325.467	46.22	-32.12	39.00	39.34	74.00	27.78	V
12310.433	45.87	-32.12	39.00	38.99	74.00	28.13	V
5148.700	58.87	-28.00	34.00	52.87	74.00	15.13	V
5149.610	58.48	-28.00	34.00	52.48	74.00	15.52	V

Channel 40

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)
17916.033	49.46	-29.59	45.95	33.10	74.00	24.54	V
16530.400	49.32	-29.90	39.00	40.22	68.20	18.88	H
12305.667	46.21	-32.12	39.00	39.33	74.00	27.79	H
11853.567	46.10	-32.73	39.15	39.68	74.00	27.90	H
10242.433	43.26	-34.09	38.00	39.35	68.20	24.94	H
10262.600	43.09	-33.82	38.00	38.91	68.20	25.11	H

Channel 48

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)
17954.533	49.66	-29.59	45.95	33.30	74.00	24.34	H
17967.367	49.56	-29.59	45.95	33.20	74.00	24.44	H
12325.467	46.34	-32.12	39.00	39.46	74.00	27.66	H
12309.333	46.21	-32.12	39.00	39.33	74.00	27.79	H
9158.200	42.69	-34.20	37.70	39.19	74.00	31.31	V
9764.300	42.62	-33.67	38.00	38.29	68.20	25.58	H

Channel 52

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)
17940.967	50.01	-29.59	45.95	33.65	74.00	23.99	V
17984.600	49.66	-29.59	45.95	33.30	74.00	24.34	H
12309.333	46.63	-32.12	39.00	39.75	74.00	27.37	V
12305.300	46.39	-32.12	39.00	39.51	74.00	27.61	V
10282.400	43.79	-33.82	38.00	39.61	68.20	24.41	V
10250.867	43.42	-33.82	38.00	39.24	68.20	24.78	V

Channel 56

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)
17940.233	49.86	-29.59	45.95	33.50	74.00	24.14	V
16568.167	49.64	-29.97	39.20	40.41	68.20	18.56	V
12269.000	45.88	-32.37	38.95	39.30	74.00	28.12	V
12266.067	45.86	-32.37	38.95	39.28	74.00	28.14	V
10256.733	43.75	-33.82	38.00	39.57	68.20	24.45	V
8194.967	43.08	-34.94	36.90	41.12	74.00	30.92	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)
17947.933	49.91	-29.59	45.95	33.55	74.00	24.09	V
17954.167	49.68	-29.59	45.95	33.32	74.00	24.32	V
12332.433	46.05	-32.39	38.95	39.49	74.00	27.95	H
12221.700	45.85	-32.12	38.90	39.07	74.00	28.15	H
5351.968	61.64	-27.82	34.20	55.26	74.00	12.36	H
5350.216	61.06	-27.82	34.20	54.68	74.00	12.94	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)
17961.867	49.99	-29.59	45.95	33.63	74.00	24.01	V
17980.567	49.70	-29.59	45.95	33.34	74.00	24.30	V
12305.667	46.24	-32.12	39.00	39.36	74.00	27.76	V
12306.767	45.65	-32.12	39.00	38.77	74.00	28.35	V
5450.590	58.00	-27.49	34.20	51.29	74.00	16.00	V
5469.797	63.54	-27.49	34.20	56.83	68.20	4.66	V

Channel 120

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)
17944.267	49.62	-29.59	45.95	33.26	74.00	24.38	H
16747.100	49.45	-29.73	39.70	39.48	68.20	18.75	H
12304.567	46.26	-32.12	39.00	39.38	74.00	27.74	H
12311.533	45.53	-32.12	39.00	38.65	74.00	28.47	H
8504.067	42.41	-34.28	37.30	39.39	68.20	25.79	H
10317.600	42.33	-33.88	38.00	38.21	68.20	25.87	V

Channel 140

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)
17912.000	49.63	-29.59	45.95	33.27	74.00	24.37	H
17882.667	49.54	-29.59	45.95	33.18	74.00	24.46	H
12264.233	46.27	-32.37	38.95	39.69	74.00	27.73	H
12307.867	45.92	-32.12	39.00	39.04	74.00	28.08	H
5725.040	60.11	-27.47	34.10	53.48	68.20	8.09	H
5725.023	58.79	-27.47	34.10	52.16	68.20	9.41	V

Channel 144

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)
17956.367	49.38	-29.59	45.95	33.02	74.00	24.62	V
17975.433	49.37	-29.59	45.95	33.01	74.00	24.63	V
12244.067	45.54	-32.37	38.95	38.96	74.00	28.46	H
12311.167	45.51	-32.12	39.00	38.63	74.00	28.49	V
9131.433	42.91	-34.20	37.70	39.41	74.00	31.09	H
10304.033	42.39	-33.88	38.00	38.27	68.20	25.81	H

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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)
17979.833	49.74	-29.59	45.95	33.38	74.00	24.26	H
17951.233	49.22	-29.59	45.95	32.86	74.00	24.78	H
12312.633	46.36	-32.12	39.00	39.48	74.00	27.64	H
12332.433	46.36	-32.39	38.95	39.80	74.00	27.64	H
5149.970	63.12	-28.00	34.00	57.12	74.00	10.88	V
5149.440	62.89	-28.00	34.00	56.89	74.00	11.11	H

Channel 46

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)
17927.400	49.50	-29.59	45.95	33.14	74.00	24.50	V
17972.500	49.20	-29.59	45.95	32.84	74.00	24.80	V
12320.333	45.83	-32.12	39.00	38.95	74.00	28.17	V
12320.700	45.61	-32.12	39.00	38.73	74.00	28.39	V
10106.033	42.64	-34.28	38.10	38.82	68.20	25.56	V
9141.333	42.62	-34.20	37.70	39.12	74.00	31.38	V

Channel 54

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)
17962.967	49.62	-29.59	45.95	33.26	74.00	24.38	H
17939.500	49.57	-29.59	45.95	33.21	74.00	24.43	H
12329.867	46.19	-32.39	38.95	39.63	74.00	27.81	V
12311.900	46.05	-32.12	39.00	39.17	74.00	27.95	H
10144.167	42.73	-34.28	38.10	38.91	68.20	25.47	H
10179.000	42.43	-33.67	38.05	38.05	68.20	25.77	V

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)
17938.400	50.02	-29.59	45.95	33.66	74.00	23.98	H
17903.567	50.01	-29.59	45.95	33.65	74.00	23.99	H
12315.200	45.97	-32.12	39.00	39.09	74.00	28.03	H
12328.767	45.68	-32.39	38.95	39.12	74.00	28.32	V
5350.056	63.66	-27.82	34.20	57.28	74.00	10.34	V
5353.688	63.30	-27.82	34.20	56.92	74.00	10.70	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)
17953.067	49.64	-29.59	45.95	33.28	74.00	24.36	V
17943.900	49.45	-29.59	45.95	33.09	74.00	24.55	H
12307.133	46.01	-32.12	39.00	39.13	74.00	27.99	V
12311.900	45.86	-32.12	39.00	38.98	74.00	28.14	V
5459.177	63.42	-27.49	34.20	56.71	74.00	10.58	H
5470.000	65.26	-27.49	34.20	58.55	68.20	2.94	H

Channel 118

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)
17951.600	49.51	-29.59	45.95	33.15	74.00	24.49	V
17947.933	49.50	-29.59	45.95	33.14	74.00	24.50	H
12308.967	45.79	-32.12	39.00	38.91	74.00	28.21	V
12327.667	45.44	-32.39	38.95	38.88	74.00	28.56	H
9643.300	42.83	-34.18	37.60	39.41	68.20	25.37	H
10225.200	42.39	-34.09	38.00	38.48	68.20	25.81	H

Channel 134

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)
17949.033	48.98	-29.59	45.95	32.62	74.00	25.02	H
17963.333	48.92	-29.59	45.95	32.56	74.00	25.08	V
12306.400	46.18	-32.12	39.00	39.30	74.00	27.82	H
12332.800	45.31	-32.39	38.95	38.75	74.00	28.69	H
5726.528	53.76	-27.47	34.10	47.13	68.20	14.44	V
5725.224	53.45	-27.47	34.10	46.82	68.20	14.75	V

Channel 142

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)
17974.333	49.64	-29.59	45.95	33.28	74.00	24.36	H
17976.900	49.63	-29.59	45.95	33.27	74.00	24.37	H
12313.733	46.13	-32.12	39.00	39.25	74.00	27.87	V
12312.633	45.84	-32.12	39.00	38.96	74.00	28.16	V
9747.067	43.09	-34.44	37.80	39.73	68.20	25.11	H
10161.767	42.49	-33.67	38.05	38.11	68.20	25.71	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)
17978.000	50.28	-29.59	45.95	33.92	74.00	23.72	H
16958.300	49.78	-29.68	40.60	38.86	68.20	18.42	H
12308.600	47.89	-32.12	39.00	41.01	74.00	26.11	H
12307.867	46.45	-32.12	39.00	39.57	74.00	27.55	H
5148.830	59.59	-28.00	34.00	53.59	74.00	14.41	V
5149.350	59.13	-28.00	34.00	53.13	74.00	14.87	H

Channel 40

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)
17968.100	49.87	-29.59	45.95	33.51	74.00	24.13	V
16572.933	49.53	-29.97	39.20	40.30	68.20	18.67	H
12312.267	46.24	-32.12	39.00	39.36	74.00	27.76	V
12303.467	46.09	-32.12	39.00	39.21	74.00	27.91	V
8374.267	42.51	-34.42	37.30	39.63	74.00	31.49	V
9117.867	42.43	-34.20	37.70	38.93	74.00	31.57	V

Channel 48

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	49.47	-29.59	45.95	33.11	74.00	24.53	V
17950.500	49.24	-29.59	45.95	32.88	74.00	24.76	H
12289.167	45.80	-32.12	39.00	38.92	74.00	28.20	V
12288.433	45.62	-32.12	39.00	38.74	74.00	28.38	H
10056.167	43.48	-33.75	38.05	39.18	68.20	24.72	H
10126.933	42.25	-34.28	38.10	38.43	68.20	25.95	V

Channel 52

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)
17950.133	50.47	-29.59	45.95	34.11	74.00	23.53	V
17929.967	49.97	-29.59	45.95	33.61	74.00	24.03	H
12332.800	46.72	-32.39	38.95	40.16	74.00	27.28	V
12269.367	46.26	-32.37	38.95	39.68	74.00	27.74	V
10246.833	43.50	-34.09	38.00	39.59	68.20	24.70	V
10222.633	43.03	-34.09	38.00	39.12	68.20	25.17	V

Channel 56

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)
17946.833	50.05	-29.59	45.95	33.69	74.00	23.95	V
17099.833	49.46	-29.25	41.40	37.31	68.20	18.74	V
12305.300	46.51	-32.12	39.00	39.63	74.00	27.49	H
12266.800	45.97	-32.37	38.95	39.39	74.00	28.03	H
9067.267	42.78	-34.52	37.70	39.60	74.00	31.22	H
10077.800	42.38	-33.75	38.05	38.08	68.20	25.82	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)
17979.467	50.04	-29.59	45.95	33.68	74.00	23.96	V
17934.367	50.03	-29.59	45.95	33.67	74.00	23.97	H
12310.433	46.05	-32.12	39.00	39.17	74.00	27.95	H
12311.533	46.00	-32.12	39.00	39.12	74.00	28.00	V
5350.832	62.20	-27.82	34.20	55.82	74.00	11.80	H
5350.320	62.15	-27.82	34.20	55.77	74.00	11.85	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)
17975.433	49.72	-29.59	45.95	33.36	74.00	24.28	V
17974.333	49.44	-29.59	45.95	33.08	74.00	24.56	H
12309.333	45.93	-32.12	39.00	39.05	74.00	28.07	V
12313.733	45.89	-32.12	39.00	39.01	74.00	28.11	V
5459.102	59.01	-27.49	34.20	52.30	74.00	14.99	V
5468.448	63.97	-27.49	34.20	57.26	68.20	4.23	H

Channel 120

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)
17948.300	49.74	-29.59	45.95	33.38	74.00	24.26	H
17949.033	49.47	-29.59	45.95	33.11	74.00	24.53	V
12332.800	46.02	-32.39	38.95	39.46	74.00	27.98	V
12308.967	45.78	-32.12	39.00	38.90	74.00	28.22	H
10291.567	42.53	-33.82	38.00	38.35	68.20	25.67	H
9152.700	42.33	-34.20	37.70	38.83	74.00	31.67	H

Channel 140

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)
17942.433	49.33	-29.59	45.95	32.97	74.00	24.67	V
17950.133	49.31	-29.59	45.95	32.95	74.00	24.69	H
12304.200	46.35	-32.12	39.00	39.47	74.00	27.65	V
12313.733	46.05	-32.12	39.00	39.17	74.00	27.95	V
5726.501	59.56	-27.47	34.10	52.93	68.20	8.64	H
5726.169	59.18	-27.47	34.10	52.55	68.20	9.02	H

Channel 144

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)
17942.067	49.52	-29.59	45.95	33.16	74.00	24.48	V
17985.333	49.23	-29.59	45.95	32.87	74.00	24.77	V
12332.067	47.38	-32.39	38.95	40.82	74.00	26.62	H
12264.967	46.02	-32.37	38.95	39.44	74.00	27.98	H
10072.300	42.95	-33.75	38.05	38.65	68.20	25.25	V
10194.767	42.74	-33.67	38.05	38.36	68.20	25.46	H

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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)
17947.200	49.07	-29.59	45.95	32.71	74.00	24.93	H
17976.533	48.57	-29.59	45.95	32.21	74.00	25.43	V
12292.100	45.62	-32.12	39.00	38.74	74.00	28.38	V
12331.700	45.13	-32.39	38.95	38.57	74.00	28.87	H
5148.880	62.24	-28.00	34.00	56.24	74.00	11.76	H
5146.460	61.49	-27.79	34.00	55.28	74.00	12.51	H

Channel 46

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)
17918.967	48.89	-29.59	45.95	32.53	74.00	25.11	V
17935.100	48.76	-29.59	45.95	32.40	74.00	25.24	V
12310.433	45.75	-32.12	39.00	38.87	74.00	28.25	H
12301.267	45.67	-32.12	39.00	38.79	74.00	28.33	V
10224.100	42.70	-34.09	38.00	38.79	68.20	25.50	H
9126.300	42.14	-34.20	37.70	38.64	74.00	31.86	V

Channel 54

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)
17977.633	50.00	-29.59	45.95	33.64	74.00	24.00	V
17980.200	49.62	-29.59	45.95	33.26	74.00	24.38	V
12308.233	47.60	-32.12	39.00	40.72	74.00	26.40	V
12302.733	46.06	-32.12	39.00	39.18	74.00	27.94	V
10261.133	43.21	-33.82	38.00	39.03	68.20	24.99	V
9629.000	43.12	-34.18	37.60	39.70	68.20	25.08	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)
17932.533	50.70	-29.59	45.95	34.34	74.00	23.30	V
17946.100	49.99	-29.59	45.95	33.63	74.00	24.01	H
12306.767	45.68	-32.12	39.00	38.80	74.00	28.32	V
12303.467	45.52	-32.12	39.00	38.64	74.00	28.48	V
5351.400	62.21	-27.82	34.20	55.83	74.00	11.79	V
5352.232	62.09	-27.82	34.20	55.71	74.00	11.91	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)
16036.133	48.82	-29.04	38.20	39.66	74.00	25.18	V
17977.267	48.74	-29.59	45.95	32.38	74.00	25.26	H
12292.833	46.21	-32.12	39.00	39.33	74.00	27.79	H
11840.733	45.72	-32.73	39.15	39.30	74.00	28.28	H
5455.262	60.98	-27.49	34.20	54.27	74.00	13.02	V
5467.435	63.29	-27.49	34.20	56.58	68.20	4.91	V

Channel 118

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)
17954.533	50.24	-29.59	45.95	33.88	74.00	23.76	H
17949.400	49.98	-29.59	45.95	33.62	74.00	24.02	V
12331.700	45.59	-32.39	38.95	39.03	74.00	28.41	H
12329.133	45.41	-32.39	38.95	38.85	74.00	28.59	H
10329.333	42.63	-33.88	38.00	38.51	68.20	25.57	H
9689.500	42.18	-33.86	37.70	38.34	68.20	26.02	V

Channel 134

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)
17949.400	49.44	-29.59	45.95	33.08	74.00	24.56	V
17950.500	49.41	-29.59	45.95	33.05	74.00	24.59	H
12309.700	45.65	-32.12	39.00	38.77	74.00	28.35	V
12332.067	45.50	-32.39	38.95	38.94	74.00	28.50	H
5727.376	53.03	-27.47	34.10	46.40	68.20	15.17	H
5725.276	52.69	-27.47	34.10	46.06	68.20	15.51	V

Channel 142

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)
17914.933	49.18	-29.59	45.95	32.82	74.00	24.82	V
17931.067	49.17	-29.59	45.95	32.81	74.00	24.83	V
12314.100	46.10	-32.12	39.00	39.22	74.00	27.90	H
12308.967	46.05	-32.12	39.00	39.17	74.00	27.95	H
10259.667	42.99	-33.82	38.00	38.81	68.20	25.21	V
10254.167	42.38	-33.82	38.00	38.20	68.20	25.82	V

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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)
17340.733	49.99	-28.74	43.40	35.33	68.20	18.21	H
17976.900	49.91	-29.59	45.95	33.55	74.00	24.09	H
12309.333	46.88	-32.12	39.00	40.00	74.00	27.12	H
12265.700	46.35	-32.37	38.95	39.77	74.00	27.65	H
5147.030	65.10	-27.79	34.00	58.89	74.00	8.90	H
5149.280	64.64	-28.00	34.00	58.64	74.00	9.36	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)
17976.167	50.97	-29.59	45.95	34.61	74.00	23.03	H
17941.700	50.75	-29.59	45.95	34.39	74.00	23.25	V
11854.300	45.99	-32.73	39.15	39.57	74.00	28.01	H
12324.000	45.47	-32.12	39.00	38.59	74.00	28.53	H
5356.368	66.92	-27.82	34.20	60.54	74.00	7.08	H
5362.784	66.56	-27.82	34.20	60.18	74.00	7.44	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)
17978.000	49.60	-29.59	45.95	33.24	74.00	24.40	V
17934.000	49.43	-29.59	45.95	33.07	74.00	24.57	H
12311.167	45.71	-32.12	39.00	38.83	74.00	28.29	H
12294.300	45.59	-32.12	39.00	38.71	74.00	28.41	V
5451.550	65.35	-27.49	34.20	58.64	74.00	8.65	V
5461.757	64.78	-27.49	34.20	58.07	68.20	3.42	V

Channel 122

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)
17956.367	49.55	-29.59	45.95	33.19	74.00	24.45	V
17976.167	49.30	-29.59	45.95	32.94	74.00	24.70	H
12311.533	45.97	-32.12	39.00	39.09	74.00	28.03	H
12311.167	45.46	-32.12	39.00	38.58	74.00	28.54	H
5728.820	52.15	-27.47	34.10	45.52	68.20	16.05	H
5726.142	51.72	-27.47	34.10	45.09	68.20	16.48	V

Channel 138

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)
17949.033	50.45	-29.59	45.95	34.09	74.00	23.55	V
17765.700	49.42	-29.47	45.90	32.99	74.00	24.58	H
12309.333	45.68	-32.12	39.00	38.80	74.00	28.32	V
12263.867	45.42	-32.37	38.95	38.84	74.00	28.58	V
9602.600	42.94	-34.13	37.50	39.57	68.20	25.26	V
9914.633	42.70	-33.69	37.90	38.49	68.20	25.50	V

Conclusion: PASS

Band edge compliance

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.34	P
	5320 MHz	Fig.35	P
	5500 MHz	Fig.36	P
	5700 MHz	Fig.37	P
802.11n HT20	5180 MHz	Fig.38	P
	5320 MHz	Fig.39	P
	5500 MHz	Fig.40	P
	5700 MHz	Fig.41	P
802.11n HT40	5190 MHz	Fig.42	P
	5310 MHz	Fig.43	P
	5510 MHz	Fig.44	P
	5670 MHz	Fig.45	P
802.11ac HT20	5180 MHz	Fig.46	P
	5320 MHz	Fig.47	P
	5500 MHz	Fig.48	P
	5700 MHz	Fig.49	P
802.11ac HT40	5190 MHz	Fig.50	P
	5310 MHz	Fig.51	P
	5510 MHz	Fig.52	P
	5670 MHz	Fig.53	P
802.11ac HT80	5210MHz	Fig.54	P
	5290MHz	Fig.55	P
	5530MHz	Fig.56	P
	5610MHz	Fig.57	P

Conclusion: PASS

Test graphs as below:

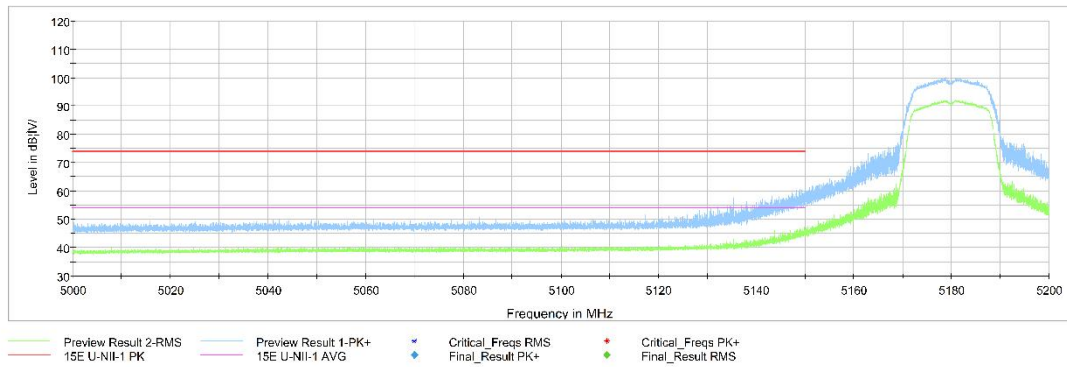


Fig. 34 Band Edges (802.11a Ch36, 5180MHz)

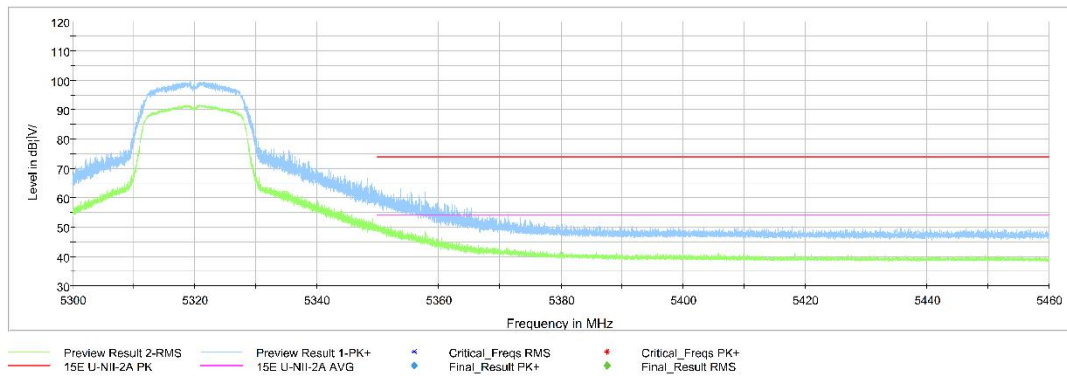


Fig. 35 Band Edges (802.11a Ch64, 5320MHz)

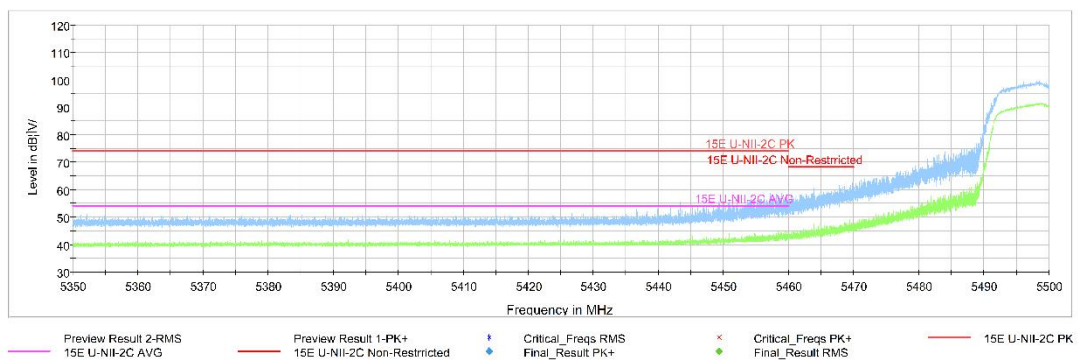


Fig. 36 Band Edges (802.11a Ch100, 5500MHz)

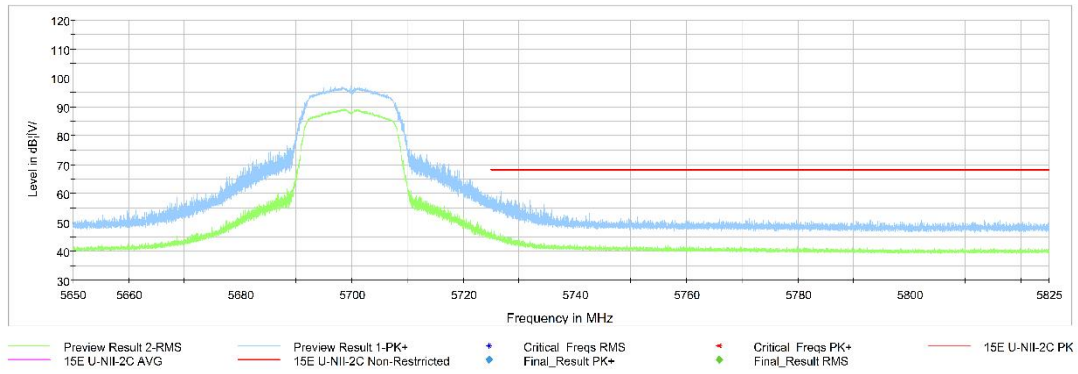


Fig. 37 Band Edges (802.11a Ch140, 5700MHz)

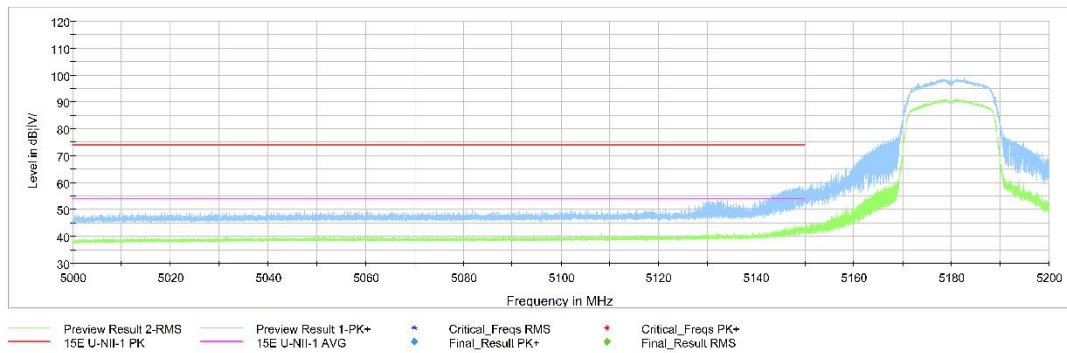


Fig. 38 Band Edges (802.11n-HT20 Ch36, 5180MHz)

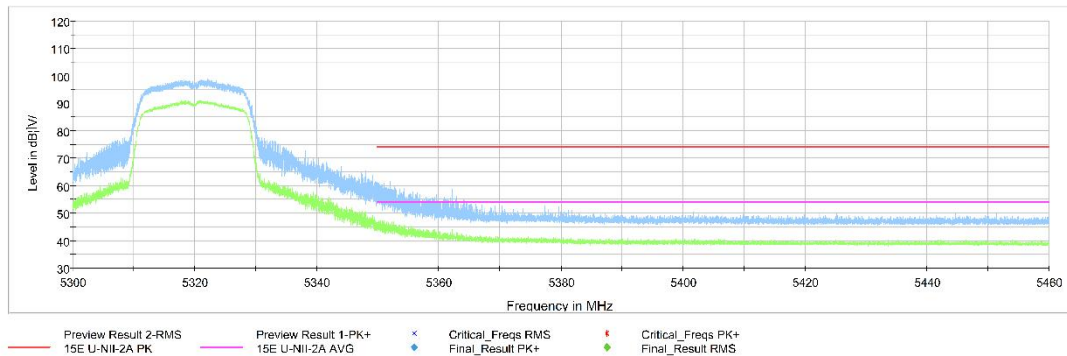


Fig. 39 Band Edges (802.11n-HT20 Ch64, 5320MHz)

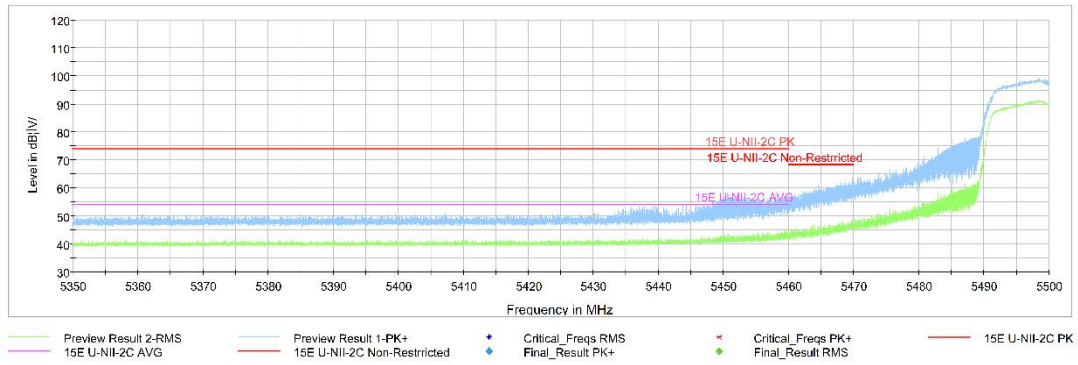


Fig. 40 Band Edges (802.11n-HT20 Ch100, 5500MHz)

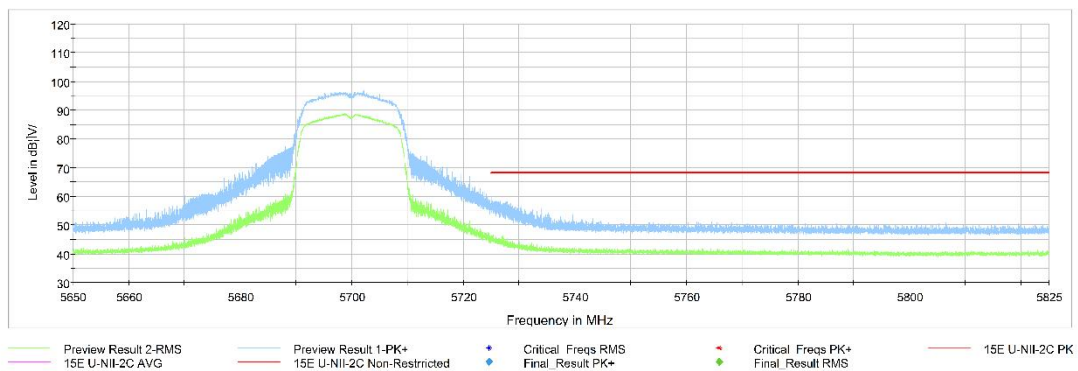


Fig. 41 Band Edges (802.11n-HT20 Ch140, 5700MHz)

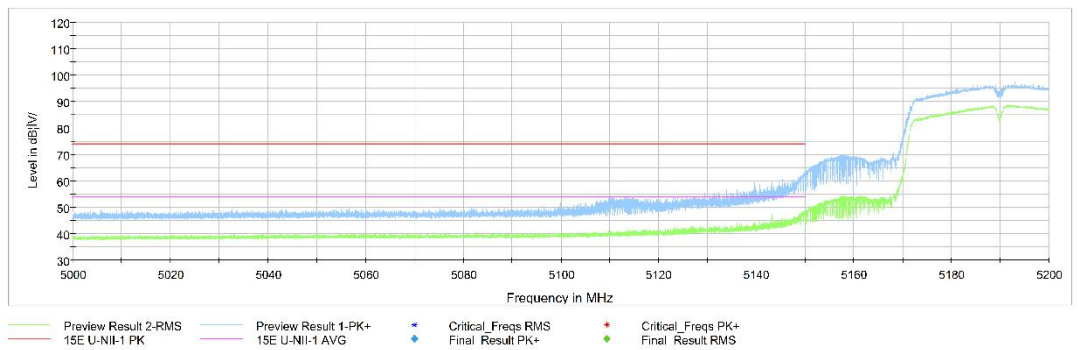


Fig. 42 Band Edges (802.11n-HT40 Ch38, 5190MHz)

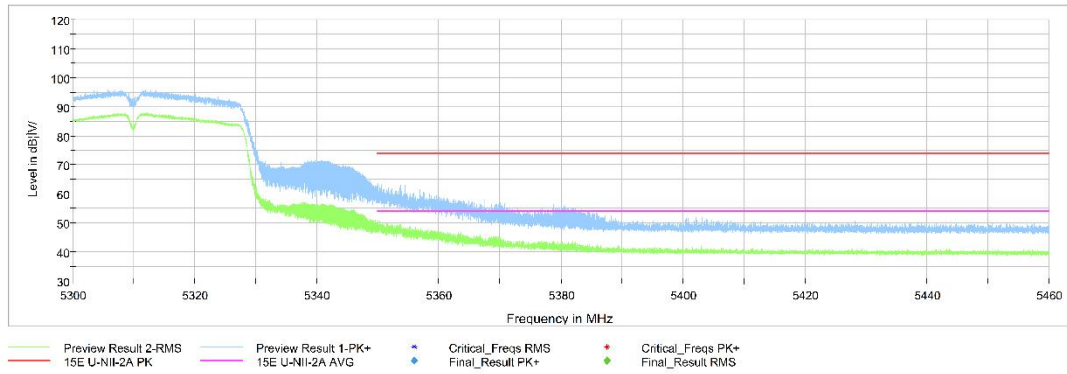


Fig. 43 Band Edges (802.11n-HT40 Ch62, 5310MHz)

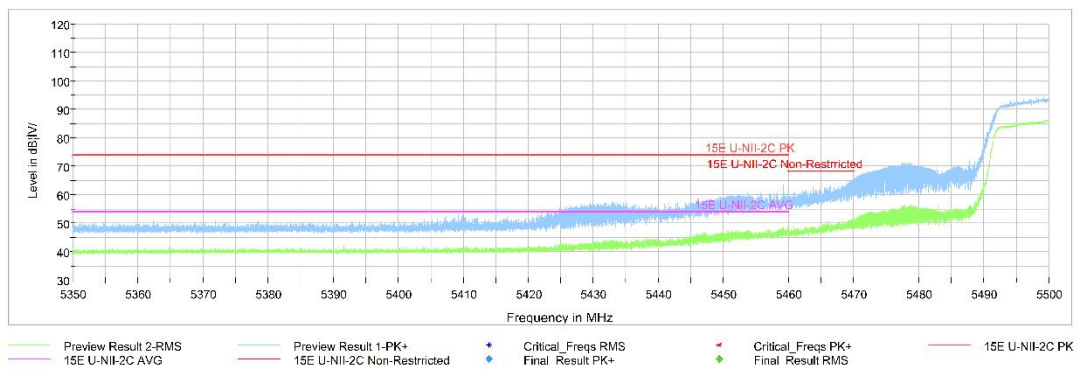


Fig. 44 Band Edges (802.11n-HT40 Ch102, 5510MHz)

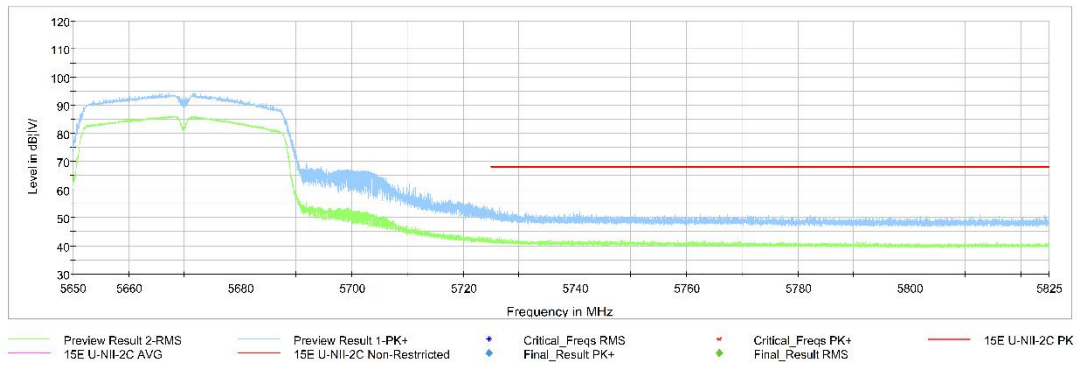


Fig. 45 Band Edges (802.11n-HT40 Ch134, 5670MHz)

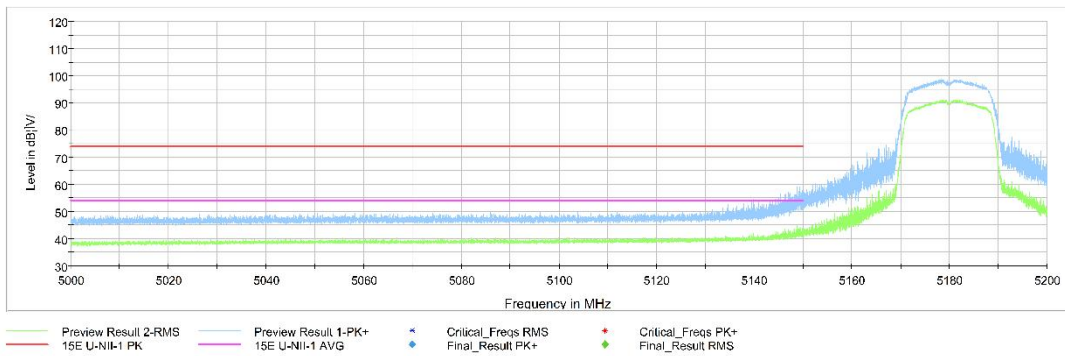


Fig. 46 Band Edges (802.11ac-HT20 Ch36, 5180MHz)

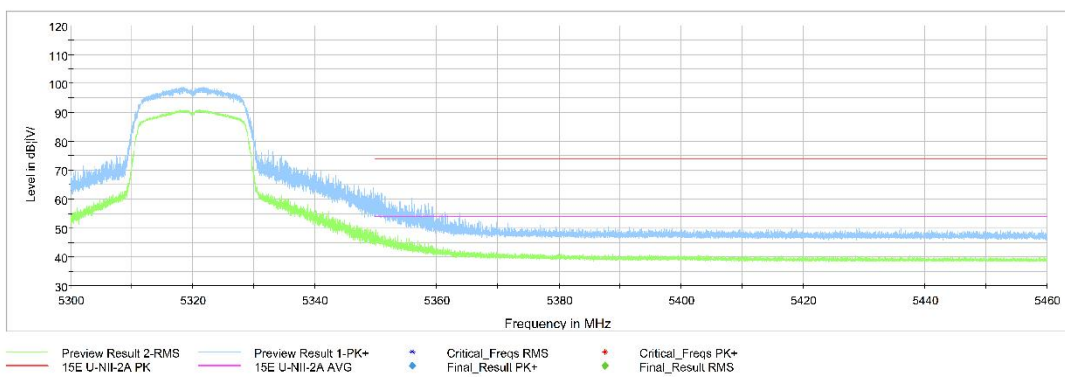


Fig. 47 Band Edges (802.11ac-HT20 Ch64, 5320MHz)

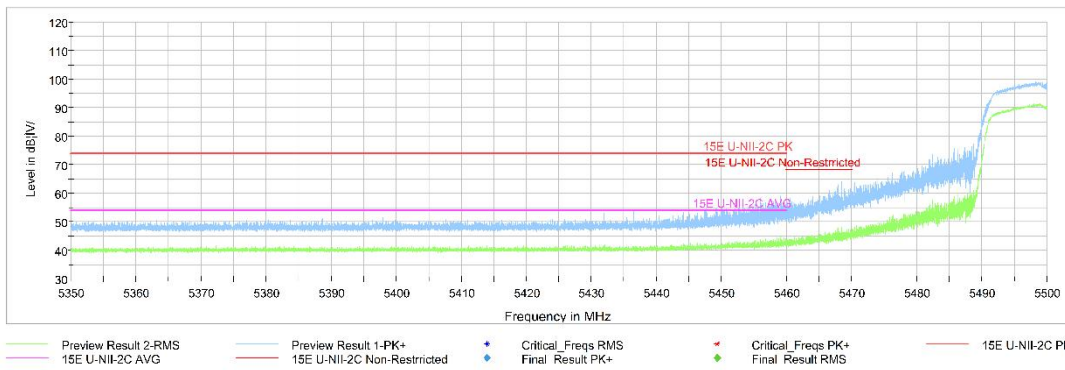


Fig. 48 Band Edges (802.11ac-HT20 Ch100, 5500MHz)

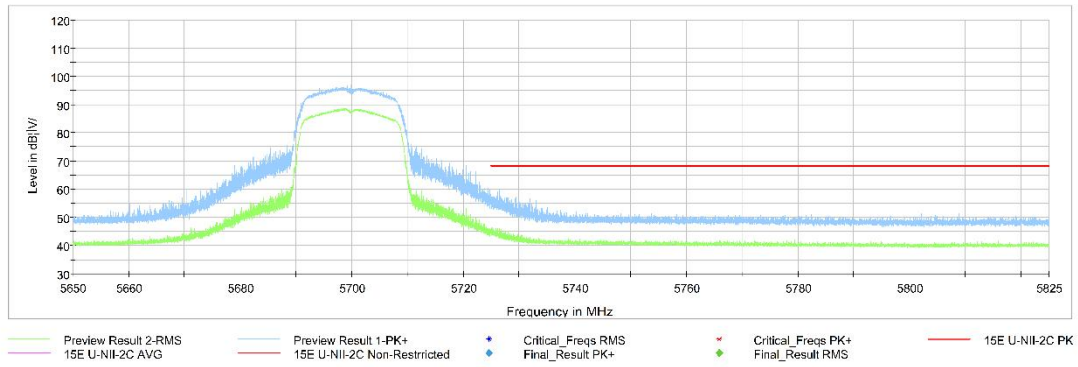


Fig. 49 Band Edges (802.11ac-HT20 Ch140, 5700MHz)

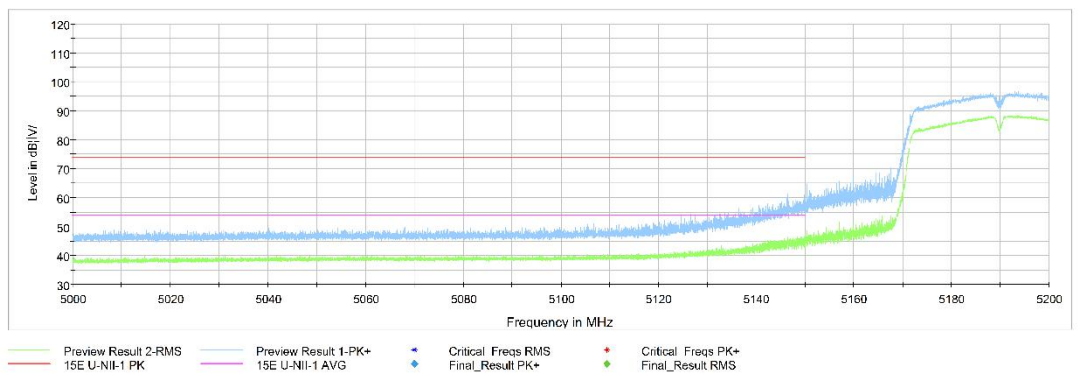


Fig. 50 Band Edges (802.11ac-HT40 Ch38, 5190MHz)

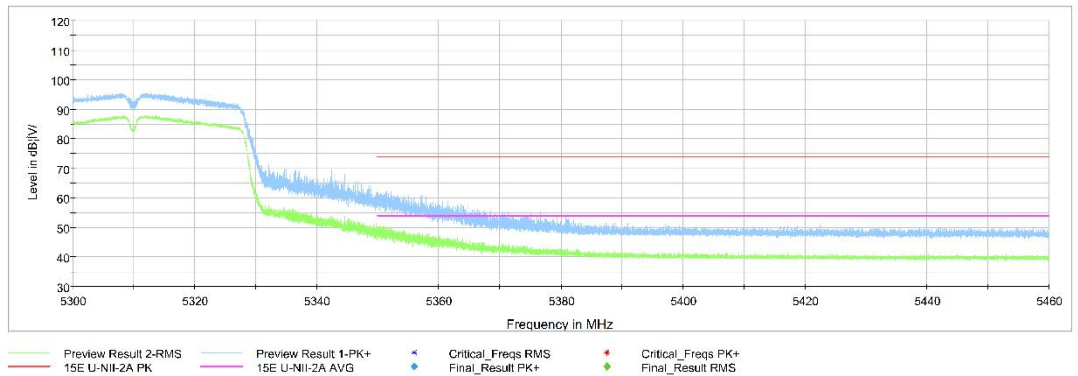


Fig. 51 Band Edges (802.11ac-HT40 Ch62, 5310MHz)

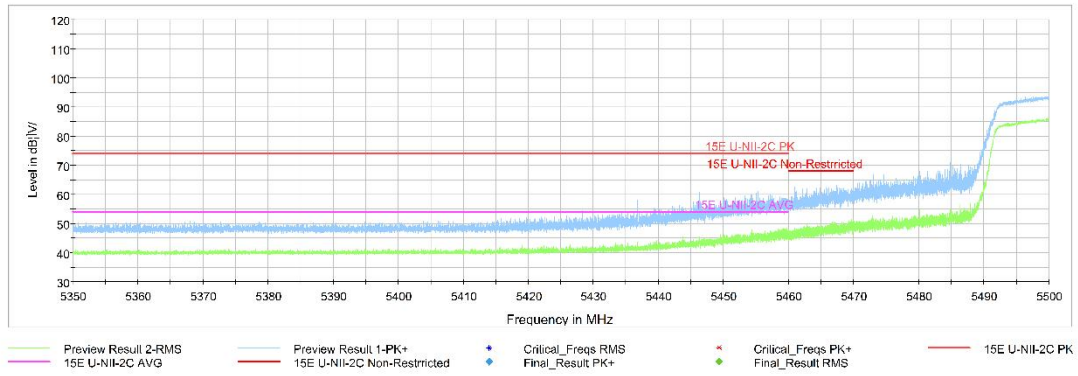


Fig. 52 Band Edges (802.11ac-HT40 Ch102, 5510MHz)

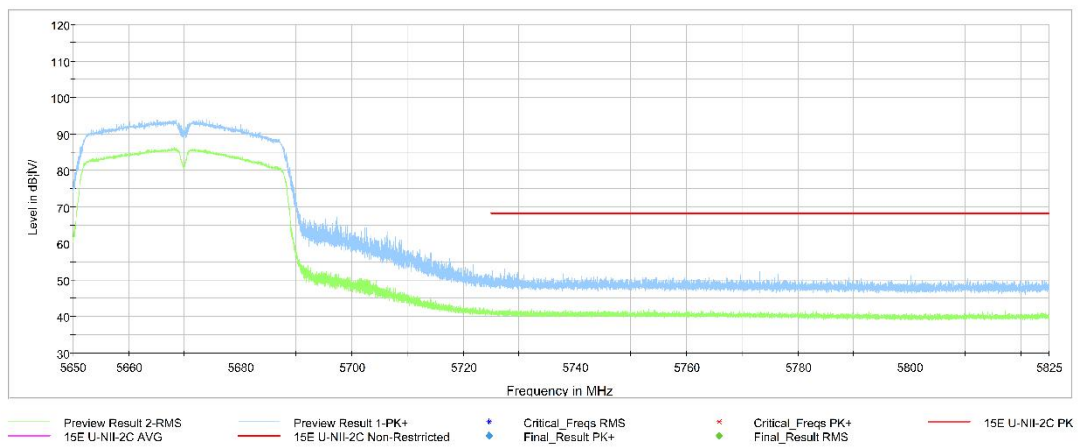


Fig. 53 Band Edges (802.11ac-HT40 Ch134, 5670MHz)

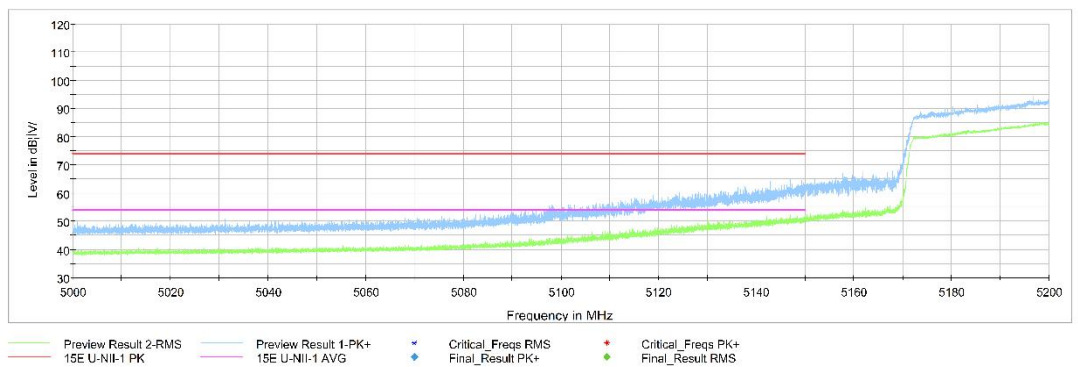


Fig. 54 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

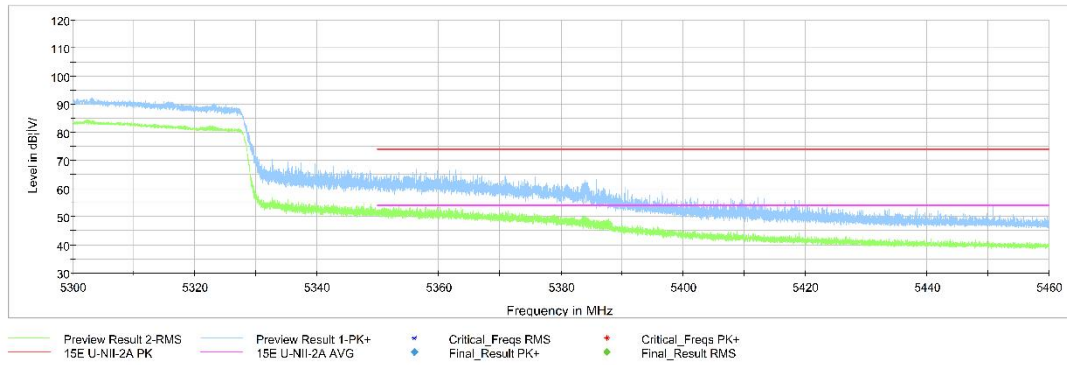


Fig. 55 Band Edges (802.11ac-HT80 Ch58, 5290MHz)

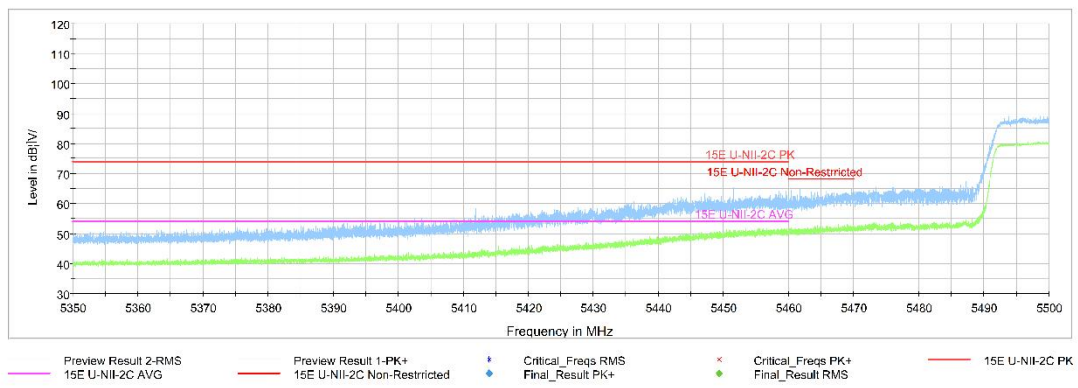


Fig. 56 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

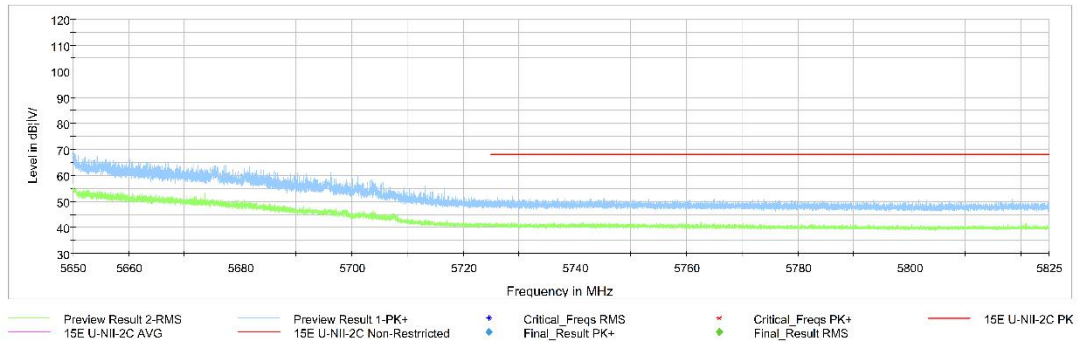


Fig. 57 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

A.6. AC Powerline Conducted Emission (150kHz- 30MHz)

A.6.1 Summary

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

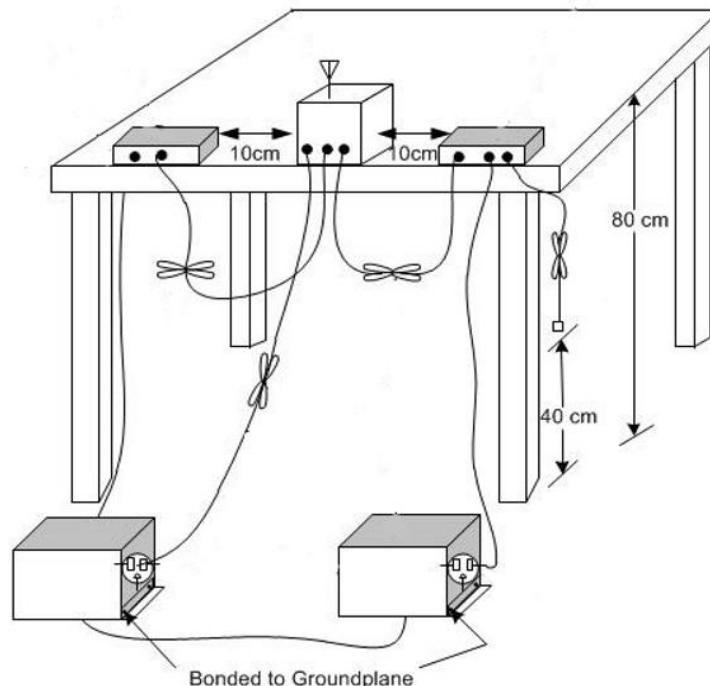
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth
0.15-30	9kHz

A.6.3 Test Condition

Voltage (V)	Frequency (Hz)
120	60

A.6.4 Test setup



Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.58	Fig.59	P
0.5 to 5	56			
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.58	Fig.59	P
0.5 to 5	46			
5 to 30	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Conclusion: PASS

Test graphs as below:

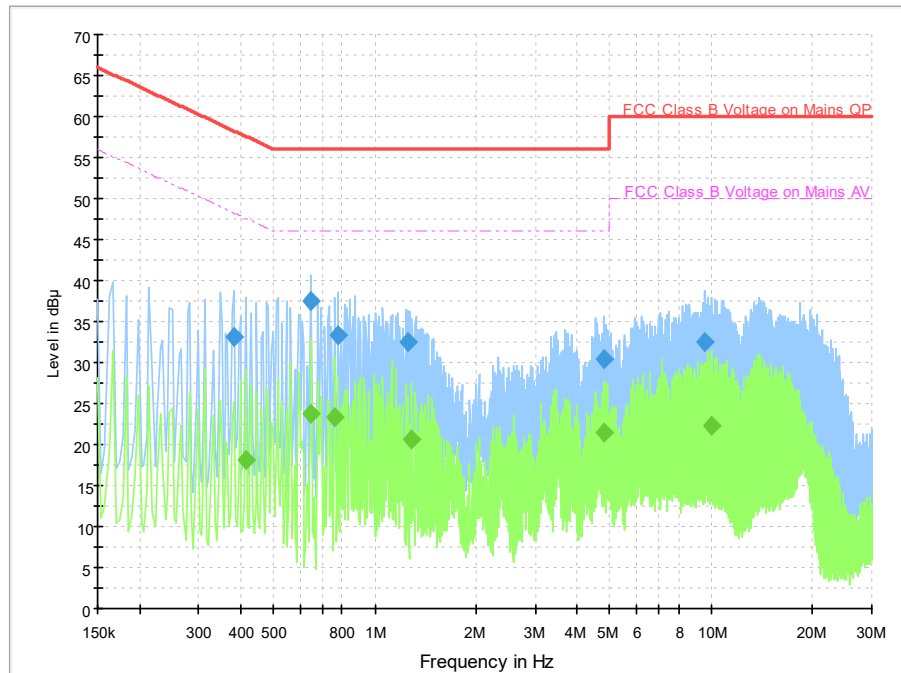


Fig.58 Conducted Emission(802.11a, Ch40, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.382000	33.2	2000.0	9.000	On	L1	19.7	25.1	58.2	
0.646000	37.5	2000.0	9.000	On	L1	19.7	18.5	56.0	
0.778000	33.3	2000.0	9.000	On	L1	19.7	22.7	56.0	
1.258000	32.5	2000.0	9.000	On	L1	19.6	23.5	56.0	
4.818000	30.4	2000.0	9.000	On	L1	19.6	25.6	56.0	
9.510000	32.5	2000.0	9.000	On	L1	19.7	27.5	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.414000	18.2	2000.0	9.000	On	L1	19.7	29.3	47.6	
0.646000	23.8	2000.0	9.000	On	L1	19.7	22.2	46.0	
0.762000	23.4	2000.0	9.000	On	L1	19.7	22.6	46.0	
1.290000	20.6	2000.0	9.000	On	L1	19.7	25.4	46.0	
4.818000	21.4	2000.0	9.000	On	L1	19.6	24.6	46.0	
9.990000	22.3	2000.0	9.000	On	L1	19.7	27.7	50.0	

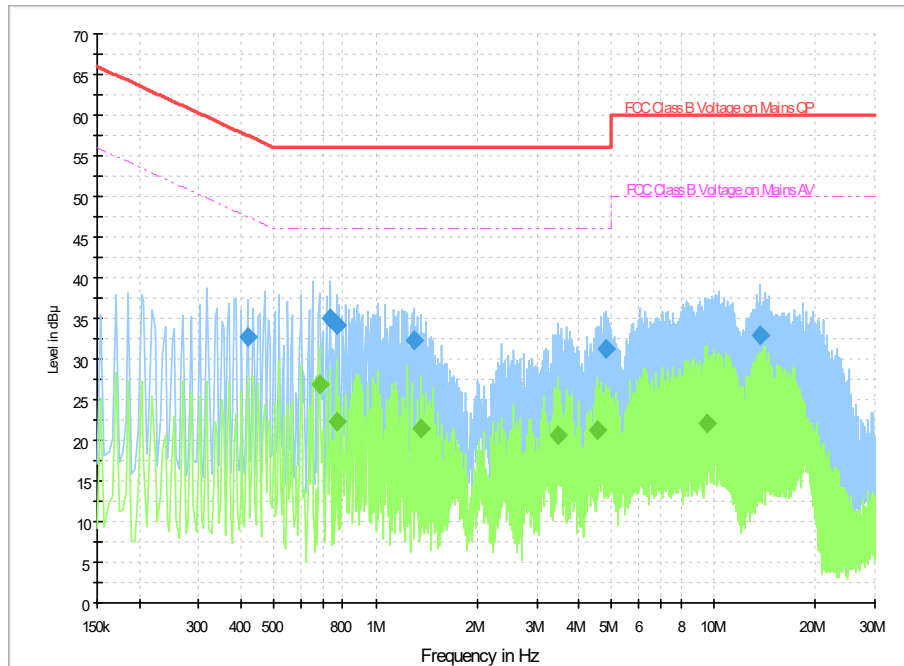


Fig.59 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.418000	32.8	2000.0	9.000	On	N	19.7	24.7	57.5	
0.734000	35.0	2000.0	9.000	On	L1	19.7	21.0	56.0	
0.766000	34.1	2000.0	9.000	On	L1	19.7	21.9	56.0	
1.298000	32.3	2000.0	9.000	On	L1	19.7	23.7	56.0	
4.822000	31.2	2000.0	9.000	On	L1	19.6	24.8	56.0	
13.778000	32.9	2000.0	9.000	On	L1	19.7	27.1	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.682000	26.9	2000.0	9.000	On	L1	19.7	19.1	46.0	
0.766000	22.3	2000.0	9.000	On	L1	19.7	23.7	46.0	
1.362000	21.5	2000.0	9.000	On	L1	19.6	24.5	46.0	
3.458000	20.5	2000.0	9.000	On	L1	19.6	25.5	46.0	
4.546000	21.4	2000.0	9.000	On	L1	19.6	24.6	46.0	
9.594000	22.2	2000.0	9.000	On	L1	19.7	27.8	50.0	

A.7. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

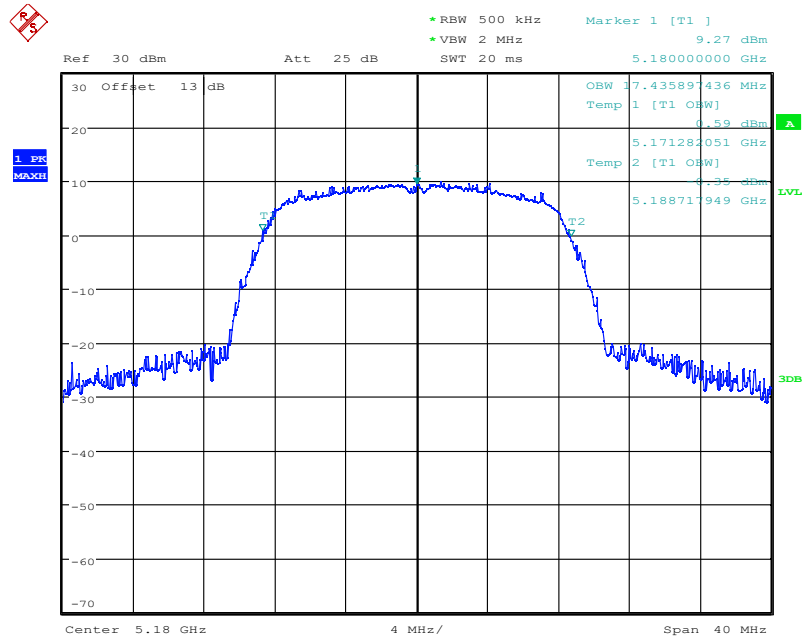
Measurement Uncertainty	60.80Hz
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EUT ID: UT06a

Measurement Result:

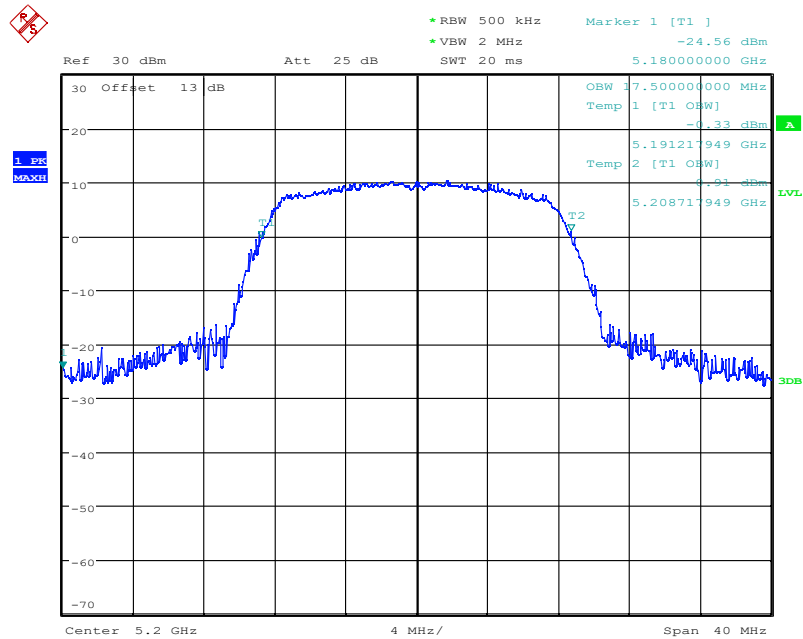
Mode	Frequency	99% Occupied bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.60	17.44	P
	5200 MHz	Fig.61	17.50	P
	5240 MHz	Fig.62	17.44	P
802.11n HT20	5180 MHz	Fig.63	18.21	P
	5200 MHz	Fig.64	18.21	P
	5240 MHz	Fig.65	18.21	P
802.11n HT40	5190 MHz	Fig.66	36.28	P
	5230 MHz	Fig.67	36.28	P
802.11ac (VHT80)	5210 MHz	Fig.68	75.38	P

Test graphs as below:



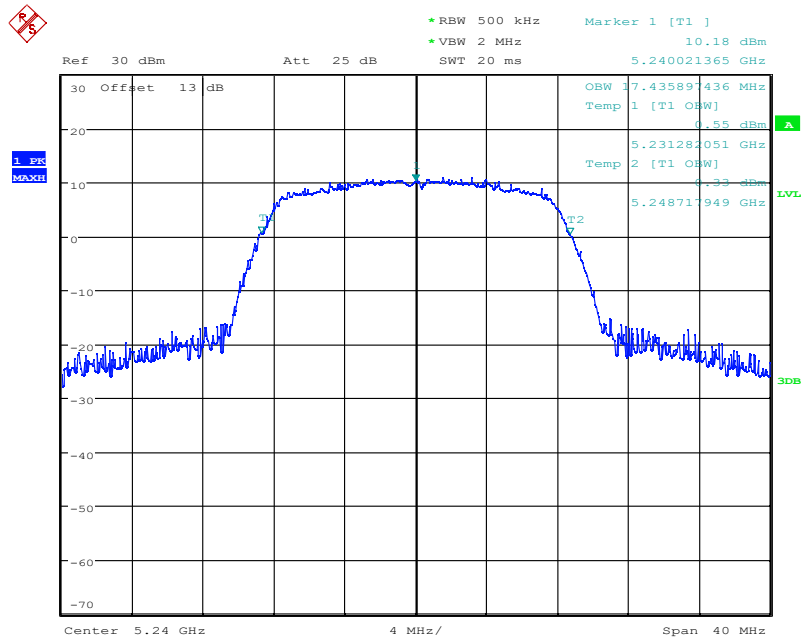
Date: 25.DEC.2023 14:18:45

Fig.60 99% Occupied bandwidth (802.11a, 5180MHz)



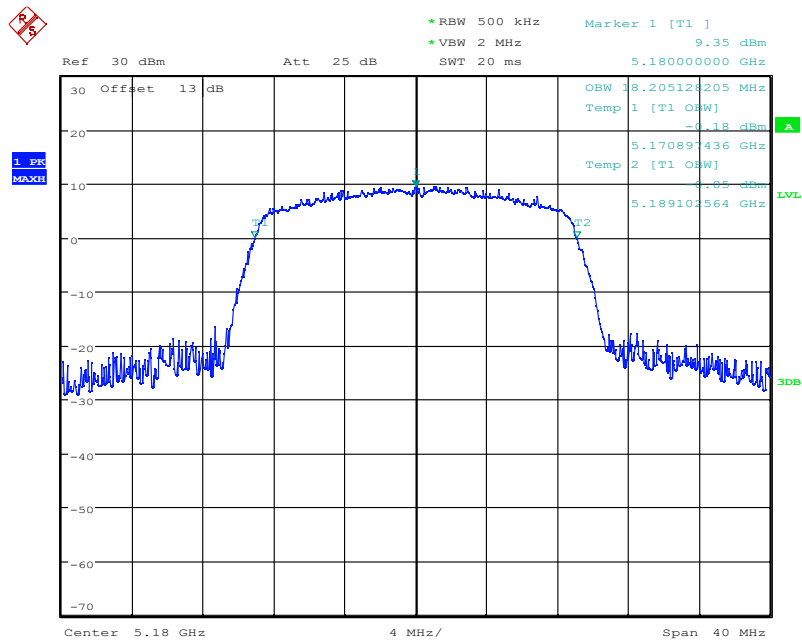
Date: 25.DEC.2023 09:27:31

Fig.61 99% Occupied bandwidth (802.11a, 5200MHz)



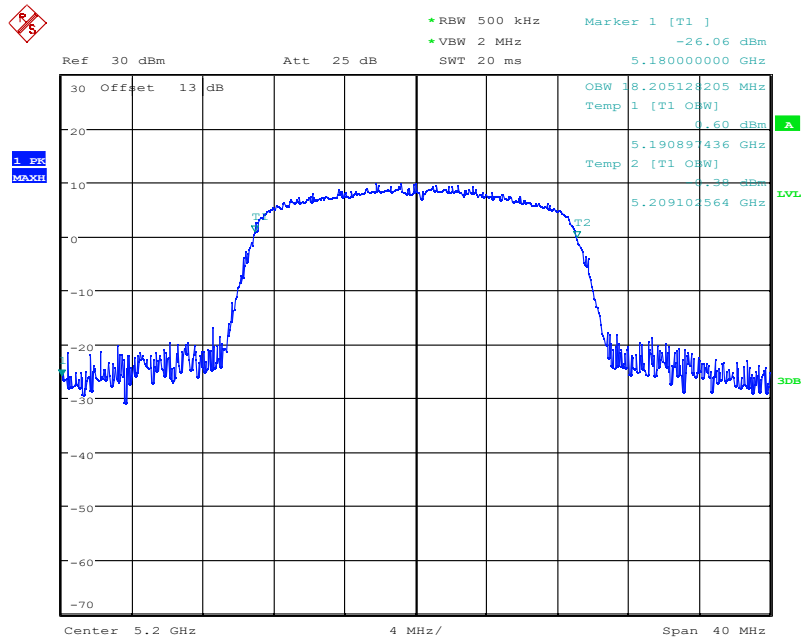
Date: 25.DEC.2023 09:31:12

Fig.62 99% Occupied bandwidth (802.11a, 5240MHz)



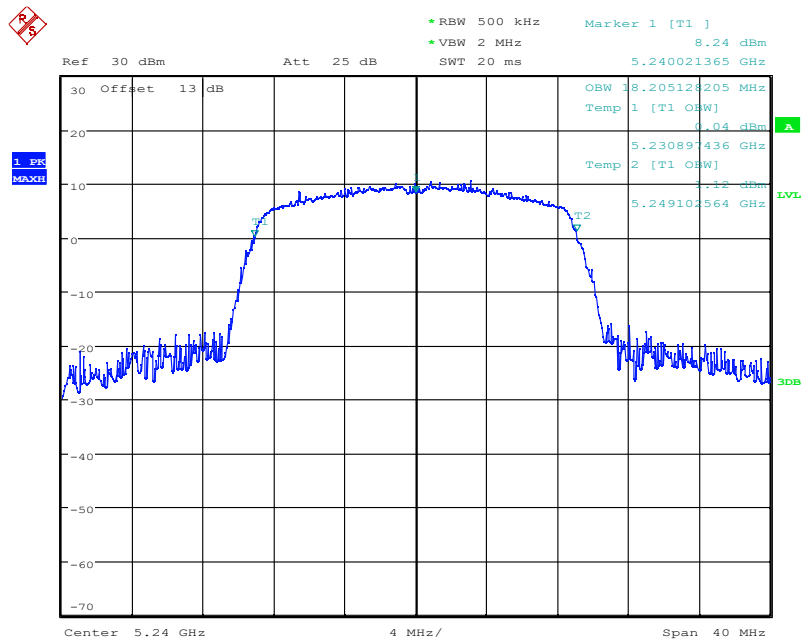
Date: 1.JAN.2024 14:43:49

Fig.63 99% Occupied bandwidth (802.11n-HT20, 5180MHz)



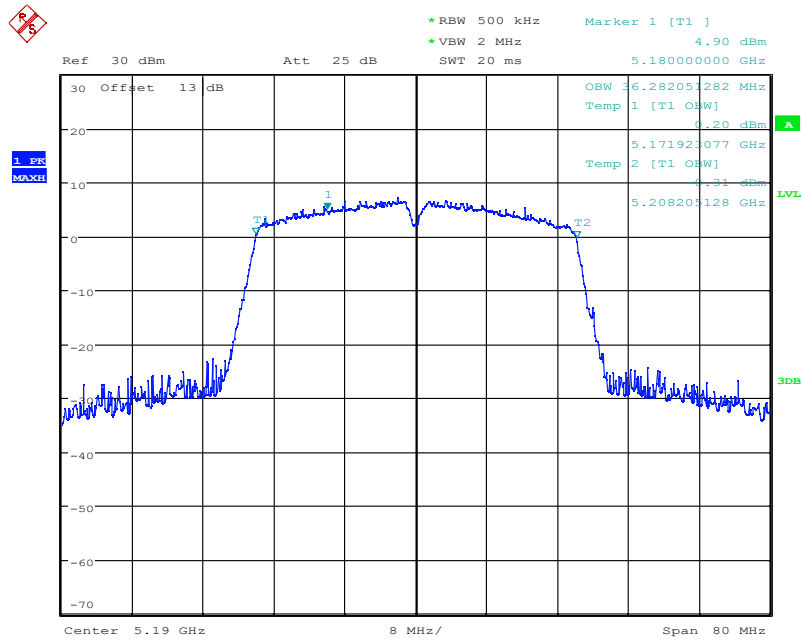
Date: 1.JAN.2024 14:44:52

Fig.64 99% Occupied bandwidth (802.11n-HT20, 5200MHz)



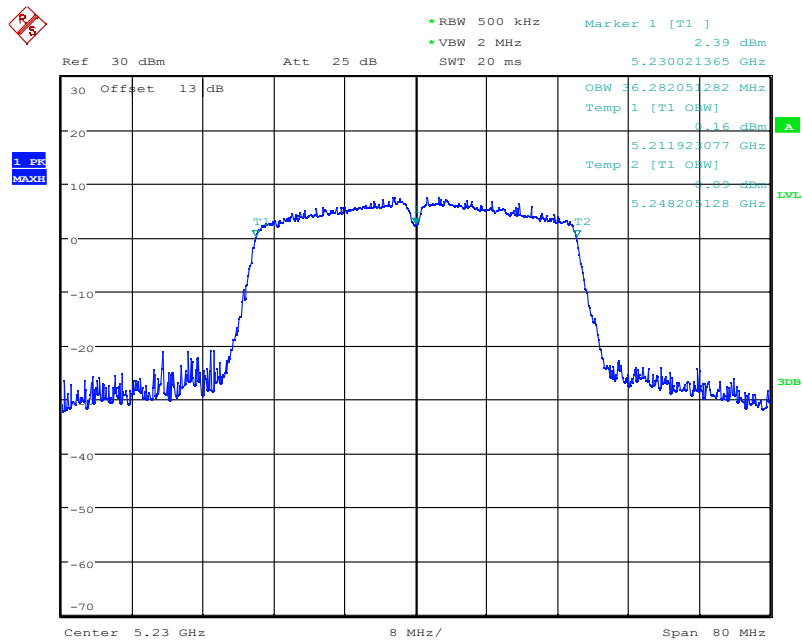
Date: 1.JAN.2024 14:45:28

Fig.65 99% Occupied bandwidth (802.11n-HT20, 5240MHz)



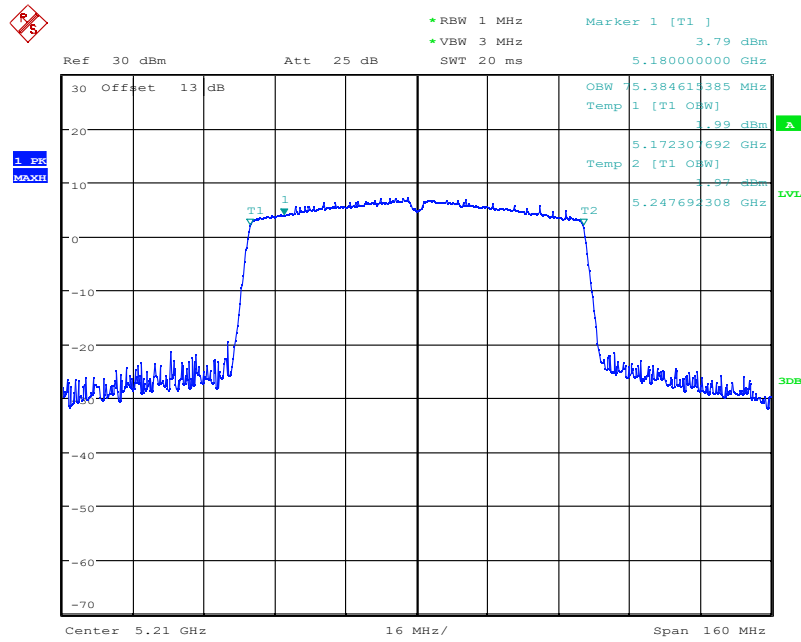
Date: 25.DEC.2023 13:47:05

Fig.66 99% Occupied bandwidth (802.11n-HT40, 5190MHz)



Date: 25.DEC.2023 13:46:38

Fig.67 99% Occupied bandwidth (802.11n-HT40, 5230MHz)



Date: 25.DEC.2023 13:47:34

Fig.68 99% Occupied bandwidth (802.11ac-VHT80, 5210MHz)

Conclusion: PASS

A.8. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

ANNEX B: EUT parameters

Disclaimer: The antenna gain and worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate



Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 26th day of June 2023.



Mr. Trace McInturf, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2024

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

*** END OF REPORT BODY ***