

FCC Measurement/Technical Report on SPB620 module

FCC ID: XO2-SPB620
IC: 8713A-SPB620

Test Report Reference: MDE_HDW_2304_FCC_03_rev01

Test Laboratory:

7layers GmbH
Borsigstrasse 11
40880 Ratingen
Germany



Deutsche
Akkreditierungsstelle
D-PL-12140-01-01
D-PL-12140-01-02
D-PL-12140-01-03

Note:

The following test results relate only to the devices specified in this document. This report shall not be reproduced in parts without the written approval of the test laboratory.

7layers GmbH

Borsigstraße 11
40880 Ratingen, Germany
T +49 (0) 2102 749 0
F +49 (0) 2102 749 350

Geschäftsführer/
Managing Directors:
Sebastian Doose
Stefan Kischka
Bernhard Retka

Registergericht/registered:
Düsseldorf HRB 75554
USt-Id.-Nr./VAT-No. DE203159652
Steuer-Nr./TAX-No. 147/5869/0385

*a Bureau Veritas
Group Company*

www.7layers.com

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1 APPLIED STANDARDS AND TEST SUMMARY

1.1 APPLIED STANDARDS

Type of Authorization

Certification for an Intentional Radiator (Digital Device / Spread Spectrum).

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 (10-1-21 Edition) and 15 (10-1-21 Edition). The following subparts are applicable to the results in this test report.

Part 2, Subpart J - Equipment Authorization Procedures, Certification

Part 15, Subpart C – Intentional Radiators

§ 15.201 Equipment authorization requirement

§ 15.207 Conducted limits

§ 15.209 Radiated emission limits; general requirements

Part 15, Subpart E – Unlicensed National Information Infrastructure Devices

§ 15.403 Definitions

§ 15.407 General technical requirements

Note:

The tests were selected and performed with reference to the FCC Public Notice "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E, 789033 D02 General U-NII Test Procedures New Rules v02r01, 2017-12-14".

ANSI C63.10-2013 is applied.

1.2 FCC-IC CORRELATION TABLE

Correlation of measurement requirements for UNII / LE-LAN (e.g. WLAN 5 GHz) equipment from FCC and IC

UNII equipment

Measurement	FCC reference	IC reference
Conducted emissions on AC Mains	§ 15.207	RSS-Gen Issue 5: 8.8
Occupied bandwidth	§ 15.403 (26 dB) / § 15.407 (e) (6 dB)	RSS-247 Issue 3: 6.2.1.1, 6.2.2.1, 6.2.3.1 (99%) RSS-247 Issue 2: 6.2.4.1 (6 dB)
Maximum conducted output power	§ 15.407 (a) (1) to (8), (11)	RSS-247 Issue 3: 6.2.1.1, 6.2.2.1, 6.2.3.1, 6.2.4.1
Maximum power spectral density	§ 15.407 (a) (1) to (8), (12)	RSS-247 Issue 3: 6.2.1.1, 6.2.2.1, 6.2.3.1, 6.2.4.1
Transmitter undesirable emissions; General Field Strength Limits, Restricted Bands	§ 15.407 (b) § 15.209 (a)	RSS-Gen Issue 5: 6.13/8.9/8.10; RSS-247 Issue 3: 3.3/6.2 6.2.1.2, 6.2.2.2, 6.2.3.2, 6.2.4.2
Frequency stability	§ 15.407 (g)	RSS-Gen Issue 5: 6.11/8.11
Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS)	§ 15.407 (h)	RSS-247 Issue 3: 6.2.2.1, 6.2.3.1, 6.3
Antenna requirement	§ 15.203 / 15.204 § 15.407 (a) (9)	RSS-Gen Issue 5: 8.3
Receiver spurious emissions	-	-

1.3 MEASUREMENT SUMMARY

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407

FCC §15.207

AC Conducted Emissions

The measurement was performed according to ANSI C63.10, chapter 6.2

Final Result

OP-Mode	Setup	Date	FCC	IC
Operating mode worst case	S04_AB01	2023-11-13	Passed	Passed

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407

FCC §15.31, §15.403 (i)

26 dB Bandwidth

The measurement was performed according to ANSI C63.10, chapter 12.4.1

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN a, high, U-NII-1	S01_AB01	2023-08-22	Performed	N/A
WLAN a, high, U-NII-2A	S01_AB01	2023-08-22	Performed	N/A
WLAN a, high, U-NII-2C	S01_AB01	2023-08-22	Performed	N/A
WLAN a, high, U-NII-3	S01_AB01	2023-08-22	Performed	N/A
WLAN a, low, U-NII-1	S01_AB01	2023-08-22	Performed	N/A
WLAN a, low, U-NII-2A	S01_AB01	2023-08-22	Performed	N/A
WLAN a, low, U-NII-2C	S01_AB01	2023-08-22	Performed	N/A
WLAN a, low, U-NII-3	S01_AB01	2023-08-22	Performed	N/A
WLAN a, mid, U-NII-1	S01_AB01	2023-08-22	Performed	N/A
WLAN a, mid, U-NII-2A	S01_AB01	2023-08-22	Performed	N/A
WLAN a, mid, U-NII-2C	S01_AB01	2023-08-22	Performed	N/A
WLAN a, mid, U-NII-3	S01_AB01	2023-08-22	Performed	N/A
WLAN ac 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	Performed	N/A
WLAN ac 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	Performed	N/A

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.31, §15.403 (i)

26 dB Bandwidth

The measurement was performed according to ANSI C63.10, chapter 12.4.1

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ac 40 MHz, straddle, U-NII-2C/3				
WLAN ac 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 80 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-12	Performed	N/A
WLAN ac 80 MHz, high, U-NII-2C	S01_AB01	2023-09-20	Performed	N/A
WLAN ac 80 MHz, low, U-NII-2C	S01_AB01	2023-09-20	Performed	N/A
WLAN ac 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	Performed	N/A
WLAN ac 80 MHz, mid, U-NII-1	S01_AB01	2023-09-20	Performed	N/A
WLAN ac 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-20	Performed	N/A
WLAN ax 20 MHz, high, U-NII-1	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, high, U-NII-2A	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, high, U-NII-2C	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, high, U-NII-3	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, low, U-NII-1	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, low, U-NII-2A	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, low, U-NII-2C	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, low, U-NII-3	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, mid, U-NII-1	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, mid, U-NII-2A	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, mid, U-NII-2C	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 20 MHz, mid, U-NII-3	S01_AB01	2023-09-08	Performed	N/A
WLAN ax 40 MHz, high, U-NII-1	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, high, U-NII-2A	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, high, U-NII-2C	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, high, U-NII-3	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, low, U-NII-1	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, low, U-NII-2A	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, low, U-NII-2C	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, low, U-NII-3	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 80 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-14	Performed	N/A
WLAN ax 80 MHz, high, U-NII-2C	S01_AB01	2023-09-20	Performed	N/A
WLAN ax 80 MHz, low, U-NII-2C	S01_AB01	2023-09-20	Performed	N/A
WLAN ax 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	Performed	N/A

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.31, §15.403 (i)

26 dB Bandwidth

The measurement was performed according to ANSI C63.10, chapter 12.4.1

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 80 MHz, mid, U-NII-1	S01_AB01	2023-09-20	Performed	N/A
WLAN ax 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-20	Performed	N/A
WLAN n 20 MHz, high, U-NII-1	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, high, U-NII-2A	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, high, U-NII-2C	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, high, U-NII-3	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, low, U-NII-1	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, low, U-NII-2A	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, low, U-NII-2C	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, low, U-NII-3	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, mid, U-NII-1	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-22	Performed	N/A
WLAN n 20 MHz, mid, U-NII-3	S01_AB01	2023-08-22	Performed	N/A
WLAN n 40 MHz, high, U-NII-1	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, high, U-NII-2A	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, high, U-NII-2C	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, high, U-NII-3	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, low, U-NII-1	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, low, U-NII-2A	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, low, U-NII-2C	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, low, U-NII-3	S01_AB01	2023-09-08	Performed	N/A
WLAN n 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-08	Performed	N/A

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Subpart E §15.407
FCC §15.31, §15.407 (e)

6 dB Bandwidth

The measurement was performed according to ANSI C63.10, chapter 6.9.2

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN a, high, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN ac 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	Passed	Passed

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.31, §15.407 (e)

6 dB Bandwidth

The measurement was performed according to ANSI C63.10, chapter 6.9.2

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ac 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	Passed	Passed
WLAN ax 20 MHz, high, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 40 MHz, high, U-NII-3	S01_AB01	2023-09-14	Passed	Passed
WLAN ax 40 MHz, low, U-NII-3	S01_AB01	2023-09-14	Passed	Passed
WLAN ax 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	Passed	Passed
WLAN n 20 MHz, high, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN n 20 MHz, low, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN n 20 MHz, mid, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN n 40 MHz, high, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN n 40 MHz, low, U-NII-3	S01_AB01	2023-09-08	Passed	Passed

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Subpart E §15.407
FCC §15.31, IC RSS 247 Ch. 6.2.x

99 % Bandwidth

The measurement was performed according to ANSI C63.10, chapter 12.4.2 (6.9.3)

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FC C	IC
WLAN a, high, U-NII-1	S01_AB01	2023-08-22	N/A	Performed
WLAN a, high, U-NII-2A	S01_AB01	2023-08-22	N/A	Performed
WLAN a, high, U-NII-2C	S01_AB01	2023-08-22	N/A	Performed
WLAN a, high, U-NII-3	S01_AB01	2023-08-22	N/A	Performed
WLAN a, low, U-NII-1	S01_AB01	2023-08-22	N/A	Performed
WLAN a, low, U-NII-2A	S01_AB01	2023-08-22	N/A	Performed
WLAN a, low, U-NII-2C	S01_AB01	2023-08-22	N/A	Performed
WLAN a, low, U-NII-3	S01_AB01	2023-08-22	N/A	Performed
WLAN a, mid, U-NII-1	S01_AB01	2023-08-22	N/A	Performed
WLAN a, mid, U-NII-2A	S01_AB01	2023-08-22	N/A	Performed
WLAN a, mid, U-NII-2C	S01_AB01	2023-08-22	N/A	Performed
WLAN a, mid, U-NII-3	S01_AB01	2023-08-22	N/A	Performed
WLAN ac 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	N/A	Performed

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FCC §15.31, IC RSS 247 Ch. 6.2.x
Subpart E §15.407

99 % Bandwidth

The measurement was performed according to ANSI C63.10, chapter 12.4.2 (6.9.3)

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FC C	IC
WLAN ac 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	N/A	Performed
WLAN ac 20 MHz, straddle, U-NII-2C/3				
WLAN ac 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	N/A	Performed
WLAN ac 40 MHz, straddle, U-NII-2C/3				
WLAN ac 80 MHz, high, U-NII-2C	S01_AB01	2023-09-20	N/A	Performed
WLAN ac 80 MHz, low, U-NII-2C	S01_AB01	2023-09-20	N/A	Performed
WLAN ac 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	N/A	Performed
WLAN ac 80 MHz, mid, U-NII-1	S01_AB01	2023-09-20	N/A	Performed
WLAN ac 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-20	N/A	Performed
WLAN ac 80 MHz, straddle, U-NII-2C/3				
WLAN ax 20 MHz, high, U-NII-1	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, high, U-NII-2A	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, high, U-NII-2C	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, high, U-NII-3	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, low, U-NII-1	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, low, U-NII-2A	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, low, U-NII-2C	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, low, U-NII-3	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, mid, U-NII-1	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, mid, U-NII-2A	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, mid, U-NII-2C	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, mid, U-NII-3	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-08	N/A	Performed
WLAN ax 40 MHz, high, U-NII-1	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, high, U-NII-2A	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, high, U-NII-2C	S01_AB01	2023-09-15	N/A	Performed

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99 % Bandwidth

The measurement was performed according to ANSI C63.10, chapter 12.4.2 (6.9.3)

Final Result

OP-Mode	Setup	Date	FC C	IC
Radio Technology, Operating Frequency, Subband				
WLAN ax 40 MHz, high, U-NII-3	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, low, U-NII-1	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, low, U-NII-2A	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, low, U-NII-2C	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, low, U-NII-3	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-15	N/A	Performed
WLAN ax 80 MHz, high, U-NII-2C	S01_AB01	2023-09-21	N/A	Performed
WLAN ax 80 MHz, low, U-NII-2C	S01_AB01	2023-09-21	N/A	Performed
WLAN ax 80 MHz, low, U-NII-3	S01_AB01	2023-09-21	N/A	Performed
WLAN ax 80 MHz, mid, U-NII-1	S01_AB01	2023-09-21	N/A	Performed
WLAN ax 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-21	N/A	Performed
WLAN ax 80 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-21	N/A	Performed
WLAN n 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	N/A	Performed
WLAN n 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-24	N/A	Performed
WLAN n 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	N/A	Performed
WLAN n 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-24	N/A	Performed

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Maximum Conducted Output Power

The measurement was performed according to ANSI C63.10, chapter 12.3.3.2

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN a, high, U-NII-1	S01_AB01	2023-08-22	Passed	Passed
WLAN a, high, U-NII-2A	S01_AB01	2023-08-22	Passed	Passed
WLAN a, high, U-NII-2C	S01_AB01	2023-08-22	Passed	Passed
WLAN a, high, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-1	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-2A	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-2C	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-1	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-2A	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-2C	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-1	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-30	Passed	Passed

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Maximum Conducted Output Power

The measurement was performed according to ANSI C63.10, chapter 12.3.3.2

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ac 40 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-30	Passed	Passed
WLAN ac 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 80 MHz MIMO, high, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, low, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, low, U-NII-3	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-1	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz, high, U-NII-2C	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, low, U-NII-2C	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-1	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-20	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-1	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-3	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-1	S01_AB01	2023-09-08	Passed	Passed

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Maximum Conducted Output Power

The measurement was performed according to ANSI C63.10, chapter 12.3.3.2

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ax 20 MHz, high, U-NII-2A	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2C	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, high, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-1	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2A	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2C	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-1	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-2A	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-2C	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-30	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-30	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-30	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-30	Passed	Passed
WLAN ax 40 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-30	Passed	Passed
WLAN ax 40 MHz, high, U-NII-1	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2A	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2C	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, high, U-NII-3	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-1	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2A	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2C	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-3	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 80 MHz MIMO, low, U-NII-3	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-1	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 80 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 80 MHz, high, U-NII-2C	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, low, U-NII-2C	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, low, U-NII-3	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-1	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-21	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-26	Passed	Passed

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Maximum Conducted Output Power

The measurement was performed according to ANSI C63.10, chapter 12.3.3.2

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN n 20 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed

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Maximum Conducted Output Power

The measurement was performed according to ANSI C63.10, chapter 12.3.3.2

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN n 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-12	Passed	Passed

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Subpart E §15.407
FCC §15.31, §15.407 (a) (1),(5)

Peak Power Spectral Density

The measurement was performed according to ANSI C63.10, chapter 12.5 (SA-3)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN a, high, U-NII-1	S01_AB01	2023-08-22	Passed	Passed
WLAN a, high, U-NII-2A	S01_AB01	2023-08-22	Passed	Passed
WLAN a, high, U-NII-2C	S01_AB01	2023-08-22	Passed	Passed
WLAN a, high, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-1	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-2A	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-2C	S01_AB01	2023-08-22	Passed	Passed
WLAN a, low, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-1	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-2A	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-2C	S01_AB01	2023-08-22	Passed	Passed
WLAN a, mid, U-NII-3	S01_AB01	2023-08-22	Passed	Passed
WLAN a, straddle, U-NII-2C/3	S01_AB01	2023-08-22	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-1	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-27	Passed	Passed
WLAN ac 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed

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FCC §15.31, §15.407 (a) (1),(5)

Peak Power Spectral Density

The measurement was performed according to ANSI C63.10, chapter 12.5 (SA-3)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ac 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-24	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2A	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2C	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-3	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2A	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2C	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-3	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-11-02	Passed	Passed
WLAN ac 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-12	Passed	Passed
WLAN ac 80 MHz MIMO, high, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, low, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, low, U-NII-3	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-1	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-10-25	Passed	Passed
WLAN ac 80 MHz, high, U-NII-2C	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, low, U-NII-2C	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, low, U-NII-3	S01_AB01	2023-09-20	Passed	Passed

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FCC §15.31, §15.407 (a) (1),(5)

Peak Power Spectral Density

The measurement was performed according to ANSI C63.10, chapter 12.5 (SA-3)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ac 80 MHz, mid, U-NII-1	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-20	Passed	Passed
WLAN ac 80 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-20	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-1	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2A	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-3	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-1	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-2A	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-3	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-1	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-3	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-10-25	Passed	Passed
WLAN ax 20 MHz, high, U-NII-1	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2A	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2C	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, high, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-1	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2A	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2C	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, low, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-1	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-2A	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-2C	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-08	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-1	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2A	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2C	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-3	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-1	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-2A	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-2C	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-3	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-11-02	Passed	Passed
WLAN ax 40 MHz, high, U-NII-1	S01_AB01	2023-09-15	Passed	Passed

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FCC §15.31, §15.407 (a) (1),(5)

Peak Power Spectral Density

The measurement was performed according to ANSI C63.10, chapter 12.5 (SA-3)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ax 40 MHz, high, U-NII-2A	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2C	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, high, U-NII-3	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-1	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2A	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2C	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-3	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-15	Passed	Passed
WLAN ax 80 MHz MIMO, high, U-NII-2C	S01_AB01	2023-10-27	Passed	Passed
WLAN ax 80 MHz MIMO, low, U-NII-2C	S01_AB01	2023-10-27	Passed	Passed
WLAN ax 80 MHz MIMO, low, U-NII-3	S01_AB01	2023-10-27	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-1	S01_AB01	2023-10-27	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-10-27	Passed	Passed
WLAN ax 80 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-10-27	Passed	Passed
WLAN ax 80 MHz, high, U-NII-2C	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, low, U-NII-2C	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, low, U-NII-3	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-1	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-2A	S01_AB01	2023-09-21	Passed	Passed
WLAN ax 80 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-21	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-1	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-2A	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz, high, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, high, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, high, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, high, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed

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Peak Power Spectral Density

The measurement was performed according to ANSI C63.10, chapter 12.5 (SA-3)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN n 20 MHz, low, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, low, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-1	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-2A	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-2C	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, mid, U-NII-3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 20 MHz, straddle, U-NII-2C/3	S01_AB01	2023-08-24	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-1	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2A	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2C	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-3	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-1	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2A	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2C	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-3	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, mid, U-NII-2C	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz MIMO, straddle, U-NII-2C/3	S01_AB01	2023-09-29	Passed	Passed
WLAN n 40 MHz, high, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-1	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-2A	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-3	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, mid, U-NII-2C	S01_AB01	2023-09-12	Passed	Passed
WLAN n 40 MHz, straddle, U-NII-2C/3	S01_AB01	2023-09-12	Passed	Passed

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§15.407
FCC §15.407 (b), (1),(2),(3),(4);
FCC §15.205, §15.209, §15.407 (b)
(5),(6)

Undesirable Emissions; General Field Strength Limits

The measurement was performed according to ANSI C63.10, chapter 6.4, 6.5, 6.6.5

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Measurement range, Subband				
WLAN a, high, 1GHz - 26GHz, U-NII-1	S02_AB01	2023-08-28	Passed	Passed
WLAN a, high, 1GHz - 26GHz, U-NII-2A	S02_AB01	2023-09-03	Passed	Passed
WLAN a, high, 1GHz - 26GHz, U-NII-2C	S02_AB01	2023-09-04	Passed	Passed

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§15.407**
**FCC §15.407 (b), (1),(2),(3),(4);
FCC §15.205, §15.209, §15.407 (b)
(5),(6)**

Undesirable Emissions; General Field Strength Limits

 The measurement was performed according to ANSI C63.10, chapter 6.4,
6.5, 6.6.5

Final Result
OP-Mode

 Radio Technology, Operating Frequency, Measurement
range, Subband

Setup
Date
FCC
IC

WLAN a, high, 1GHz - 26GHz, U-NII-3	S02_AB01	2023-09-13	Passed	Passed
WLAN a, high, 9kHz - 30MHz, U-NII-2C	S02_AB01	2023-10-14	Passed	Passed
WLAN a, low, 1GHz - 26GHz, U-NII-1	S02_AB01	2023-08-28	Passed	Passed
WLAN a, low, 1GHz - 26GHz, U-NII-2A	S02_AB01	2023-09-03	Passed	Passed
WLAN a, low, 1GHz - 26GHz, U-NII-2C	S02_AB01	2023-09-03	Passed	Passed
WLAN a, low, 1GHz - 26GHz, U-NII-3	S02_AB01	2023-09-10	Passed	Passed
WLAN a, low, 26GHz - 40GHz, U-NII-1	S02_AB01	2023-10-11	Passed	Passed
WLAN a, low, 9kHz - 30MHz, U-NII-1	S02_AB01	2023-10-14	Passed	Passed
WLAN a, mid, 1GHz - 26GHz, U-NII-1	S02_AB01	2023-08-28	Passed	Passed
WLAN a, mid, 1GHz - 26GHz, U-NII-2A	S02_AB01	2023-09-03	Passed	Passed
WLAN a, mid, 1GHz - 26GHz, U-NII-2C	S02_AB01	2023-09-03	Passed	Passed
WLAN a, mid, 1GHz - 26GHz, U-NII-3	S02_AB01	2023-09-13	Passed	Passed
WLAN a, mid, 26GHz - 40GHz, U-NII-2A	S02_AB01	2023-10-11	Passed	Passed
WLAN a, mid, 26GHz - 40GHz, U-NII-2C	S02_AB01	2023-10-11	Passed	Passed
WLAN a, mid, 26GHz - 40GHz, U-NII-3	S02_AB01	2023-10-11	Passed	Passed
WLAN a, mid, 30MHz - 1GHz, U-NII-1	S02_AB01	2023-10-14	Passed	Passed
WLAN a, mid, 30MHz - 1GHz, U-NII-2A	S02_AB01	2023-08-31	Passed	Passed
WLAN a, mid, 30MHz - 1GHz, U-NII-2C	S02_AB01	2023-08-31	Passed	Passed
WLAN a, mid, 30MHz - 1GHz, U-NII-3	S02_AB01	2023-10-14	Passed	Passed
WLAN ac 20 MHz MIMO, mid, 1GHz - 26GHz, U-NII-1 Remark: only harmonics tested	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, mid, 26GHz - 40GHz, U-NII-1	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, mid, 26GHz - 40GHz, U-NII-2A	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, mid, 26GHz - 40GHz, U-NII-2C	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, mid, 26GHz - 40GHz, U-NII-3	S02_AB01	2023-10-02	Passed	Passed
WLAN n 20 MHz MIMO, high, 1GHz - 26GHz, U-NII-1 Remark: only harmonics tested	S02_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, 1GHz - 26GHz, U-NII-2A Remark: only harmonics tested	S02_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, 1GHz - 26GHz, U-NII-2C Remark: only harmonics tested	S02_AB01	2023-09-28	Passed	Passed
WLAN n 20 MHz MIMO, high, 1GHz - 26GHz, U-NII-3 Remark: only harmonics tested	S02_AB01	2023-10-02	Passed	Passed
WLAN n 20 MHz MIMO, low, 1GHz - 26GHz, U-NII-1 Remark: only harmonics tested	S02_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, 1GHz - 26GHz, U-NII-2A Remark: only harmonics tested	S02_AB01	2023-09-28	Passed	Passed
WLAN n 20 MHz MIMO, low, 1GHz - 26GHz, U-NII-2C Remark: only harmonics tested	S02_AB01	2023-09-28	Passed	Passed
WLAN n 20 MHz MIMO, low, 1GHz - 26GHz, U-NII-3 Remark: only harmonics tested	S02_AB01	2023-09-28	Passed	Passed

**47 CFR CHAPTER I FCC PART 15 Subpart E
§15.407**

**FCC §15.407 (b), (1),(2),(3),(4);
FCC §15.205, §15.209, §15.407 (b)
(5),(6)**

Undesirable Emissions; General Field Strength Limits

The measurement was performed according to ANSI C63.10, chapter 6.4,
6.5, 6.6.5

Final Result

OP-Mode

Radio Technology, Operating Frequency, Measurement
range, Subband

WLAN n 20 MHz MIMO, mid, 1GHz - 26GHz, U-NII-1

Remark: only harmonics tested

S02_AB01

2023-10-02

Passed

Passed

WLAN n 20 MHz MIMO, mid, 1GHz - 26GHz, U-NII-2A

Remark: only harmonics tested

S02_AB01

2023-09-28

Passed

Passed

WLAN n 20 MHz MIMO, mid, 1GHz - 26GHz, U-NII-2C

Remark: only harmonics tested

S02_AB01

2023-09-28

Passed

Passed

WLAN n 20 MHz MIMO, mid, 1GHz - 26GHz, U-NII-3

Remark: only harmonics tested

S02_AB01

2023-09-29

Passed

Passed

WLAN n 40 MHz, high, 1GHz - 26GHz, U-NII-2A

Remark: only harmonics tested

S02_AB01

2023-10-02

Passed

Passed

WLAN n 40 MHz, high, 1GHz - 26GHz, U-NII-3

S02_AB01

2023-09-20

Passed

Passed

WLAN n 40 MHz, high, 30MHz - 1GHz, U-NII-2A

S02_AB01

2023-10-13

Passed

Passed

WLAN n 40 MHz, high, 30MHz - 1GHz, U-NII-3

S02_AB01

2023-10-13

Passed

Passed

WLAN n 40 MHz, high, 9kHz - 30MHz, U-NII-2C

S02_AB01

2023-10-14

Passed

Passed

WLAN n 40 MHz, low, 1GHz - 26GHz, U-NII-1

S02_AB01

2023-09-19

Passed

Passed

WLAN n 40 MHz, low, 1GHz - 26GHz, U-NII-2C

S02_AB01

2023-10-02

Passed

Passed

WLAN n 40 MHz, low, 1GHz - 26GHz, U-NII-3

S02_AB01

2023-09-20

Passed

Passed

Remark: only harmonics tested

WLAN n 40 MHz, mid, 1GHz - 26GHz, U-NII-2C

S02_AB01

2023-10-02

Passed

Passed

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.407 (b), (1),(2),(3),(4)

Band Edge

The measurement was performed according to ANSI C63.10, chapter 6.6.5

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN a, high, U-NII-2A	S02_AB01	2023-09-03	Passed	Passed
WLAN a, high, U-NII-2C	S02_AB01	2023-09-12	Passed	Passed
WLAN a, high, U-NII-3	S02_AB01	2023-09-13	Passed	Passed
WLAN a, low, U-NII-1	S02_AB01	2023-08-28	Passed	Passed
WLAN a, low, U-NII-2C	S02_AB01	2023-09-03	Passed	Passed
WLAN a, low, U-NII-3	S02_AB01	2023-09-28	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2A	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2C	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-3	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-1	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2C	S02_AA01	2023-12-03	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-3	S02_AB01	2023-10-02	Passed	Passed
WLAN ac 20 MHz, low, U-NII-1	S02_AA01	2023-12-03	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2A	S02_AB01	2023-11-10	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2C	S02_AB01	2023-11-10	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-3	S02_AB01	2023-11-10	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-1	S02_AA01	2023-12-03	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2C	S02_AB01	2023-11-10	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-3	S02_AB01	2023-11-10	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2A	S02_AB01	2023-10-10	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2C	S02_AB01	2023-10-10	Passed	Passed
WLAN ac 40 MHz, high, U-NII-3	S02_AB01	2023-10-10	Passed	Passed
WLAN ac 40 MHz, low, U-NII-1	S02_AA01	2023-12-03	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2C	S02_AA01	2023-12-03	Passed	Passed
WLAN ac 40 MHz, low, U-NII-3	S02_AB01	2023-10-10	Passed	Passed
WLAN ac 80 MHz, low, U-NII-3	S02_AB01	2023-10-13	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-1	S02_AB01	2023-10-13	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2A	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2C	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 20 MHz, high, U-NII-3	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 20 MHz, low, U-NII-1	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2C	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 20 MHz, low, U-NII-3	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2A	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2C	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 40 MHz, high, U-NII-3	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 40 MHz, low, U-NII-1	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2C	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 40 MHz, low, U-NII-3	S02_AA01	2023-12-03	Passed	Passed
WLAN ax 80 MHz, low, U-NII-3	S02_AA01	2023-12-03	Passed	Passed

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Subpart E §15.407
FCC §15.407 (b), (1),(2),(3),(4)

Band Edge

The measurement was performed according to ANSI C63.10, chapter 6.6.5

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ax 80 MHz, mid, U-NII-1	S02_AA01	2023-12-03	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2A	S02_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2C	S02_AB01	2023-09-28	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-3	S02_AB01	2023-10-02	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-1	S02_AB01	2023-09-26	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2C	S02_AB01	2023-09-28	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-3	S02_AB01	2023-09-28	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2A	S02_AB01	2023-09-26	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2C	S02_AB01	2023-09-28	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-3	S02_AB01	2023-10-02	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-1	S02_AB01	2023-09-26	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2C	S02_AB01	2023-09-28	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-3	S02_AB01	2023-09-28	Passed	Passed
WLAN n 40 MHz, high, U-NII-2A	S02_AB01	2023-10-02	Passed	Passed
WLAN n 40 MHz, high, U-NII-3	S02_AB01	2023-09-20	Passed	Passed
WLAN n 40 MHz, low, U-NII-1	S02_AB01	2023-09-20	Passed	Passed
WLAN n 40 MHz, low, U-NII-2C	S02_AB01	2023-10-02	Passed	Passed
WLAN a, high, U-NII-2A	S03_AB01	2023-10-13	Passed	Passed
WLAN a, high, U-NII-2C	S03_AB01	2023-10-13	Passed	Passed
WLAN a, high, U-NII-3	S03_AB01	2023-10-13	Passed	Passed
WLAN a, low, U-NII-1	S03_AB01	2023-10-13	Passed	Passed
WLAN a, low, U-NII-2C	S03_AB01	2023-10-13	Passed	Passed
WLAN a, low, U-NII-3	S03_AB01	2023-10-13	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-3	S03_AB01	2023-10-13	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2A	S03_AB01	2023-10-13	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2C	S03_AB01	2023-10-13	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-3	S03_AB01	2023-10-13	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-1	S03_AB01	2023-10-13	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2C	S03_AB01	2023-10-13	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-3	S03_AB01	2023-10-13	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2A	S03_AB01	2023-11-16	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2C	S03_AB01	2023-11-16	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-3	S03_AB01	2023-11-16	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-1	S03_AB01	2023-11-16	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2C	S03_AB01	2023-11-16	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-3	S03_AB01	2023-11-16	Passed	Passed

N/A: Not applicable

N/P: Not performed

2 REVISION HISTORY / SIGNATURES

Report version control			
Version	Release date	Change Description	Version validity
initial	2023-12-19	--	Invalid
Rev01	2024-04-23	Comment regarding directional gain for MIMO on page 27 added.	valid
--	--	--	--

COMMENT:

According to the applicant: The device contains a combined WiFi/BT/BTLE integrated circuit with two identical WiFi radios, and each of the radios can produce an output to either W1, W2 or both. The two radios share the same external components inside the module. Since they are equal, only one radio (radio 0) is tested.



(responsible for accreditation scope)
Daniel Gall



(responsible for testing and report)
Mohamed Fraitat



7 layers GmbH, Borsigstr. 11
40880 Ratingen, Germany
Phone +49 (0)2102 749 0

3 ADMINISTRATIVE DATA

3.1 TESTING LABORATORY

Company Name: 7layers GmbH
Address: Borsigstr. 11
40880 Ratingen
Germany

The test facility is accredited by the following accreditation organisation:

Laboratory accreditation no: DAKKS D-PL-12140-01-01 | -02 | -03
FCC Designation Number: DE0015
FCC Test Firm Registration: 929146
ISED CAB Identifier: DE0007; ISED#: 3699A

Responsible for accreditation scope: Daniel Gall
Report Template Version: 2023-09-29

3.2 PROJECT DATA

Responsible for testing and report: Mohamed Fraitat
Employees who performed the tests: documented internally at 7Layers
Date of Report: 2024-04-23
Testing Period: 2023-08-22 to 2023-12-05

3.3 APPLICANT DATA

Company Name: H&D Wireless AB
Address: Färögatan 33, Kista Science Tower
164 51 Kista
Sweden
Contact Person: Mikael Olsson

3.4 MANUFACTURER DATA

Company Name: please see Applicant Data

Address:

Contact Person:

4 TEST OBJECT DATA

4.1 GENERAL EUT DESCRIPTION

Kind of Device product description	The EUT is a Bluetooth and WLAN module.			
Product name	SPB620 module			
Type	SPB620			
Declared EUT data by the supplier				
Voltage Type	DC			
Voltage Level	3.3 V			
Tested Modulation Type	OFDM			
Specific product description	The EUT is a Bluetooth and WLAN module. For WLAN the EUT is supporting followings bands and modes in the 5 GHz band: - WLAN a-mode 20MHz - WLAN n 20 MHz and n 40 MHz (SISO and MIMO) - WLAN ac 20 MHz, 40 MHz, and 80 MHz (SISO and MIMO) - WLAN ax 20 MHz, 40 MHz, and 80 MHz (SISO and MIMO) The U-NII bands 1, 2A, 2C and 3 are supported. For this report the EUT is a slave without radar detection in the relevant DFS bands.			
Ports of the device	- DC (connected to Power supply) - 3*Antenna (W1 and W2 (WLAN), BT)			
Antenna / Gain	External / 5.5 dBi According to the customer, all transmitter outputs are uncorrelated, and the antenna gain is the same for each chain. Therefore, using the formula specified in KDB 662911 D01: Directional gain = G_{ANT} The directional gain is equal to the antenna gain.			
Tested Datarates	WLAN a: 54 Mbps WLAN n 20, 40: MCS7 WLAN ac 20: MCS8 WLAN ac 40, 80: MCS9 WLAN ax 20, 40, 80: MCS9			
Used power setting in EUT’s test software	Mode	Power setting	Mode	Power setting
	WLAN a:	15	WLAN n20 MIMO:	14
	WLAN n20:	14	WLAN n40 MIMO:	12
	WLAN n40:	12	WLAN ac20 MIMO:	14
	WLAN ac20:	14	WLAN ac40 MIMO:	12
	WLAN ac40:	12	WLAN ac80 MIMO:	10
	WLAN ac80:	10	WLAN ax20 MIMO:	12
	WLAN ax20:	12	WLAN ax40 MIMO:	8

	WLAN ax40:	8	WLAN ax80 MIMO:	6
	WLAN ax80:	6		
Special software used for testing	Labtool on computer board provided by applicant.			

4.2 EUT MAIN COMPONENTS

Sample Name	Sample Code	Description
EUT AB01	DE1495002ab01	Radiated and conducted sample
Sample Parameter	Value	
Serial No.	13	
HW Version	R2B	
SW Version	MFG-W9098-MF-BRG-U16-WIN-X86-2.0.0.89-17.80.200.p225	
Comment		

Sample Name	Sample Code	Description
EUT AA01	DE1495002aa01	Radiated and conducted sample
Sample Parameter	Value	
Serial No.	08	
HW Version	R2B	
SW Version	MFG-W9098-MF-BRG-U16-WIN-X86-2.0.0.89-17.80.200.p225	
Comment		

NOTE: The short description is used to simplify the identification of the EUT in this test report.

4.3 ANCILLARY EQUIPMENT

For the purposes of this test report, ancillary equipment is defined as equipment which is used in conjunction with the EUT to provide operational and control features to the EUT. It is necessary to configure the system in a typical fashion, as a customer would normally use it. But nevertheless Ancillary Equipment can influence the test results.

Device	Details (Manufacturer, Type Model, OUT Code)	Description
-	-	-

4.4 AUXILIARY EQUIPMENT

For the purposes of this test report, auxiliary equipment is defined as equipment which is used temporarily to enable operational and control features especially used for the tests of the EUT which is not used during normal operation or equipment that is used during the tests in combination with the EUT but is not subject of this test report. It is necessary to configure the system in a typical fashion, as a customer would normally use it. But nevertheless Auxiliary Equipment can influence the test results.

Device	Details (Manufacturer, Type Model, HW, SW, S/N)	Description
AUX1	H&D Wireless, SPB437, -, -, -,	Evaluation Board for module providing ports
AUX2	Raspberry, Model 4, -, -, -,	Raspberry Pi 4 Test Jig
AUX3	Taoglas, GW.71.5153, -, -,	Dipole Antenna primary
AUX4	Taoglas, GW.71.5153, -, -,	Dipole Antenna primary
AUX5	TE Connectivity/Laird, 001-0012, -, -,	Dipole Antenna second
AUX6	TE Connectivity/Laird, 001-0012, -, -,	Dipole Antenna second
AUX7	PeakTech, 6005D (30 V / 5 A), -, -, 81062045	Lab Power Supply (provided by 7Layers).

4.5 EUT SETUPS

This chapter describes the combination of EUTs and equipment used for testing. The rationale for selecting the EUTs, ancillary and auxiliary equipment and interconnecting cables, is to test a representative configuration meeting the requirements of the referenced standards.

Setup	Combination of EUTs	Description and Rationale
S01_AB01	EUT AB01, AUX1, AUX2,	Setup for conducted measurements
S02_AB01	EUT AB01, AUX1, AUX2, AUX3, AUX4	Setup for radiated measurements
S03_AB01	EUT AB01, AUX1, AUX2, AUX5, AUX6	Setup for radiated measurements
S04_AB01	EUT AB01, AUX1, AUX2, AUX3, AUX4, AUX7	Setup for AC conducted
S02_AA01	EUT AA01, AUX1, AUX2, AUX3, AUX4	Setup for radiated measurements

4.6 OPERATING MODES / TEST CHANNELS

This chapter describes the operating modes of the EUTs used for testing.

U-NII-Subband 1 5150 - 5250 MHz			U-NII-Subband 2A 5250 - 5350 MHz			U-NII-Subband 2C 5470 - 5725 MHz			U-NII-Subband 3 5725 - 5850 MHz			Nom. BW
low	mid	high	low	mid	high	low	mid	high	low	mid	high	20 MHz
36	40	48	52	60	64	100	116	140 / 144 1)	149	157	165	Ch.-No.
5180	5200	5240	5260	5300	5320	5500	5580	5700 / 5720	5745	5785	5825	MHz

low	mid	high	low	mid	high	low	mid	high	low	mid	high	40 MHz
38	-	46	54	-	62	102	110	134 / 142 1)	151	-	159	Ch.-No.
5190	-	5230	5270	-	5310	5510	5550	5670 / 5710	5755	-	5795	MHz

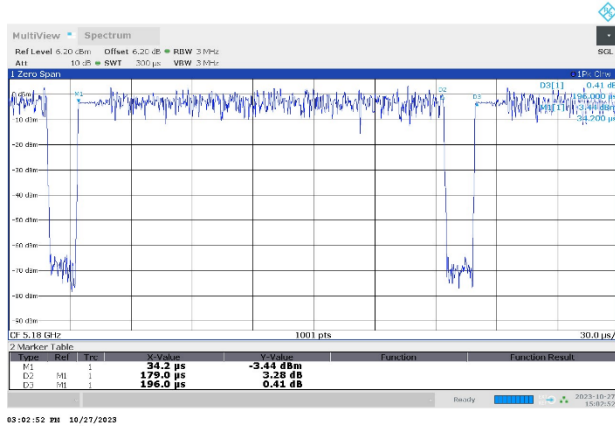
low	mid	high	low	mid	high	low	mid	high	low	mid	high	80 MHz
-	42	-	-	58	-	106	122	138 1)	155	-	-	Ch.-No.
-	5210	-	-	5290	-	5530	5610	5690	5775	-	-	MHz

- 1) Channels 144, 142 and 138 are straddle channels. Relevant high channels for upper Band Edge of band 2C are CH.140, CH. 134 and Ch 122.

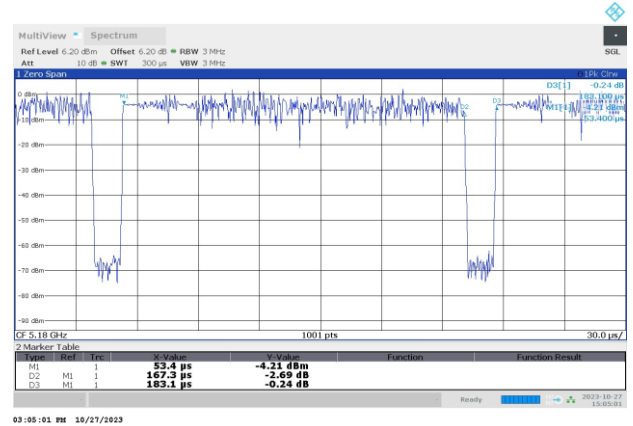
4.7 DUTY CYCLE

Test Mode	T _{on+off} (μs)	T _{on} (μs)	Duty cycle (%)
WLAN a:	196	179	91
WLAN n20:	183	167	91
WLAN n40:	115.6	99.2	86
WLAN ac20	166	140	84
WLAN ac40:	80	63	79
WLAN ac80:	79	63.6	80
WLAN ax20:	145	129	98
WLAN ax40:	112	96	86
WLAN ax80:	95	79	83

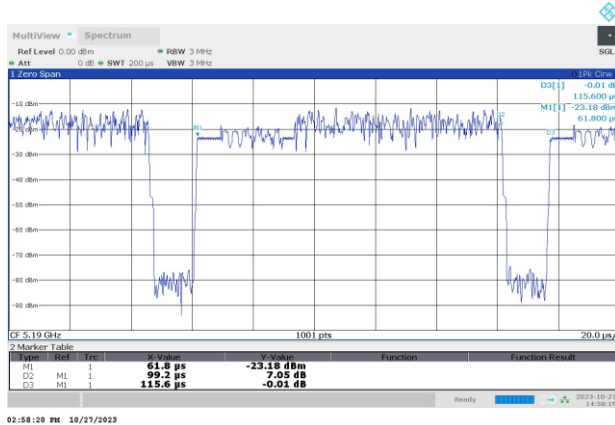
WLAN a



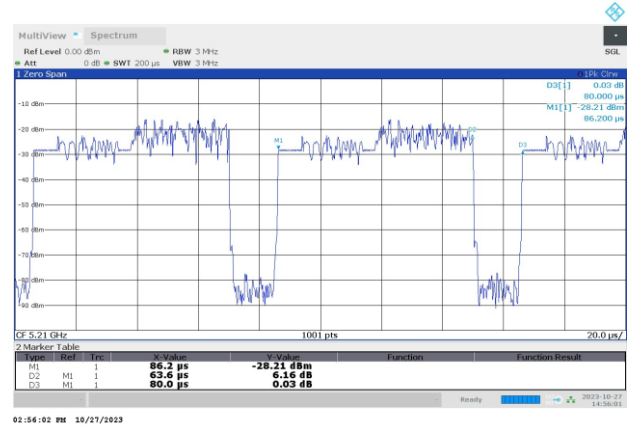
WLAN n20



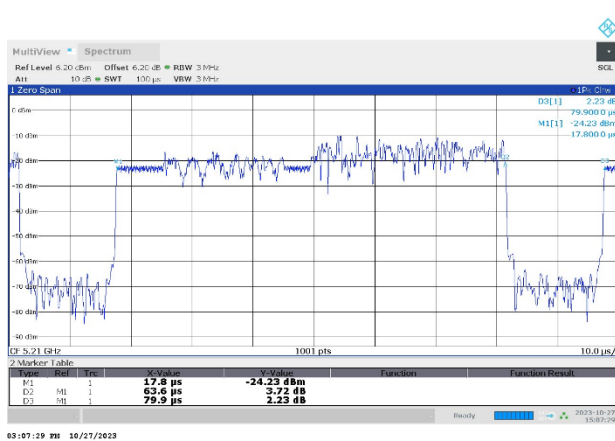
WLAN n40



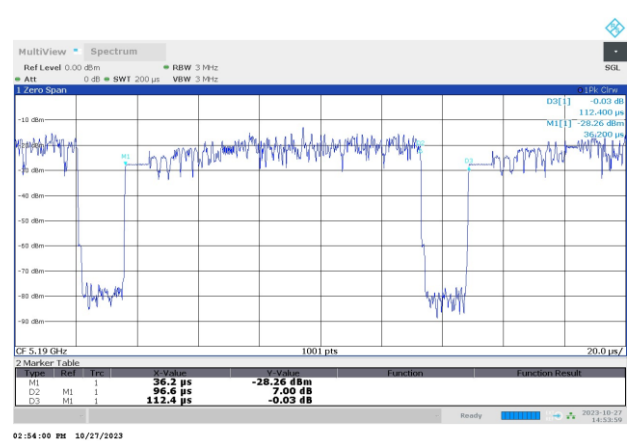
WLAN ac40



WLAN ac80

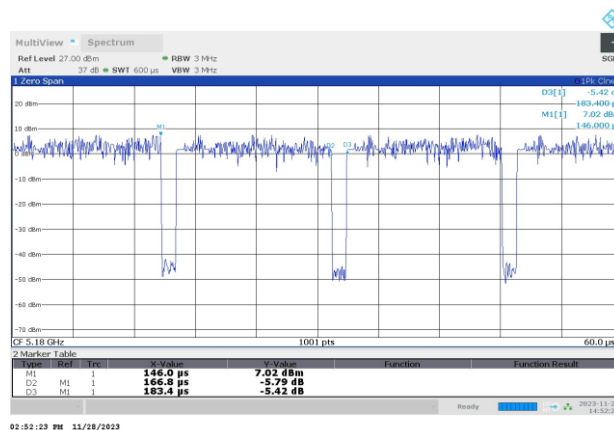
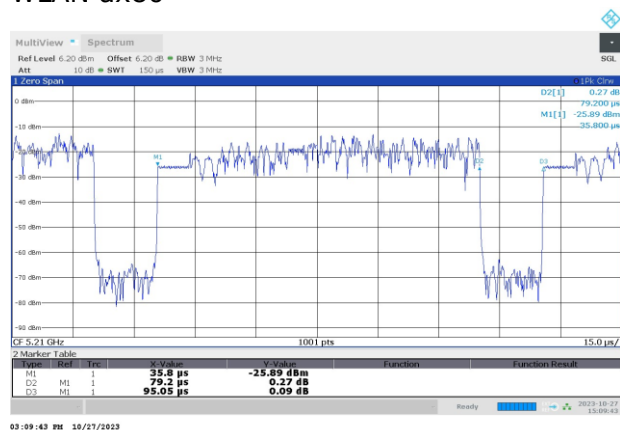


WLAN ax40

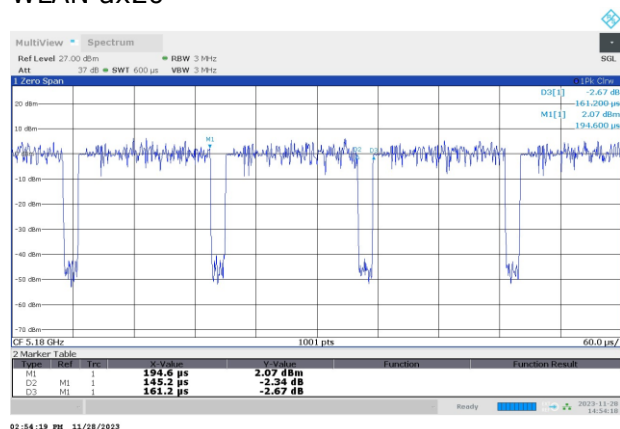


WLAN ac20

WLAN ax80



WLAN ax20



4.8 PRODUCT LABELLING

4.8.1 FCC ID LABEL

Please refer to the documentation of the applicant.

4.8.2 LOCATION OF THE LABEL ON THE EUT

Please refer to the documentation of the applicant.

5 TEST RESULTS

5.1 AC CONDUCTED EMISSIONS

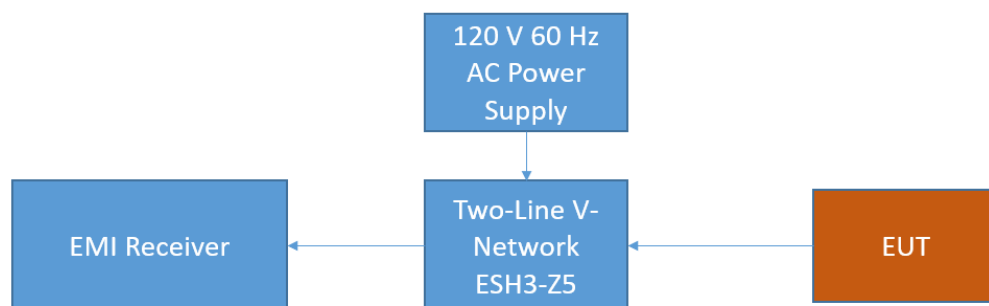
Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 6.2

5.1.1 TEST DESCRIPTION

The test set-up was made in accordance to the general provisions of ANSI C 63.10. The Equipment Under Test (EUT) was setup in a shielded room to perform the conducted emissions measurements in a typical installation configuration. The EUT was powered from 50 μ H || 50 Ohm Line Impedance Stabilization Network (LISN). The LISN's unused connections were terminated with 50 Ohm loads.



FCC Conducted Emissions on AC

The measurement procedure consists of two steps. It is implemented into the EMI test software EMC-32 from R&S.

Step 1: Preliminary scan

Intention of this step is, to determine the conducted EMI-profile of the EUT.

EMI receiver settings:

- Detector: Peak – Maxhold & Average
- Frequency range: 150 kHz – 30 MHz
- Frequency steps: 2.5 kHz
- IF-Bandwidth: 9 kHz
- Measuring time / Frequency step: 100 ms (FFT-based)
- Measurement on phase + neutral lines of the power cords

On basis of this preliminary scan the highest amplitudes and the corresponding frequencies relative to the limit are identified. Emissions above the limit and emissions which are in the 10 dB range below the limit are considered.

Step 2: Final measurement

Intention of this step is, to determine the highest emissions with the settings defined in the test specification for the frequencies identified in step 1.

EMI receiver settings:

- Detector: Quasi-Peak & (CISPR) Average

- IF Bandwidth: 9 kHz
- Measuring time: 1 s / frequency

At each frequency determined in step 1, four measurements are performed in the following combinations:

- 1) Neutral lead - reference ground (PE grounded)
- 2) Phase lead - reference ground (PE grounded)
- 3) Neutral lead - reference ground (PE floating)
- 4) Phase lead - reference ground (PE floating)

The highest value is reported.

5.1.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart C, §15.207

Frequency (MHz)	QP Limits (dBµV)	AV Limits (dBµV)
0.15 – 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

5.1.3 TEST PROTOCOL

Temperature: 26 °C
 Air Pressure: 1002 hPa
 Humidity: 38 %

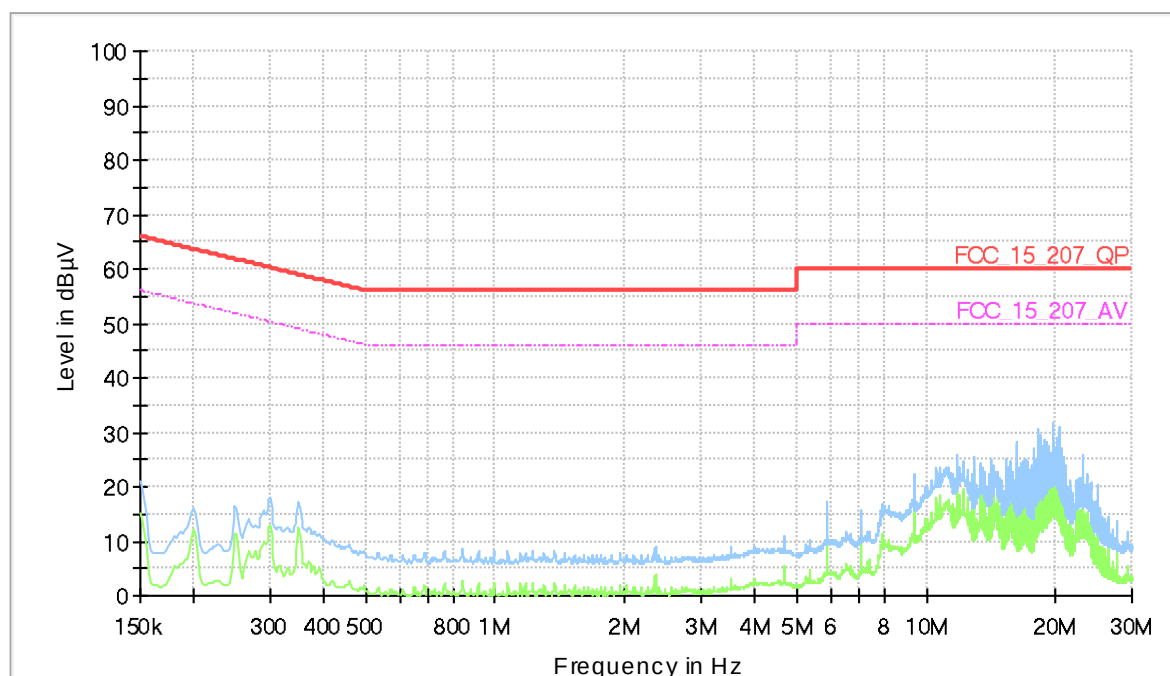
Power line	PE	Frequency [MHz]	Measured value QP [dBµV]	Measured value AV [dBµV]	Limit [dBµV]	Margin [dB]
-	-	-	-	-	-	-

Remark: Please see next sub-clause for the measurement plot.

5.1.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

Common Information

Test Description:	Conducted Emissions
Test Standard:	FCC §15.207, ANSI C63.10
EUT / Setup Code:	DE1495002ab01
Operating Conditions:	120 V 60 Hz, WLAN a-mode 54 Mbps Ch36
Legend:	Trace: blue = QP, green = CISPR AV; Star: red or blue = critical frequency; Rhombus: blue = final QP, green = final CISPR AV
Tested Port / used LISN:	AC mains => 1st LISN ESH3-Z5
Termination of other ports:	N/A,



5.1.5 TEST EQUIPMENT USED

- Conducted Emissions FCC

5.2 26 DB BANDWIDTH

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.4.1

5.2.1 TEST DESCRIPTION

The Equipment Under Test (EUT) was set up to perform the occupied bandwidth measurements.

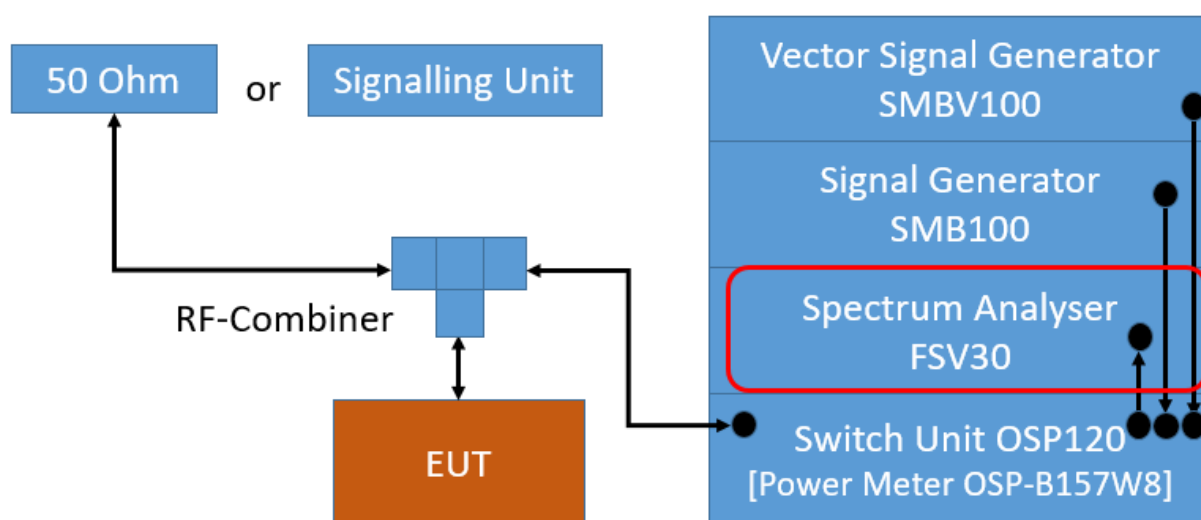
The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.

The results recorded were measured with the modulation which produce the worst-case (widest) emission bandwidth.

The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

Analyzer settings:

- Resolution Bandwidth (RBW): initially approx. 1 % of nominal emission bandwidth
- Video Bandwidth (VBW): > RBW
- Span: 40 / 80 / 160 / 320 MHz (for 20 / 40 / 80 / 160 MHz nominal bandwidth)
- Trace: Maxhold
- Sweeps: Until the trace is stable
- Sweep time: Auto
- Detector: Peak



TS8997; Occupied Channel Bandwidth 6 dB / 26 dB / 99 %

5.2.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart E

There exist no applicable limits. The test was performed to determine the limits for the "Maximum Conducted Output Power" and DFS test cases.

Therefore no result was applied.

5.2.3 TEST PROTOCOL

Ambient temperature: 23-25 °C
 Air Pressure: 990-1010 hPa
 Humidity: 36-40 %

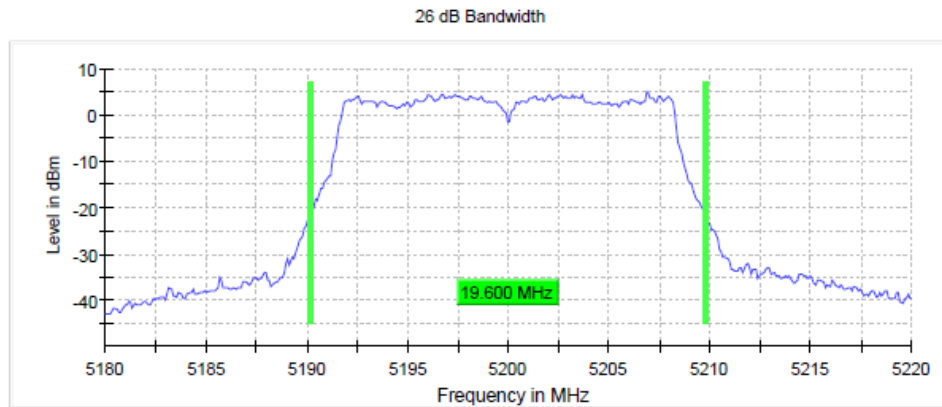
Radio Technology	Subband	Operating Frequency	26 dB Bandwidth [MHz]
WLAN a	U-NII-1	low	19.6
WLAN a	U-NII-1	mid	19.6
WLAN a	U-NII-1	high	19.5
WLAN a	U-NII-2A	low	19.5
WLAN a	U-NII-2A	mid	19.7
WLAN a	U-NII-2A	high	19.4
WLAN a	U-NII-2C	low	19.5
WLAN a	U-NII-2C	mid	19.5
WLAN a	U-NII-2C	high	19.5
WLAN a	U-NII-2C/3	straddle	19.4
WLAN a	U-NII-3	low	19.5
WLAN a	U-NII-3	mid	19.5
WLAN a	U-NII-3	high	19.5
WLAN n 20 MHz	U-NII-1	low	19.9
WLAN n 20 MHz	U-NII-1	mid	20.0
WLAN n 20 MHz	U-NII-1	high	19.9
WLAN n 20 MHz	U-NII-2A	low	19.9
WLAN n 20 MHz	U-NII-2A	mid	19.9
WLAN n 20 MHz	U-NII-2A	high	19.9
WLAN n 20 MHz	U-NII-2C	low	20.0
WLAN n 20 MHz	U-NII-2C	mid	19.9
WLAN n 20 MHz	U-NII-2C	high	20.1
WLAN n 20 MHz	U-NII-2C/3	straddle	20.0
WLAN n 20 MHz	U-NII-3	low	19.9
WLAN n 20 MHz	U-NII-3	mid	20.0
WLAN n 20 MHz	U-NII-3	high	20.0
WLAN n 40 MHz	U-NII-1	low	39.9
WLAN n 40 MHz	U-NII-1	high	39.8
WLAN n 40 MHz	U-NII-2A	low	39.9
WLAN n 40 MHz	U-NII-2A	high	39.8
WLAN n 40 MHz	U-NII-2C	low	39.9
WLAN n 40 MHz	U-NII-2C	mid	39.8
WLAN n 40 MHz	U-NII-2C	high	39.9
WLAN n 40 MHz	U-NII-2C/3	straddle	40.1
WLAN n 40 MHz	U-NII-3	low	39.9
WLAN n 40 MHz	U-NII-3	high	39.8
WLAN ac 20 MHz	U-NII-1	low	20.0
WLAN ac 20 MHz	U-NII-1	mid	20.0
WLAN ac 20 MHz	U-NII-1	high	20.1
WLAN ac 20 MHz	U-NII-2A	low	20.1
WLAN ac 20 MHz	U-NII-2A	mid	19.9
WLAN ac 20 MHz	U-NII-2A	high	20.1
WLAN ac 20 MHz	U-NII-2C	low	20.0
WLAN ac 20 MHz	U-NII-2C	mid	20.1
WLAN ac 20 MHz	U-NII-2C	high	20.0
WLAN ac 20 MHz	U-NII-2C/3	straddle	20.1
WLAN ac 20 MHz	U-NII-3	low	20.1

WLAN ac 20 MHz	U-NII-3	mid	20.0
WLAN ac 20 MHz	U-NII-3	high	20.1
WLAN ac 40 MHz	U-NII-1	low	39.9
WLAN ac 40 MHz	U-NII-1	high	39.9
WLAN ac 40 MHz	U-NII-2A	low	39.9
WLAN ac 40 MHz	U-NII-2A	high	40.1
WLAN ac 40 MHz	U-NII-2C	low	39.9
WLAN ac 40 MHz	U-NII-2C	mid	39.9
WLAN ac 40 MHz	U-NII-2C	high	40.1
WLAN ac 40 MHz	U-NII-2C/3	straddle	40.1
WLAN ac 40 MHz	U-NII-3	low	40.1
WLAN ac 40 MHz	U-NII-3	high	39.9
WLAN ac 80 MHz	U-NII-1	mid	83.0
WLAN ac 80 MHz	U-NII-2A	mid	83.0
WLAN ac 80 MHz	U-NII-2C	low	83.0
WLAN ac 80 MHz	U-NII-2C/3	straddle	85.5
WLAN ac 80 MHz	U-NII-3	low	83.0
WLAN ax 20 MHz	U-NII-1	low	20.7
WLAN ax 20 MHz	U-NII-1	mid	20.8
WLAN ax 20 MHz	U-NII-1	high	20.8
WLAN ax 20 MHz	U-NII-2A	low	20.8
WLAN ax 20 MHz	U-NII-2A	mid	20.7
WLAN ax 20 MHz	U-NII-2A	high	20.8
WLAN ax 20 MHz	U-NII-2C	low	20.7
WLAN ax 20 MHz	U-NII-2C	mid	20.7
WLAN ax 20 MHz	U-NII-2C	high	20.6
WLAN ax 20 MHz	U-NII-2C/3	straddle	20.7
WLAN ax 20 MHz	U-NII-3	low	20.8
WLAN ax 20 MHz	U-NII-3	mid	20.8
WLAN ax 20 MHz	U-NII-3	high	20.7
WLAN ax 40 MHz	U-NII-1	low	40.5
WLAN ax 40 MHz	U-NII-1	high	40.2
WLAN ax 40 MHz	U-NII-2A	low	40.4
WLAN ax 40 MHz	U-NII-2A	high	40.5
WLAN ax 40 MHz	U-NII-2C	low	40.4
WLAN ax 40 MHz	U-NII-2C	mid	40.5
WLAN ax 40 MHz	U-NII-2C	high	40.4
WLAN ax 40 MHz	U-NII-2C/3	straddle	40.5
WLAN ax 40 MHz	U-NII-3	low	40.5
WLAN ax 40 MHz	U-NII-3	high	40.5
WLAN ax 80 MHz	U-NII-1	mid	81.5
WLAN ax 80 MHz	U-NII-2A	mid	81.5
WLAN ax 80 MHz	U-NII-2C	low	81.5
WLAN ax 80 MHz	U-NII-2C	high	81.5
WLAN ax 80 MHz	U-NII-2C/3	straddle	81.5
WLAN ax 80 MHz	U-NII-3	low	81.5

Remark: Please see next sub-clause for the measurement plot.

5.2.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

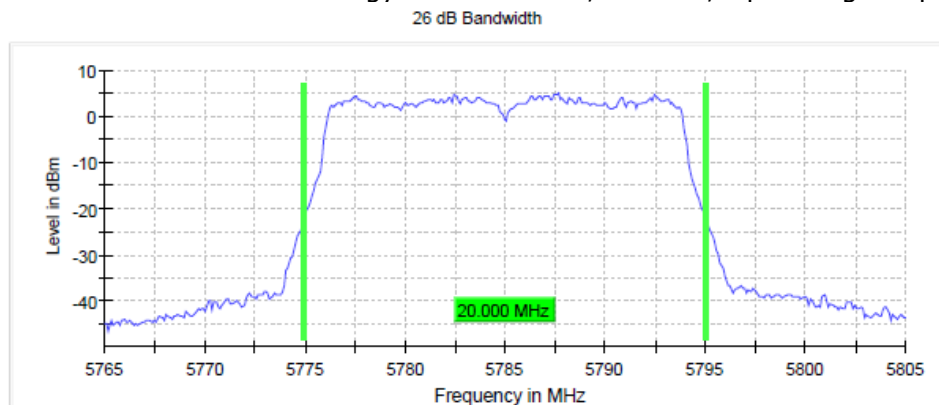
Radio Technology = WLAN a, UNII- 1, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.18000 GHz
Stop Frequency	5.22000 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	52 / max. 150
Stable	5 / 5
Max Stable Difference	0.08 dB

Radio Technology = WLAN n 20, UNII- 3, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.76500 GHz
Stop Frequency	5.80500 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	44 / max. 150
Stable	5 / 5
Max Stable Difference	0.02 dB

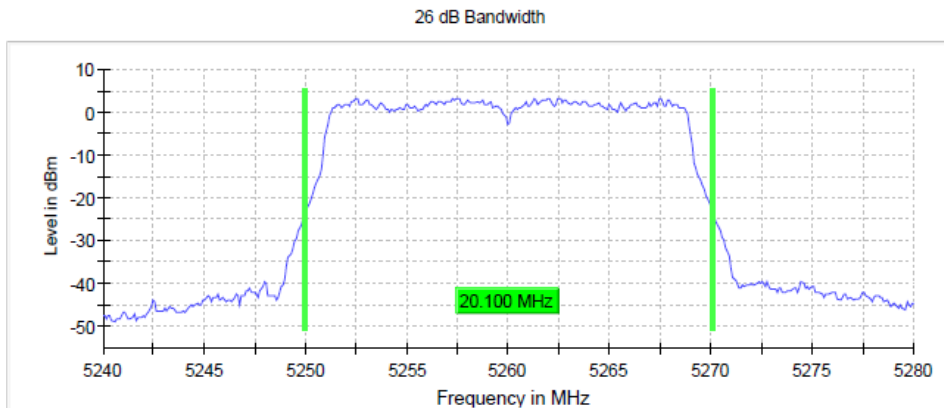
Radio Technology = WLAN n 40, UNII- 2C, Operating Frequency = straddle



Measurement

Setting	Instrument Value
Start Frequency	5.67000 GHz
Stop Frequency	5.75000 GHz
Span	80.000 MHz
RBW	300.000 kHz
VBW	1.000 MHz
SweepPoints	533
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	74 / max. 150
Stable	5 / 5
Max Stable Difference	0.17 dB

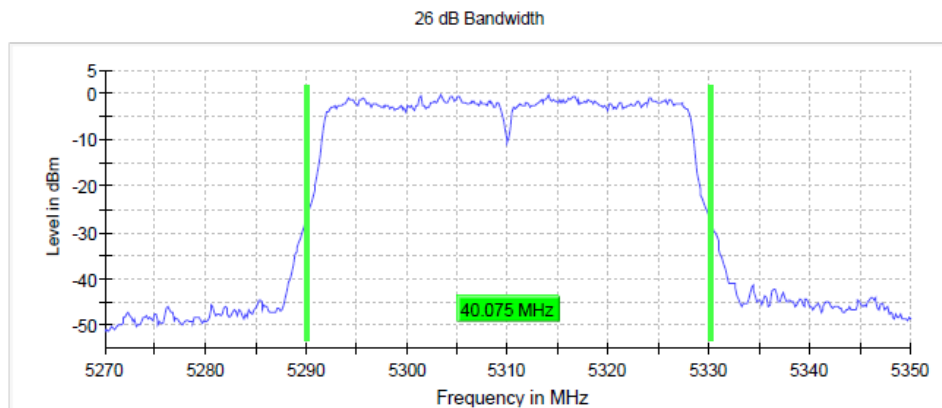
Radio Technology = WLAN ac 20, UNII- 2A, Operating Frequency = low



Measurement

Setting	Instrument Value
Start Frequency	5.24000 GHz
Stop Frequency	5.28000 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	41 / max. 150
Stable	5 / 5
Max Stable Difference	0.16 dB

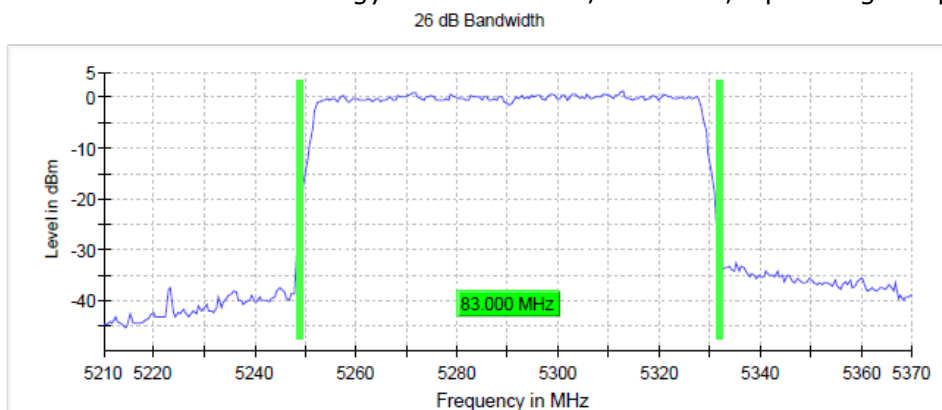
Radio Technology = WLAN ac 40, UNII- 2A, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.27000 GHz
Stop Frequency	5.35000 GHz
Span	80.000 MHz
RBW	300.000 kHz
VBW	1.000 MHz
SweepPoints	533
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	72 / max. 150
Stable	5 / 5
Max Stable Difference	0.23 dB

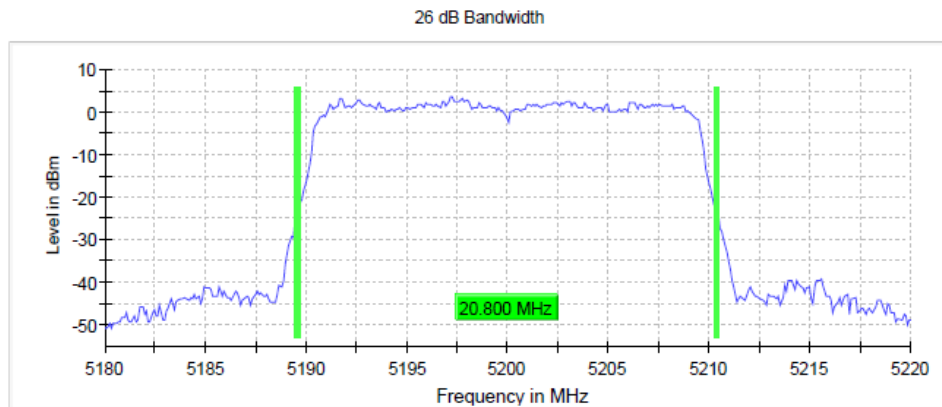
Radio Technology = WLAN ac 80, UNII- 2A, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.21000 GHz
Stop Frequency	5.37000 GHz
Span	160.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	59 / max. 150
Stable	5 / 5
Max Stable Difference	0.09 dB

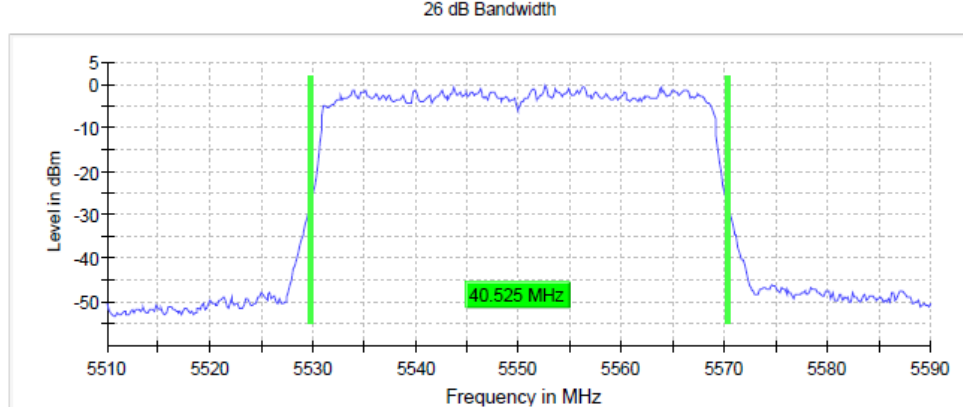
Radio Technology = WLAN ax 20, UNII- 1, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.18000 GHz
Stop Frequency	5.22000 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	74 / max. 150
Stable	5 / 5
Max Stable Difference	0.01 dB

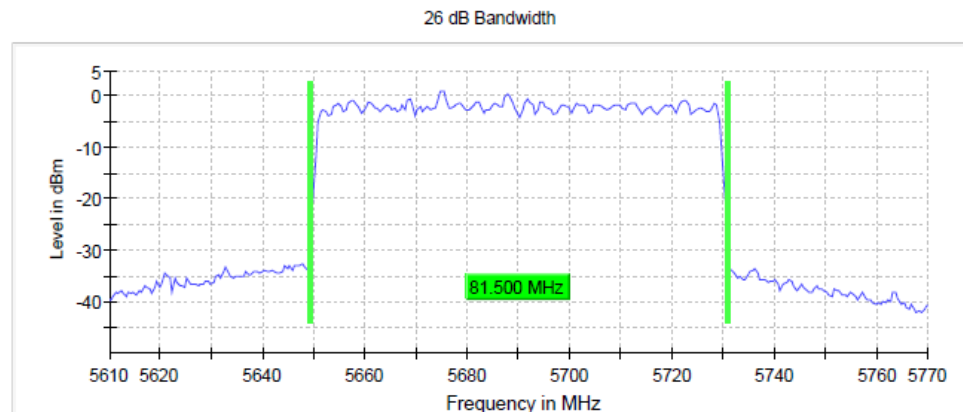
Radio Technology = WLAN ax 40, UNII- 2C, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.51000 GHz
Stop Frequency	5.59000 GHz
Span	80.000 MHz
RBW	300.000 kHz
VBW	1.000 MHz
SweepPoints	533
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	94 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

Radio Technology = WLAN ax 80, UNII- 2C, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.61000 GHz
Stop Frequency	5.77000 GHz
Span	160.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	-10.000 dBm
Attenuation	0.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	111 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

5.2.5 TEST EQUIPMENT USED

- R&S TS8997

5.3 6 DB BANDWIDTH

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 6.9.2

5.3.1 TEST DESCRIPTION

The Equipment Under Test (EUT) was setup in a shielded room to perform the occupied bandwidth measurements.

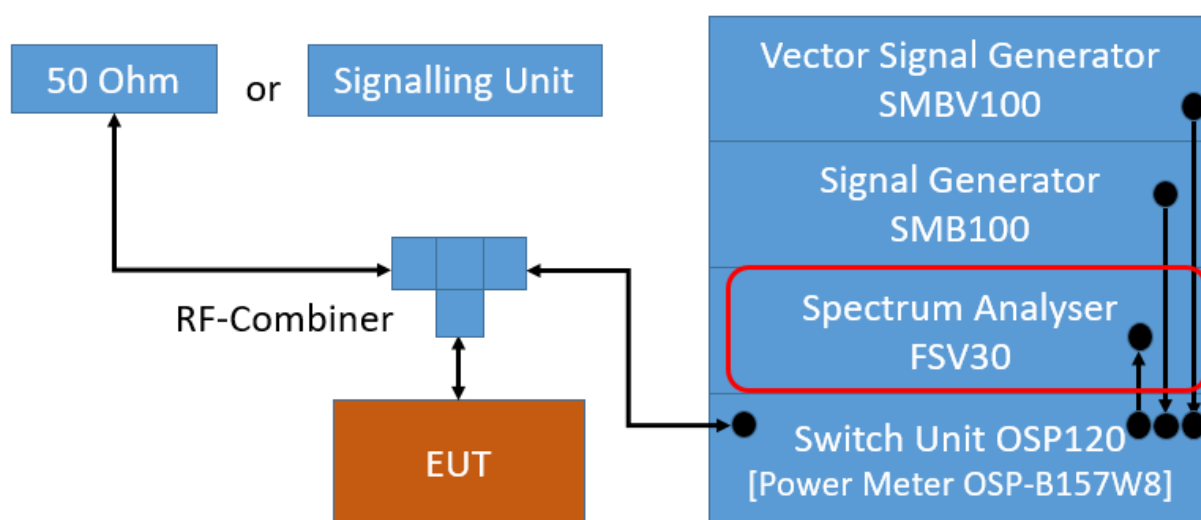
The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.

The results recorded were measured with the modulation which produce the worst-case (smallest) emission bandwidth.

The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

Analyzer settings:

- Resolution Bandwidth (RBW): 100 kHz
- Video Bandwidth (VBW): 300 kHz
- Span: 40 / 80 / 160 / 320 MHz (for 20 / 40 / 80 / 160 MHz nominal bandwidth))
- Trace: Maxhold
- Sweeps: Until the trace is stable
- Sweep time: Auto
- Detector: Peak



TS8997; Occupied Channel Bandwidth 6 dB / 26 dB / 99 %

5.3.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart E, §15.407 (e)

Within the 5.725-5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.3.3 TEST PROTOCOL

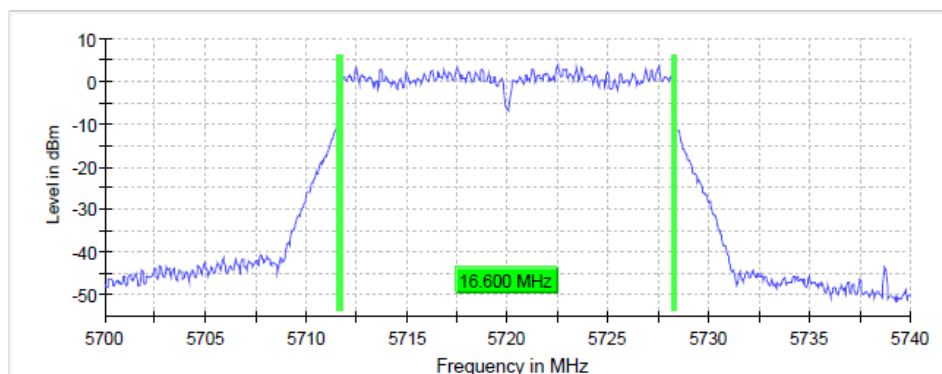
Ambient temperature: 23-25 °C
 Air Pressure: 990-1010 hPa
 Humidity: 36-40 %

Radio Technology	Operating Frequency	6 dB Bandwidth [MHz]	Limit [MHz]	Margin [MHz]
WLAN a	low	16,6	0,5	16.05
WLAN a	mid	16,6	0,5	16.10
WLAN a	high	16,6	0,5	16.05
WLAN n 20 MHz	low	17,8	0,5	17.30
WLAN n 20 MHz	mid	17,8	0,5	17.30
WLAN n 20 MHz	high	17,8	0,5	17.30
WLAN n 40 MHz	low	36,5	0,5	36.00
WLAN n 40 MHz	high	36,5	0,5	36.00
WLAN ac 20 MHz	low	17,8	0,5	17.25
WLAN ac 20 MHz	mid	17,8	0,5	17.25
WLAN ac 20 MHz	high	17,8	0,5	17.30
WLAN ac 40 MHz	low	36,5	0,5	36.00
WLAN ac 40 MHz	high	36,5	0,5	35.95
WLAN ac 80 MHz	mid	76,6	0,5	76.10
WLAN ax 20 MHz	low	18,7	0,5	18.20
WLAN ax 20 MHz	mid	18,7	0,5	18.15
WLAN ax 20 MHz	high	18,7	0,5	18.15
WLAN ax 40 MHz	low	38,0	0,5	37.45
WLAN ax 40 MHz	high	37,6	0,5	37.10
WLAN ax 80 MHz	mid	78,1	0,5	77.60

Remark: Please see next sub-clause for the measurement plot.

5.3.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

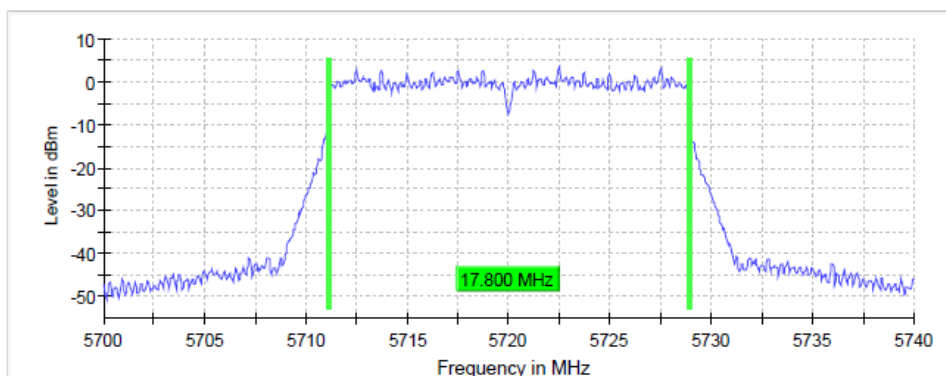
Radio Technology = WLAN a, UNII- 3, Operating Frequency = low
6 dB Bandwidth



Measurement

Setting	Instrument Value
Start Frequency	5.70000 GHz
Stop Frequency	5.74000 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
SweepTime	1.040 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	60 / max. 150
Stable	5 / 5
Max Stable Difference	0.03 dB

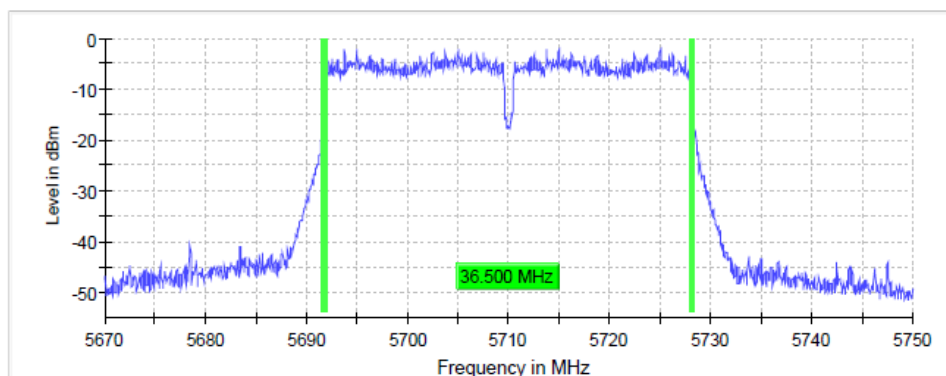
Radio Technology = WLAN n 20, UNII- 3, Operating Frequency = low
6 dB Bandwidth



Measurement

Setting	Instrument Value
Start Frequency	5.70000 GHz
Stop Frequency	5.74000 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
SweepTime	1.040 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	64 / max. 150
Stable	5 / 5
Max Stable Difference	0.09 dB

Radio Technology = WLAN n 40, UNII- 3, Operating Frequency = low
6 dB Bandwidth



Measurement

Setting	Instrument Value
Start Frequency	5.67000 GHz
Stop Frequency	5.75000 GHz
Span	80.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	1600
SweepTime	1.600 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	78 / max. 150
Stable	5 / 5
Max Stable Difference	0.26 dB

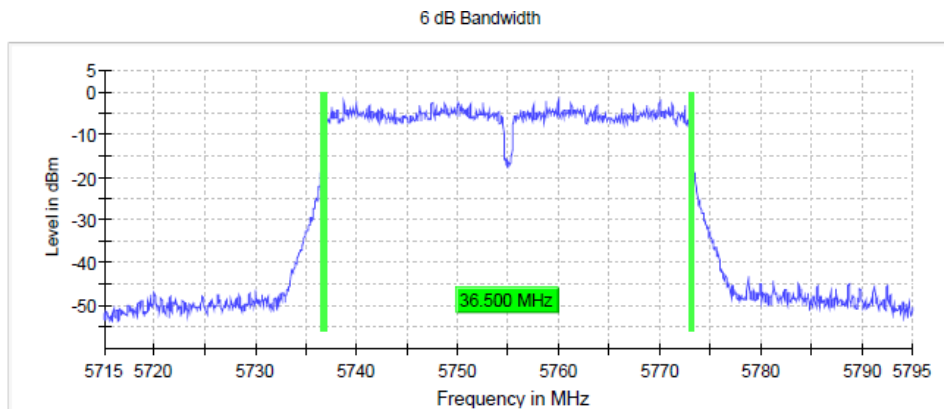
Radio Technology = WLAN ac 20, UNII- 3, Operating Frequency = low



Measurement

Setting	Instrument Value
Start Frequency	5.72500 GHz
Stop Frequency	5.76500 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
SweepTime	1.040 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	64 / max. 150
Stable	5 / 5
Max Stable Difference	0.15 dB

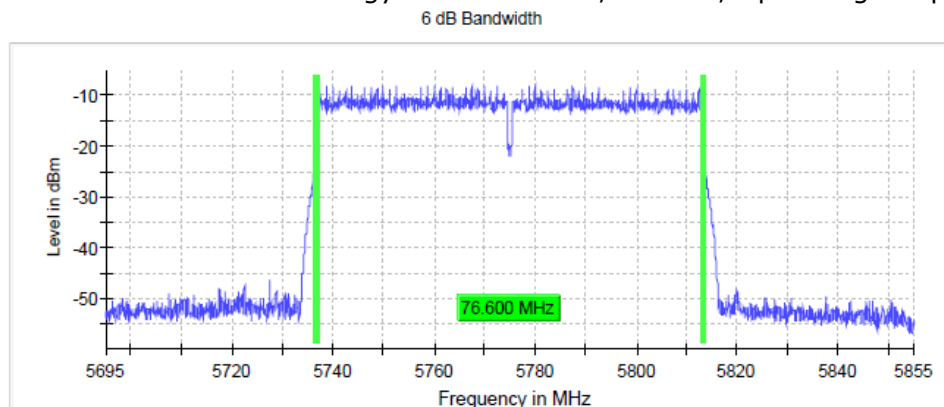
Radio Technology = WLAN ac 40, UNII- 3, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.71500 GHz
Stop Frequency	5.79500 GHz
Span	80.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	1600
SweepTime	1.600 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	116 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

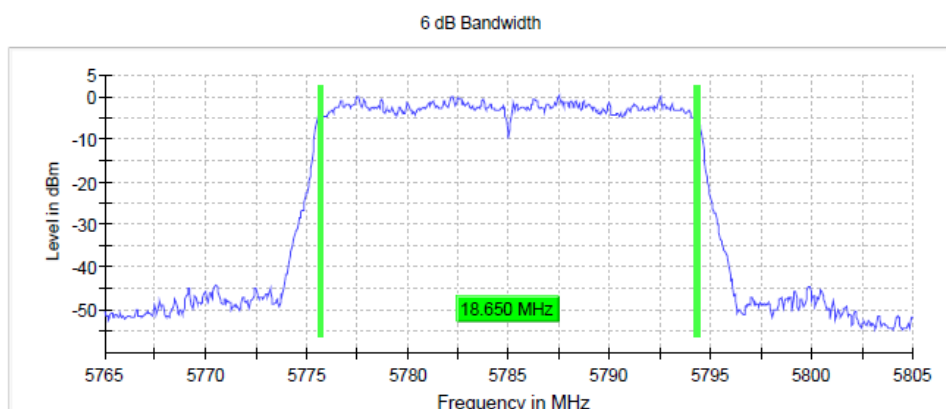
Radio Technology = WLAN ac 80, UNII- 3, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.69500 GHz
Stop Frequency	5.85500 GHz
Span	160.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	3200
SweepTime	3.200 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	125 / max. 150
Stable	5 / 5
Max Stable Difference	0.06 dB

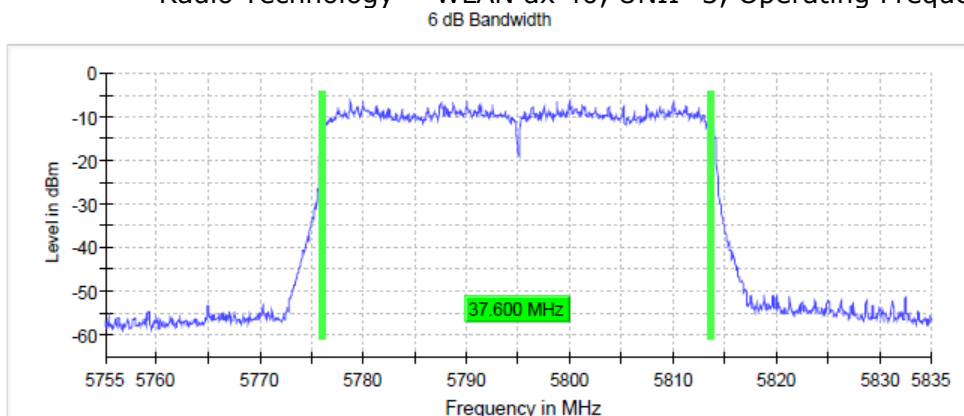
Radio Technology = WLAN ax 20, UNII- 3, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.76500 GHz
Stop Frequency	5.80500 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
SweepTime	1.040 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	75 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

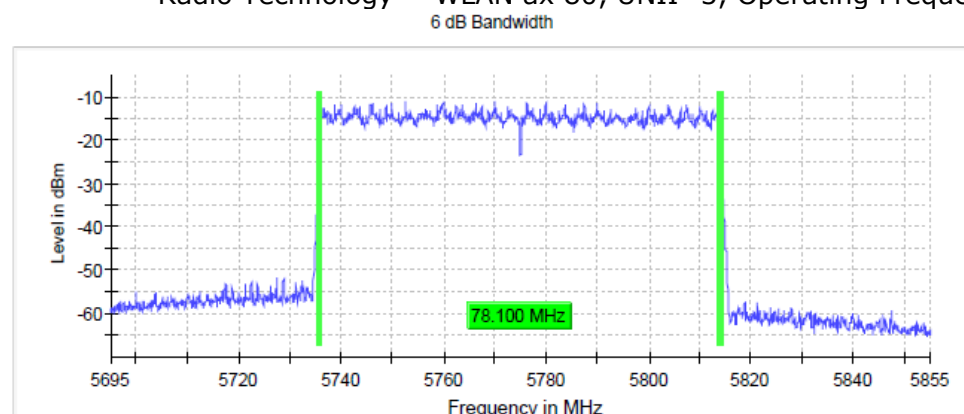
Radio Technology = WLAN ax 40, UNII- 3, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.75500 GHz
Stop Frequency	5.83500 GHz
Span	80.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	1600
SweepTime	1.600 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	134 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

Radio Technology = WLAN ax 80, UNII- 3, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.69500 GHz
Stop Frequency	5.85500 GHz
Span	160.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	3200
SweepTime	3.200 ms
Reference Level	-10.000 dBm
Attenuation	0.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	114 / max. 150
Stable	5 / 5
Max Stable Difference	0.22 dB

5.3.5 TEST EQUIPMENT USED

- R&S TS8997

5.4 99 % BANDWIDTH

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.4.2 (6.9.3)

5.4.1 TEST DESCRIPTION

The Equipment Under Test (EUT) was set up to perform the occupied bandwidth measurements.

The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.

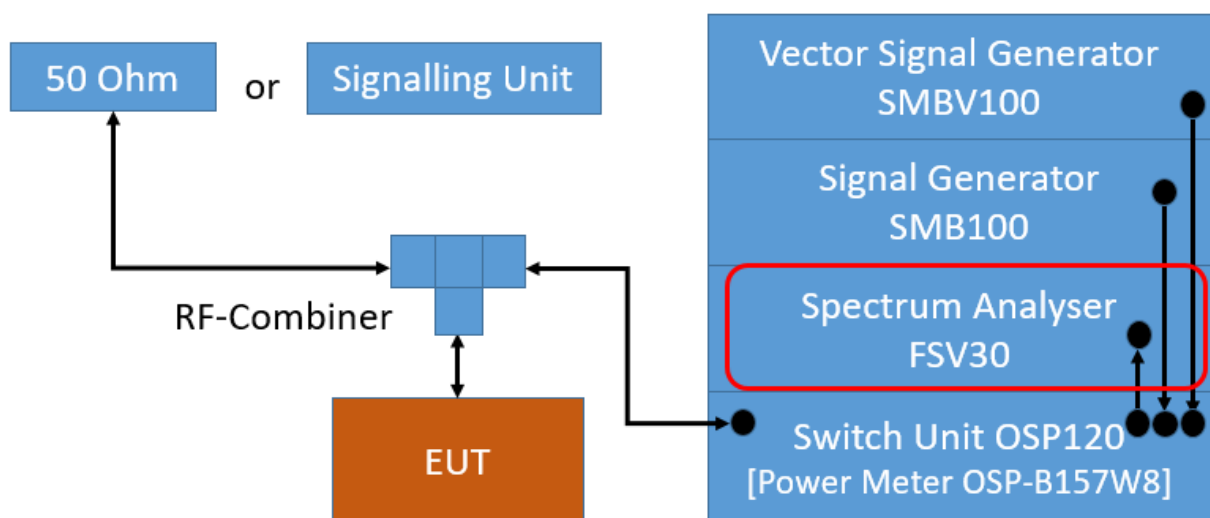
The results recorded were measured with the modulation which produce the worst-case (widest) emission bandwidth.

The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

Analyzer settings:

- Resolution Bandwidth (RBW): approx. ≥ 1 % of the span, but not below
- Video Bandwidth (VBW): ≥ 3 times the RBW
- Span: 40 / 80 / 160 / 320 MHz (for 20 / 40 / 80 / 160 MHz nominal bandwidth)
- Trace: Maxhold
- Sweeps: Until the trace is stable
- Sweep time: Auto
- Detector: Peak

The 99 % measurement function of the spectrum analyser function was used to determine the 99 % bandwidth.



TS8997; Occupied Channel Bandwidth 6 dB / 26 dB / 99 %

5.4.2 TEST REQUIREMENTS / LIMITS

No applicable limit.

The test was performed to determine the limits for the “Maximum Conducted Output Power” and DFS test cases.

5.4.3 TEST PROTOCOL

Ambient temperature: 23-25 °C
 Air Pressure: 990-1010 hPa
 Humidity: 36-40 %

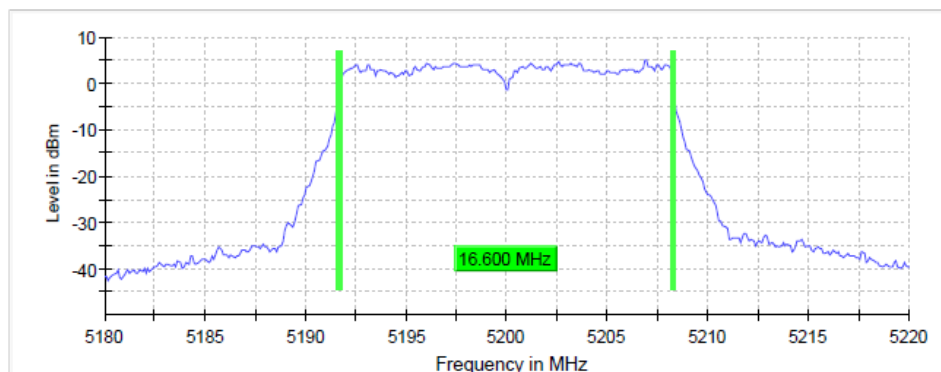
Radio Technology	Subband	Operating Frequency	99% Bandwidth [MHz]
WLAN a	U-NII-1	low	16.6
WLAN a	U-NII-1	mid	16.6
WLAN a	U-NII-1	high	16.5
WLAN a	U-NII-2A	low	16.6
WLAN a	U-NII-2A	mid	16.6
WLAN a	U-NII-2A	high	16.6
WLAN a	U-NII-2C	low	16.6
WLAN a	U-NII-2C	mid	16.6
WLAN a	U-NII-2C	high	16.6
WLAN a	U-NII-3	low	16.6
WLAN a	U-NII-3	mid	16.6
WLAN a	U-NII-3	high	16.6
WLAN n 20 MHz	U-NII-1	low	17.7
WLAN n 20 MHz	U-NII-1	mid	17.7
WLAN n 20 MHz	U-NII-1	high	17.7
WLAN n 20 MHz	U-NII-2A	low	17.7
WLAN n 20 MHz	U-NII-2A	mid	17.7
WLAN n 20 MHz	U-NII-2A	high	17.7
WLAN n 20 MHz	U-NII-2C	low	17.7
WLAN n 20 MHz	U-NII-2C	mid	17.7
WLAN n 20 MHz	U-NII-2C	high	17.7
WLAN n 20 MHz	U-NII-3	low	17.7
WLAN n 20 MHz	U-NII-3	mid	17.7
WLAN n 20 MHz	U-NII-3	high	17.7
WLAN n 40 MHz	U-NII-1	low	36.3
WLAN n 40 MHz	U-NII-1	high	36.3
WLAN n 40 MHz	U-NII-2A	low	36.3
WLAN n 40 MHz	U-NII-2A	high	36.3
WLAN n 40 MHz	U-NII-2C	low	36.3
WLAN n 40 MHz	U-NII-2C	mid	36.3
WLAN n 40 MHz	U-NII-2C	high	36.3
WLAN n 40 MHz	U-NII-3	low	36.3
WLAN n 40 MHz	U-NII-3	high	36.3
WLAN ac 20 MHz	U-NII-1	low	17.7
WLAN ac 20 MHz	U-NII-1	mid	17.7
WLAN ac 20 MHz	U-NII-1	high	17.7
WLAN ac 20 MHz	U-NII-2A	low	17.7
WLAN ac 20 MHz	U-NII-2A	mid	17.7
WLAN ac 20 MHz	U-NII-2A	high	17.7
WLAN ac 20 MHz	U-NII-2C	low	17.7
WLAN ac 20 MHz	U-NII-2C	mid	17.7
WLAN ac 20 MHz	U-NII-2C	high	17.7
WLAN ac 20 MHz	U-NII-3	low	17.7
WLAN ac 20 MHz	U-NII-3	mid	17.7
WLAN ac 20 MHz	U-NII-3	high	17.7
WLAN ac 40 MHz	U-NII-1	low	36.3

WLAN ac 40 MHz	U-NII-1	high	36.3
WLAN ac 40 MHz	U-NII-2A	low	36.3
WLAN ac 40 MHz	U-NII-2A	high	36.3
WLAN ac 40 MHz	U-NII-2C	low	36.3
WLAN ac 40 MHz	U-NII-2C	mid	36.3
WLAN ac 40 MHz	U-NII-2C	high	36.3
WLAN ac 40 MHz	U-NII-3	low	36.3
WLAN ac 40 MHz	U-NII-3	high	36.3
WLAN ac 80 MHz	U-NII-1	mid	76.5
WLAN ac 80 MHz	U-NII-2A	mid	76.5
WLAN ac 80 MHz	U-NII-2C	low	77.0
WLAN ac 80 MHz	U-NII-2C	high	77.5
WLAN ac 80 MHz	U-NII-3	low	76.5
WLAN ax 20 MHz	U-NII-1	low	18.9
WLAN ax 20 MHz	U-NII-1	mid	18.9
WLAN ax 20 MHz	U-NII-1	high	18.9
WLAN ax 20 MHz	U-NII-2A	low	18.9
WLAN ax 20 MHz	U-NII-2A	mid	18.9
WLAN ax 20 MHz	U-NII-2A	high	18.9
WLAN ax 20 MHz	U-NII-2C	low	18.9
WLAN ax 20 MHz	U-NII-2C	mid	18.9
WLAN ax 20 MHz	U-NII-2C	high	18.9
WLAN ax 20 MHz	U-NII-3	low	18.9
WLAN ax 20 MHz	U-NII-3	mid	18.9
WLAN ax 20 MHz	U-NII-3	high	18.9
WLAN ax 40 MHz	U-NII-1	low	37.8
WLAN ax 40 MHz	U-NII-1	high	37.8
WLAN ax 40 MHz	U-NII-2A	low	37.8
WLAN ax 40 MHz	U-NII-2A	high	37.8
WLAN ax 40 MHz	U-NII-2C	low	37.8
WLAN ax 40 MHz	U-NII-2C	mid	37.8
WLAN ax 40 MHz	U-NII-2C	high	37.8
WLAN ax 40 MHz	U-NII-3	low	37.8
WLAN ax 40 MHz	U-NII-3	high	37.8
WLAN ax 80 MHz	U-NII-1	mid	77.5
WLAN ax 80 MHz	U-NII-2A	mid	78.0
WLAN ax 80 MHz	U-NII-2C	low	78.0
WLAN ax 80 MHz	U-NII-2C	high	78.0
WLAN ax 80 MHz	U-NII-3	low	77.5

Remark: Please see next sub-clause for the measurement plot.

5.4.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

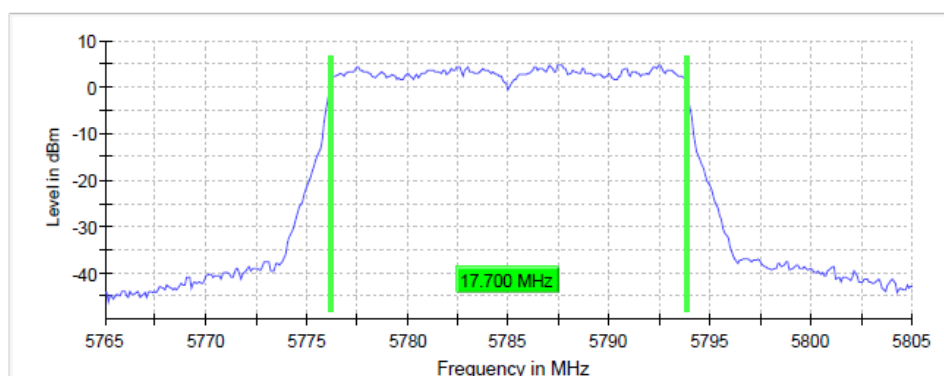
Radio Technology = WLAN a, UNII- 1, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.18000 GHz
Stop Frequency	5.22000 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	68 / max. 150
Stable	5 / 5
Max Stable Difference	0.12 dB

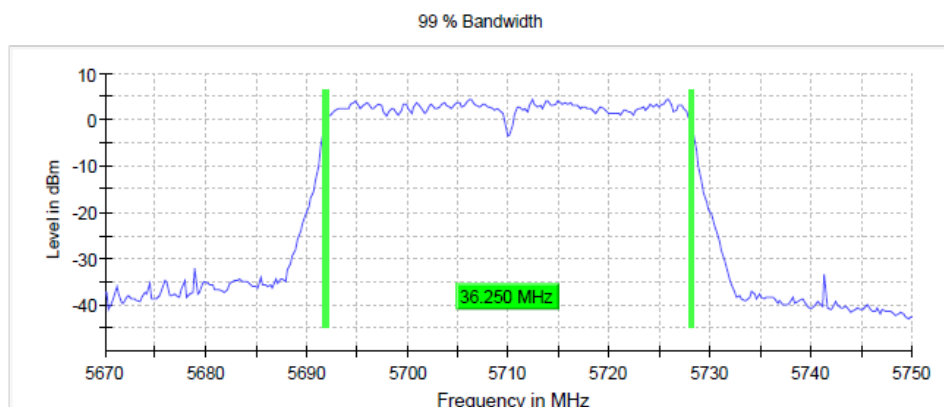
Radio Technology = WLAN n 20, UNII- 3, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.76500 GHz
Stop Frequency	5.80500 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	65 / max. 150
Stable	5 / 5
Max Stable Difference	0.07 dB

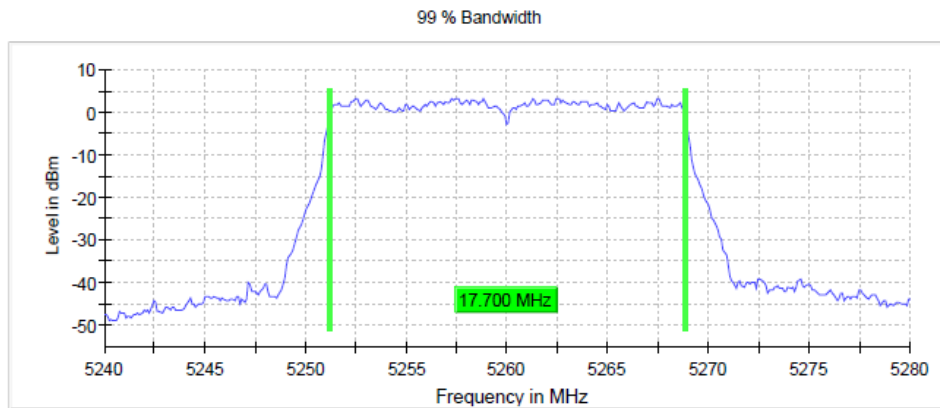
Radio Technology = WLAN n 40, UNII- 2C, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.67000 GHz
Stop Frequency	5.75000 GHz
Span	80.000 MHz
RBW	500.000 kHz
VBW	2.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	69 / max. 150
Stable	5 / 5
Max Stable Difference	0.14 dB

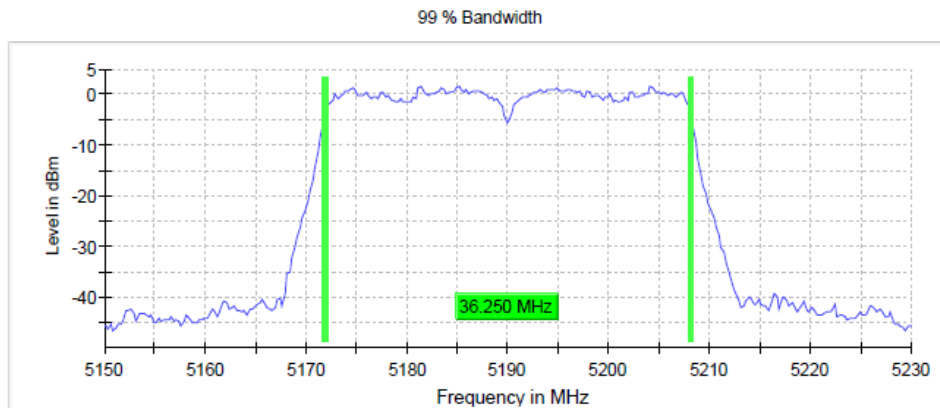
Radio Technology = WLAN ac 20, UNII- 2A, Operating Frequency = low



Measurement

Setting	Instrument Value
Start Frequency	5.24000 GHz
Stop Frequency	5.28000 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	45 / max. 150
Stable	5 / 5
Max Stable Difference	0.16 dB

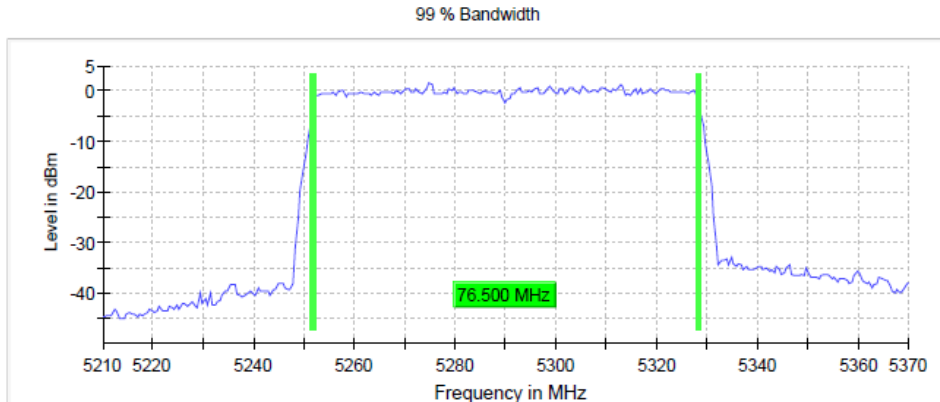
Radio Technology = WLAN ac 40, UNII- 1, Operating Frequency = low



Measurement

Setting	Instrument Value
Start Frequency	5.15000 GHz
Stop Frequency	5.23000 GHz
Span	80.000 MHz
RBW	500.000 kHz
VBW	2.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	77 / max. 150
Stable	5 / 5
Max Stable Difference	0.25 dB

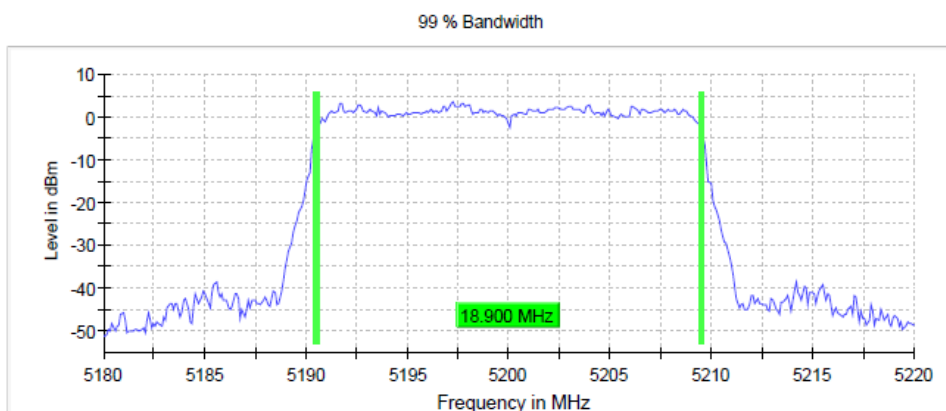
Radio Technology = WLAN ac 80, UNII- 2A, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.21000 GHz
Stop Frequency	5.37000 GHz
Span	160.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	56 / max. 150
Stable	5 / 5
Max Stable Difference	0.05 dB

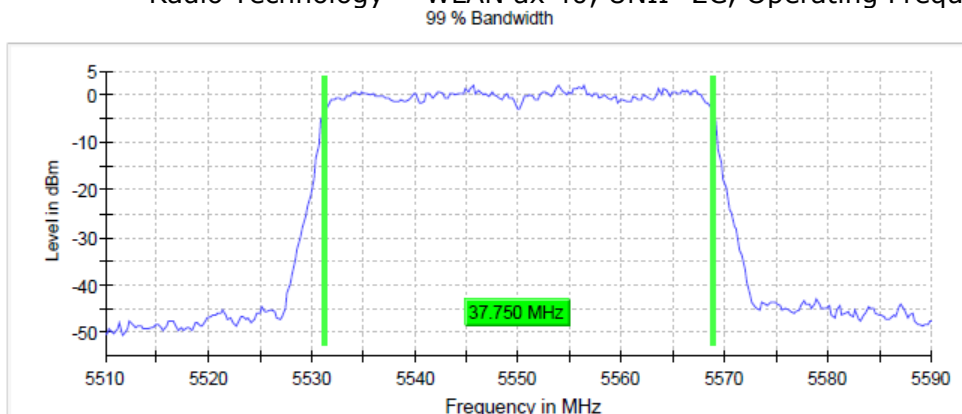
Radio Technology = WLAN ax 20, UNII- 1, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.18000 GHz
Stop Frequency	5.22000 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamplifier	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	72 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

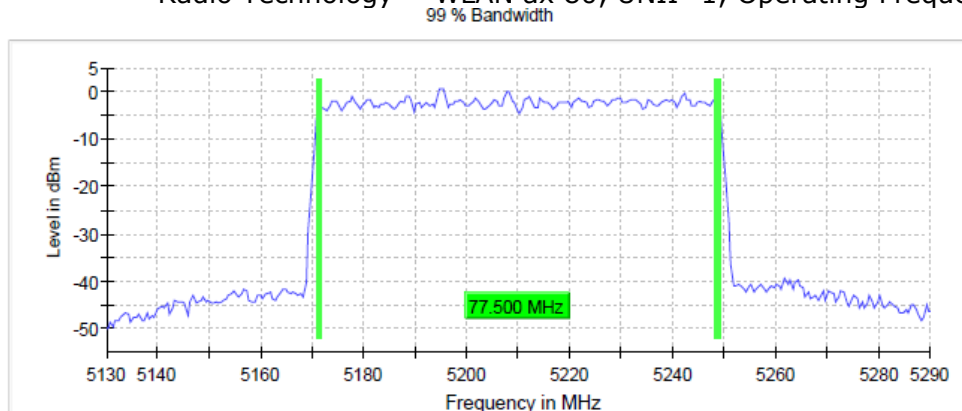
Radio Technology = WLAN ax 40, UNII- 2C, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.51000 GHz
Stop Frequency	5.59000 GHz
Span	80.000 MHz
RBW	500.000 kHz
VBW	2.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamplifier	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	76 / max. 150
Stable	5 / 5
Max Stable Difference	0.29 dB

Radio Technology = WLAN ax 80, UNII- 1, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.13000 GHz
Stop Frequency	5.29000 GHz
Span	160.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	320
SweepTime	1.000 ms
Reference Level	-10.000 dBm
Attenuation	0.000 dB
Detector	MaxPeak
SweepCount	200
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamplifier	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	76 / max. 150
Stable	5 / 5
Max Stable Difference	0.00 dB

5.4.5 TEST EQUIPMENT USED

- R&S TS8997

5.5 MAXIMUM CONDUCTED OUTPUT POWER

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.3.3.2

5.5.1 TEST DESCRIPTION

The Equipment Under Test (EUT) was set up to perform the output power measurements. The results recorded were measured with the modulation which produces the worst-case (highest) output power

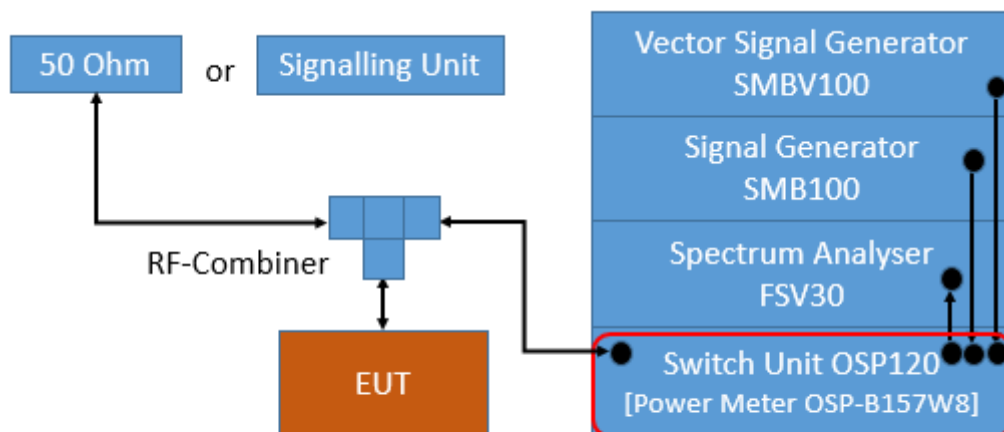
For U-NII bands 1, 2A, 2C, 3:

The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

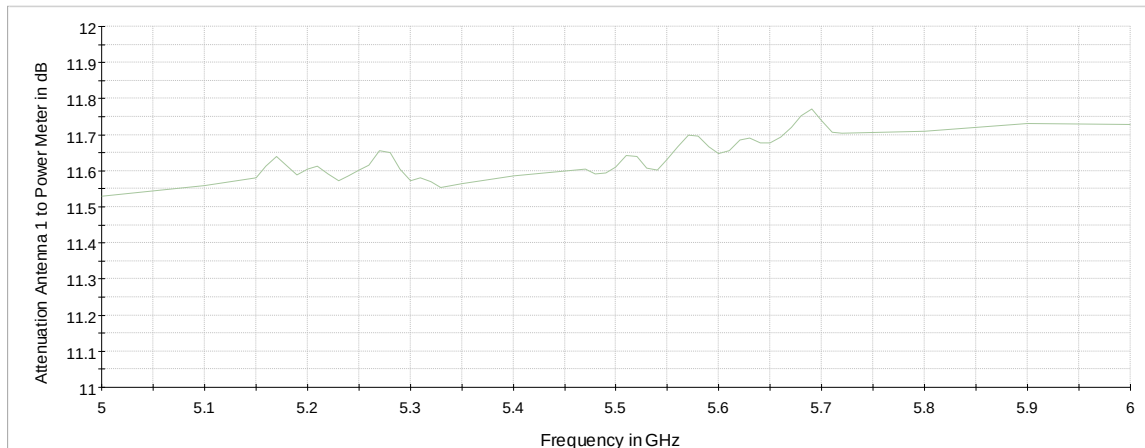
The OSP-B157W is a gated RF average power meter with a signal bandwidth > 300 MHz.

Note:

The measurement was performed according FCC Public Note "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E, 789033 D02", method **PM-G**.



TS8997; Maximum Conducted Output Power



Attenuation of measurement path

For U-NII bands 5,6,7,8:

The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

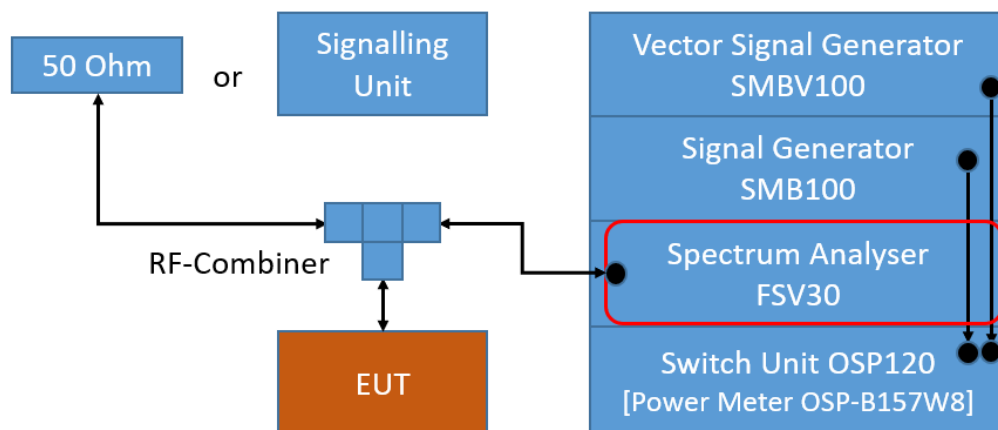
Analyzer settings:

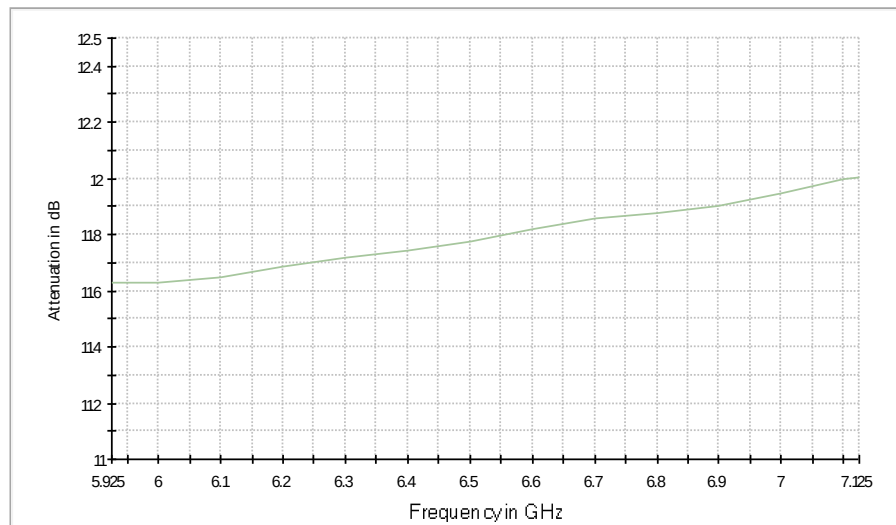
- Resolution Bandwidth (RBW): 1 MHz
- Video Bandwidth (VBW): 3 MHz
- Trace: Average, RMS power averaging mode
- Sweeps: at least 100
- Sweep time: Auto
- Detector: RMS
- Trigger: free run (DC > 98 %) or gated mode (DC < 98 %)

See worst case result plots for details

Note:

The measurement was performed according FCC Public Note "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E, 789033 D02", method **SA-1**.





Attenuation of measurement path

5.5.2 TEST REQUIREMENTS / LIMITS

A) FCC

FCC Part 15, Subpart E, §15.407 (a) (1) (i): Outdoor access point:

For systems using digital modulation techniques in the 5.15 – 5.25 GHz bands:

Limit: 1 W (30 dBm) provided the maximum antenna gain does not exceed 6 dBi.

The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

§15.407 (a) (1) (ii): Indoor access point:

Limit: 1 W (30 dBm) provided the maximum antenna gain does not exceed 6 dBi.

§15.407 (a) (1) (iii): Fixed point-to-point access points:

Limit: 1 W (30 dBm) provided the maximum antenna gain does not exceed 23 dBi.

§15.407 (a) (1) (iv): Client devices:

Limit: 250 mW (24 dBm) provided the maximum antenna gain does not exceed 6 dBi.

FCC Part 15, Subpart E, §15.407 (a) (2)

For systems using digital modulation techniques in the 5.25 – 5.35 GHz and 5.47 – 5.725 GHz bands:

Limit: 250 mW (24 dBm) or $11 \text{ dBm} + 10 \log (26 \text{ dB bandwidth/MHz})$ whatever is the lesser.

FCC Part 15, Subpart E, §15.407 (a) (3):

For systems using digital modulation techniques in the 5.725 – 5.850 GHz bands:

Limit: 1 W (30 dBm) provided the maximum antenna gain does not exceed 6 dBi. The antenna gain limitation is not applicable for fixed point-to-point devices.

FCC Part 15, Subpart E, §15.407 (a) (4):

For a standard power access point and fixed client devices in the 5.925 – 6.425 GHz and 6.525 – 6.875 GHz bands:

Limit: 4 W (36 dBm) e.i.r.p.

For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

FCC Part 15, Subpart E, §15.407 (a) (5):

For an indoor access point in the 5.925 – 7.125 GHz bands:

Limit: 1 W (30 dBm)e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (6):

For a subordinate device operating under an indoor access point in the 5.925 – 7.125 GHz bands:

Limit: 1 W (30 dBm)e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (7):

For a client device, except for fixed client devices, operating under standard power access point in the 5.925-6.425 GHz and 6.525-6.875 GHz bands:

Limit: 1 W (30 dBm)e.i.r.p.

The client device must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.

FCC Part 15, Subpart E, §15.407 (a) (8):

For client devices operating under the control of an indoor access point in the 5.925 – 7.125 GHz bands:

Limit: 250 mW (24 dBm)e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (11):

The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

B) IC

Different frequency bands and limits apply, as compared to the FCC requirements.

All frequency bands: B is the 99% emission bandwidth in MHz.

RSS-247, 6.2.1.1, Band 5150-5250 MHz, indoor operation only, except for OEM devices installed by vehicle manufacturers:

Limits:

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

Other devices: 200 mW (23 dBm) or $10 + 10 \log_{10} B$ [dBm], whichever power is less.

RSS-247, 6.2.2.1, Band 5250-5350 MHz:

Limits:

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

Devices, other devices than installed in vehicles:

Maximum conducted Power: 250 mW (24 dBm) or $11 + 10 \log_{10} B$ [dBm], whichever power is less.

e.i.r.p.: 1.0 W (30 dBm) or $17 + 10 \log_{10} B$ [dBm], whichever power is less.

Outdoor fixed devices with a maximum e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below:

- i. -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$
- ii. $-13 - 0.716 (\theta - 8)$ dBW/MHz for $8^\circ \leq \theta < 40^\circ$
- iii. $-35.9 - 1.22 (\theta - 40)$ dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$
- iv. -42 dBW/MHz for $\theta > 45^\circ$

RSS-247, 6.2.3.1, Bands 5470-5600 MHz and 5650-5725 MHz:

Limits:

Maximum conducted Power: 250 mW (24 dBm) or $11 + 10 \log_{10} B$ [dBm], whichever power is less.

e.i.r.p.: 1.0 W (30 dBm) or $17 + 10 \log_{10} B$ [dBm], whichever power is less.

Note: Devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247, 6.2.4.1, Band 5725-5850 MHz:

Limits:

Maximum conducted Power: 1 W (30 dBm)

e.i.r.p.: 4 W (36 dBm)

5.5.3 TEST PROTOCOL

Ambient temperature: 24-26 °C
 Air Pressure: 1000-1010 hPa
 Humidity: 38-45 %
 WLAN a-Mode; 20 MHz; 54 Mbit/s

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	14.0	19.5	24.0	10.0	30.0	10.5	N/A	-	22.2	2.7
	5200	14.3	19.8	24.0	9.7	30.0	10.2	N/A	-	22.2	2.4
	5240	14.6	20.1	24.0	9.4	30.0	9.9	N/A	-	22.2	2.1
2A	5260	14.4	19.9	23.9	9.5	30.0	10.1	23.2	8.8	29.2	9.3
	5300	14.6	20.1	23.9	9.4	30.0	9.9	23.2	8.7	29.2	9.2
	5320	14.5	20.0	23.9	9.4	30.0	10.0	23.2	8.7	29.2	9.2
2C	5500	13.9	19.4	23.9	10.0	30.0	10.6	23.2	9.3	29.2	9.8
	5580	14.0	19.5	23.9	9.9	30.0	10.5	23.2	9.2	29.2	9.7
	5700	14.1	19.6	23.9	9.8	30.0	10.4	23.2	9.1	29.2	9.6
2C+3	5720	14.9	20.4	23.9	9.0	30.0	9.6	23.2	8.3	29.2	8.8
3	5745	15.3	20.8	30.0	14.7	36.0	15.2	30.0	14.7	36.0	15.2
	5785	15.3	20.8	30.0	14.7	36.0	15.2	30.0	14.7	36.0	15.2
	5825	15.1	20.6	30.0	14.9	36.0	15.4	30.0	14.9	36.0	15.4

WLAN n-Mode; 20 MHz; MCS 7; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	12.9	18.4	24.0	11.1	30.0	11.6	N/A	-	22.5	4.0
	5200	13.2	18.7	24.0	10.8	30.0	11.3	N/A	-	22.5	3.8
	5240	14.0	19.5	24.0	10.0	30.0	10.5	N/A	-	22.5	3.0
2A	5260	13.6	19.1	24.0	10.4	30.0	10.9	23.5	9.9	29.5	10.4
	5300	13.7	19.2	24.0	10.3	30.0	10.8	23.5	9.8	29.5	10.3
	5320	13.6	19.1	24.0	10.4	30.0	10.9	23.5	9.9	29.5	10.4
2C	5500	13.0	18.5	24.0	11.0	30.0	11.5	23.5	10.5	29.5	11.0
	5580	13.2	18.7	24.0	10.8	30.0	11.3	23.5	10.3	29.5	10.8
	5700	13.6	19.1	24.0	10.4	30.0	10.9	23.5	9.9	29.5	10.4
2C+3	5720	14.1	19.6	24.0	9.9	30.0	10.4	23.5	9.4	29.5	9.9
3	5745	14.4	19.9	30.0	15.6	36.0	16.1	30.0	15.6	36.0	16.1
	5785	14.4	19.9	30.0	15.6	36.0	16.1	30.0	15.6	36.0	16.1
	5825	14.5	20.0	30.0	15.5	36.0	16.0	30.0	15.5	36.0	16.0

WLAN n-Mode; 40 MHz; MCS 7; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5190	11.8	17.3	24.0	12.2	30.0	12.7	N/A	-	23.0	5.7
	5230	12.1	17.6	24.0	11.9	30.0	12.4	N/A	-	23.0	5.4
2A	5270	11.6	17.1	24.0	12.4	30.0	12.9	24.0	12.4	30.0	12.9
	5310	11.8	17.3	24.0	12.2	30.0	12.7	24.0	12.2	30.0	12.7
2C	5510	11.4	16.9	24.0	12.6	30.0	13.1	24.0	12.6	30.0	13.1
	5550	12.0	17.5	24.0	12.0	30.0	12.5	24.0	12.0	30.0	12.5
	5670	11.9	17.4	24.0	12.1	30.0	12.6	24.0	12.1	30.0	12.6
2C+3	5710	12.0	17.5	24.0	12.0	30.0	12.5	24.0	12.0	30.0	12.5
3	5755	12.0	17.5	30.0	18.0	36.0	18.5	30.0	18.0	36.0	18.5
	5795	11.6	17.1	30.0	18.4	36.0	18.9	30.0	18.4	36.0	18.9

WLAN ac-Mode; 20 MHz; MCS 8; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	13.2	18.7	24.0	10.8	30.0	11.3	N/A	-	22.5	3.8
	5200	13.4	18.9	24.0	10.6	30.0	11.1	N/A	-	22.5	3.6
	5240	13.8	19.3	24.0	10.2	30.0	10.7	N/A	-	22.5	3.2
2A	5260	13.3	18.8	24.0	10.7	30.0	11.2	23.5	10.2	29.5	10.7
	5300	13.4	18.9	24.0	10.6	30.0	11.1	23.5	10.1	29.5	10.6
	5320	13.4	18.9	24.0	10.6	30.0	11.1	23.5	10.1	29.5	10.6
2C	5500	12.9	18.4	24.0	11.1	30.0	11.6	23.5	10.6	29.5	11.1
	5580	13.3	18.8	24.0	10.7	30.0	11.2	23.5	10.2	29.5	10.7
	5700	13.5	19.0	24.0	10.5	30.0	11.0	23.5	10.0	29.5	10.5
2C+3	5720	13.9	19.4	24.0	10.1	30.0	10.6	23.5	9.5	29.5	10.0
3	5745	14.5	20.0	30.0	15.5	36.0	16.0	30.0	15.5	36.0	16.0
	5785	14.4	19.9	30.0	15.6	36.0	16.1	30.0	15.6	36.0	16.1
	5825	14.4	19.9	30.0	15.6	36.0	16.1	30.0	15.6	36.0	16.1

WLAN ac-Mode; 40 MHz; MCS 9; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5190	9.8	15.3	24.0	14.2	30.0	14.7	N/A	-	23.0	7.7
	5230	10.1	15.6	24.0	13.9	30.0	14.4	N/A	-	23.0	7.4
2A	5270	9.8	15.3	24.0	14.2	30.0	14.7	24.0	14.2	30.0	14.7
	5310	10.4	15.9	24.0	13.6	30.0	14.1	24.0	13.6	30.0	14.1
2C	5510	10.3	15.8	24.0	13.7	30.0	14.2	24.0	13.7	30.0	14.2
	5550	11.1	16.6	24.0	12.9	30.0	13.4	24.0	12.9	30.0	13.4
	5670	12.0	17.5	24.0	12.0	30.0	12.5	24.0	12.0	30.0	12.5
2C+3	5710	12.0	17.5	24.0	12.0	30.0	12.5	24.0	12.0	30.0	12.5
3	5755	12.0	17.5	30.0	18.0	36.0	18.5	30.0	18.0	36.0	18.5
	5795	11.6	17.1	30.0	18.4	36.0	18.9	30.0	18.4	36.0	18.9

WLAN ac-Mode; 80 MHz; MCS 9; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5210	9.9	15.4	24.0	14.1	30.0	14.6	N/A	-	23.0	7.6
2A	5290	9.7	15.2	24.0	14.3	30.0	14.8	24.0	14.3	30.0	14.8
2C	5530	9.7	15.2	24.0	14.3	30.0	14.8	24.0	14.3	30.0	14.8
	5610	10.7	16.2	24.0	13.3	30.0	13.8	24.0	13.3	30.0	13.8
2C+3	5690	10.7	16.2	24.0	13.3	30.0	13.8	24.0	13.3	30.0	13.8
3	5775	9.6	15.1	30.0	20.4	36.0	20.9	30.0	20.4	36.0	20.9

WLAN ax-Mode; 20 MHz; MCS 9; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	11.8	17.3	24.0	12.2	30.0	12.7	N/A	-	22.8	5.5
	5200	12.0	17.5	24.0	12.0	30.0	12.5	N/A	-	22.8	5.2
	5240	12.4	17.9	24.0	11.6	30.0	12.1	N/A	-	22.8	4.9
2A	5260	12.4	17.9	24.0	11.6	30.0	12.1	23.8	11.4	29.8	11.9
	5300	11.9	17.4	24.0	12.1	30.0	12.6	23.8	11.9	29.8	12.4
	5320	11.9	17.4	24.0	12.1	30.0	12.6	23.8	11.8	29.8	12.3
2C	5500	11.5	17.0	24.0	12.5	30.0	13.0	23.8	12.3	29.8	12.8
	5580	12.4	17.9	24.0	11.6	30.0	12.1	23.8	11.3	29.8	11.8
	5700	11.8	17.3	24.0	12.2	30.0	12.7	23.8	11.9	29.8	12.4
2C+3	5720	12.8	18.3	24.0	11.3	30.0	11.8	23.8	11.0	29.8	11.5
3	5745	11.9	17.4	30.0	18.1	36.0	18.6	30.0	18.1	36.0	18.6
	5785	11.6	17.1	30.0	18.4	36.0	18.9	30.0	18.4	36.0	18.9
	5825	8.1	13.6	30.0	21.9	36.0	22.4	30.0	21.9	36.0	22.4

WLAN ax-Mode; 40 MHz; MCS 9; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5190	8.1	13.6	24.0	15.9	30.0	16.4	N/A	-	23.0	9.4
	5230	8.5	14.0	24.0	15.5	30.0	16.0	N/A	-	23.0	9.0
2A	5270	7.9	13.4	24.0	16.2	30.0	16.7	24.0	16.2	30.0	16.7
	5310	8.1	13.6	24.0	15.9	30.0	16.4	24.0	15.9	30.0	16.4
2C	5510	7.8	13.3	24.0	16.2	30.0	16.7	24.0	16.2	30.0	16.7
	5550	8.4	13.9	24.0	15.6	30.0	16.1	24.0	15.6	30.0	16.1
	5670	8.4	13.9	24.0	15.6	30.0	16.1	24.0	15.6	30.0	16.1
2C+3	5710	8.4	13.9	24.0	15.6	30.0	16.1	24.0	15.6	30.0	16.1
3	5755	8.1	13.6	30.0	21.9	36.0	22.4	30.0	21.9	36.0	22.4

WLAN ax-Mode; 80 MHz; MCS 9; SISO

U-NII-Subband	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5210	6.4	11.9	24.0	17.6	30.0	18.1	N/A	-	23.0	11.1
2A	5290	6.0	11.5	24.0	18.0	30.0	18.5	24.0	18.0	30.0	18.5
2C	5530	6.2	11.7	24.0	17.8	30.0	18.3	24.0	17.8	30.0	18.3
	5610	7.3	12.8	24.0	16.7	30.0	17.2	24.0	16.7	30.0	17.2
2C+3	5690	6.5	12.0	24.0	17.5	30.0	18.0	24.0	17.5	30.0	18.0
3	5775	5.8	11.3	30.0	24.2	36.0	24.7	30.0	24.2	36.0	24.7

WLAN n-Mode; 20 MHz; MCS 7; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	13.3	18.8	24.0	10.7	30.0	11.2	N/A	-	22.2	3.4
	5200	13.4	18.9	24.0	10.6	30.0	11.1	N/A	-	22.2	3.3
	5240	13.6	19.1	24.0	10.4	30.0	10.9	N/A	-	22.2	3.1
2A	5260	13.1	18.6	24.0	10.9	30.0	11.4	23.2	10.1	29.2	10.6
	5300	13.4	18.9	24.0	10.6	30.0	11.1	23.2	9.8	29.2	10.3
	5320	13.3	18.8	24.0	10.7	30.0	11.2	23.2	9.9	29.2	10.4
2C	5500	13.2	18.7	24.0	10.8	30.0	11.3	23.2	10.0	29.2	10.5
	5580	13.5	19.0	24.0	10.5	30.0	11.0	23.2	9.7	29.2	10.2
	5700	13.3	18.8	24.0	10.7	30.0	11.2	23.2	9.9	29.2	10.4
2C+3	5720	14.3	19.8	23.9	9.7	30.0	10.2	23.5	9.2	29.5	9.7
3	5745	14.0	19.5	30.0	16.0	36.0	16.5	30.0	16.0	36.0	16.5
	5785	13.7	19.2	30.0	16.3	36.0	16.8	30.0	16.3	36.0	16.8
	5825	13.7	19.2	30.0	16.3	36.0	16.8	30.0	16.3	36.0	16.8

WLAN n-Mode; 40 MHz; MCS 7; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5190	11.4	16.9	24.0	12.6	30.0	13.1	N/A	-	23.0	6.1
	5230	11.8	17.3	24.0	12.2	30.0	12.7	N/A	-	23.0	5.7
2A	5270	11.4	16.9	24.0	12.6	30.0	13.1	24.0	12.6	30.0	13.1
	5310	11.5	17.0	24.0	12.5	30.0	13.0	24.0	12.5	30.0	13.0
2C	5510	11.1	16.6	24.0	12.9	30.0	13.4	24.0	12.9	30.0	13.4
	5550	11.5	17.0	24.0	12.5	30.0	13.0	24.0	12.5	30.0	13.0
	5670	11.3	16.8	24.0	12.7	30.0	13.2	24.0	12.7	30.0	13.2
2C+3	5710	11.4	16.9	24.0	12.6	30.0	13.1	24.0	12.6	30.0	13.1
3	5755	11.7	17.2	30.0	18.3	36.0	18.8	30.0	18.3	36.0	18.8
	5795	11.9	17.4	30.0	18.1	36.0	18.6	30.0	18.1	36.0	18.6

WLAN ac-Mode; 20 MHz; MCS 8; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	13.3	18.8	24.0	10.7	30.0	11.2	N/A	-	22.5	3.7
	5200	13.5	19.0	24.0	10.5	30.0	11.0	N/A	-	22.5	3.5
	5240	13.8	19.3	24.0	10.2	30.0	10.7	N/A	-	22.5	3.2
2A	5260	13.2	18.7	24.0	10.8	30.0	11.3	23.5	10.3	29.5	10.8
	5300	13.4	18.9	24.0	10.6	30.0	11.1	23.5	10.1	29.5	10.6
	5320	13.4	18.9	24.0	10.6	30.0	11.1	23.5	10.1	29.5	10.6
2C	5500	13.0	18.5	24.0	11.0	30.0	11.5	23.5	10.5	29.5	11.0
	5580	13.7	19.2	24.0	10.3	30.0	10.8	23.6	9.9	29.6	10.4
	5700	13.6	19.1	24.0	10.4	30.0	10.9	23.5	9.9	29.5	10.4
2C+3	5720	14.2	19.7	24.0	9.8	30.0	10.3	23.5	9.3	29.5	9.8
3	5745	14.0	19.5	30.0	16.0	36.0	16.5	30.0	16.0	36.0	16.5
	5785	13.8	19.3	30.0	16.2	36.0	16.7	30.0	16.2	36.0	16.7
	5825	13.7	19.2	30.0	16.3	36.0	16.8	30.0	16.3	36.0	16.8

WLAN ac-Mode; 40 MHz; MCS 8; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5190	11.4	16.9	24.0	12.6	30.0	13.1	N/A	-	23.0	6.1
	5230	11.7	17.2	24.0	12.3	30.0	12.8	N/A	-	23.0	5.8
2A	5270	11.4	16.9	24.0	12.6	30.0	13.1	24.0	12.6	30.0	13.1
	5310	11.7	17.2	24.0	12.3	30.0	12.8	24.0	12.3	30.0	12.8
2C	5510	11.3	16.8	24.0	12.7	30.0	13.2	24.0	12.7	30.0	13.2
	5550	11.7	17.2	24.0	12.3	30.0	12.8	24.0	12.3	30.0	12.8
	5670	11.7	17.2	24.0	12.3	30.0	12.8	24.0	12.3	30.0	12.8
2C+3	5710	11.8	17.3	24.0	12.2	30.0	12.7	24.0	12.2	30.0	12.7
3	5755	12.1	17.6	30.0	17.9	36.0	18.4	30.0	17.9	36.0	18.4
	5795	11.9	17.4	30.0	18.1	36.0	18.6	30.0	18.1	36.0	18.6

WLAN ac-Mode; 80 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5210	9.8	15.3	24.0	14.2	30.0	14.7	N/A	-	23.0	7.7
2A	5290	9.2	14.7	24.0	14.8	30.0	15.3	24.0	14.8	30.0	15.3
2C	5530	9.1	14.6	24.0	14.9	30.0	15.4	24.0	14.9	30.0	15.4
	5610	9.8	15.3	24.0	14.2	30.0	14.7	24.0	14.2	30.0	14.7
2C+3	5690	9.8	15.3	24.0	14.2	30.0	14.7	24.0	14.2	30.0	14.7
3	5775	10.0	15.5	30.0	20.0	36.0	20.5	30.0	20.0	36.0	20.5

WLAN ax-Mode; 20 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5180	11.7	17.2	24.0	12.3	30.0	12.8	N/A	-	22.7	5.5
	5200	11.9	17.4	24.0	12.1	30.0	12.6	N/A	-	22.7	5.3
	5240	12.3	17.8	24.0	11.7	30.0	12.2	N/A	-	22.7	4.9
2A	5260	11.6	17.1	24.0	12.4	30.0	12.9	23.8	12.1	29.8	12.7
	5300	11.6	17.1	24.0	12.4	30.0	12.9	23.8	12.2	29.7	12.6
	5320	11.8	17.3	24.0	12.2	30.0	12.7	23.8	12.0	29.7	12.4
2C	5500	11.4	16.9	24.0	12.6	30.0	13.1	23.8	12.4	29.8	12.9
	5580	11.9	17.4	24.0	12.1	30.0	12.6	23.8	11.8	29.8	12.4
	5700	11.9	17.4	24.0	12.1	30.0	12.6	23.8	11.8	29.8	12.4
2C+3	5720	12.7	18.2	24.0	11.3	30.0	11.8	23.8	11.0	29.8	11.6
3	5745	12.2	17.7	30.0	17.8	36.0	18.3	30.0	17.8	36.0	18.3
	5785	12.0	17.5	30.0	18.0	36.0	18.5	30.0	18.0	36.0	18.5
	5825	12.1	17.6	30.0	17.9	36.0	18.4	30.0	17.9	36.0	18.4

WLAN ax-Mode; 40 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5190	7.8	13.3	24.0	16.2	30.0	16.7	N/A	-	23.0	9.7
	5230	8.1	13.6	24.0	15.9	30.0	16.4	N/A	-	23.0	9.4
2A	5270	7.6	13.1	24.0	16.4	30.0	16.9	24.0	16.4	30.0	16.9
	5310	7.8	13.3	24.0	16.2	30.0	16.7	24.0	16.2	30.0	16.7
2C	5510	7.6	13.1	24.0	16.4	30.0	16.9	24.0	16.4	30.0	16.9
	5550	8.1	13.6	24.0	15.9	30.0	16.4	24.0	15.9	30.0	16.4
	5670	7.8	13.3	24.0	16.2	30.0	16.7	24.0	16.2	30.0	16.7
2C+3	5710	8.1	13.6	24.0	15.9	30.0	16.4	24.0	15.9	30.0	16.4
3	5755	8.4	13.9	30.0	21.6	36.0	22.1	30.0	21.6	36.0	22.1
	5795	8.3	13.8	30.0	21.7	36.0	22.2	30.0	21.7	36.0	22.2

WLAN ax-Mode; 80 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	FCC EIRP Limit [dBm]	Margin [dB]	ISED Cond. Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
1	5210	6.2	11.7	24.0	17.8	30.0	18.3	N/A	-	23.0	11.3
2A	5290	6.0	11.5	24.0	18.0	30.0	18.5	24.0	18.0	30.0	18.5
2C	5530	5.9	11.4	24.0	18.1	30.0	18.6	24.0	18.1	30.0	18.6
	5610	6.6	12.1	24.0	17.4	30.0	17.9	24.0	17.4	30.0	17.9
2C+3	5690	6.3	11.8	24.0	17.7	30.0	18.2	24.0	17.7	30.0	18.2
3	5775	6.5	12.0	30.0	23.5	36.0	24.0	30.0	23.5	36.0	24.0

Remark: Please see next sub-clause for the measurement plot.

5.5.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

Power meter Measurement, no plots provided

5.5.5 TEST EQUIPMENT USED

- R&S TS8997

5.6 PEAK POWER SPECTRAL DENSITY

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.5 (SA-3)

5.6.1 TEST DESCRIPTION

The Equipment Under Test (EUT) was set up in a shielded room to perform the Maximum Power Spectral Density measurements.

The results recorded were measured with the modulation which produces the worst-case (highest) output power.

For U-NII bands 1, 2A, 2C, 3:

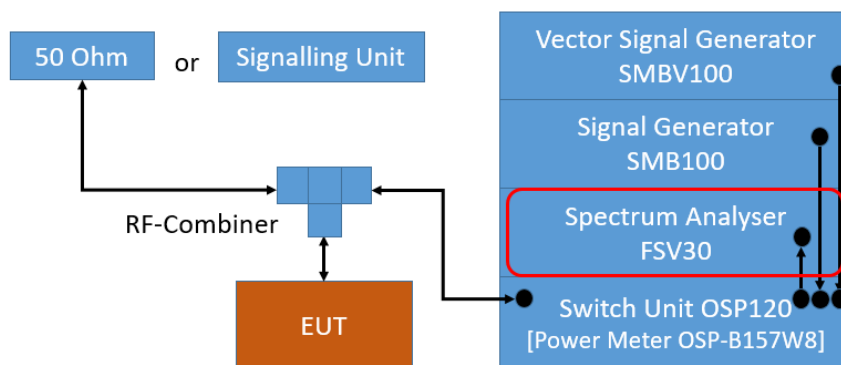
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

Analyzer settings:

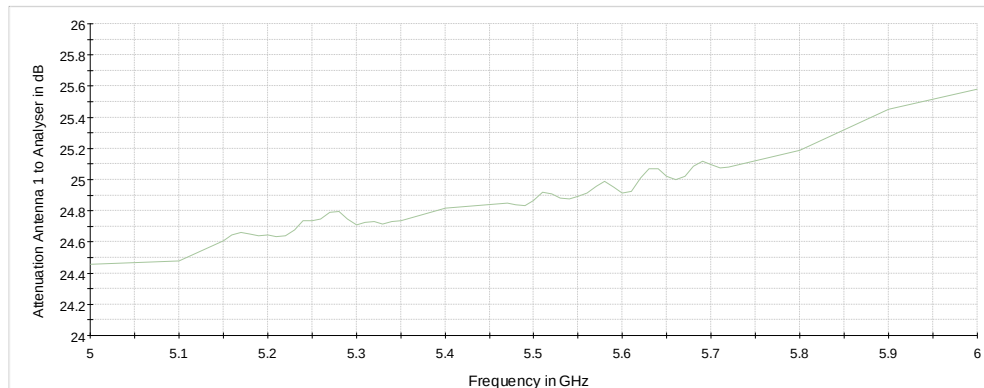
- Resolution Bandwidth (RBW): 1 MHz (for subband 3: 500 kHz)
- Video Bandwidth (VBW): 3 MHz (for subband 3: 2 MHz)
- Trace: Max Hold
- Sweeps: till stable (at least 180, max. 900)
- Sweptime: $\leq$ Number of sweep points x Min. Transmitter on time
- Detector: RMS
- Trigger: free run

Note:

The analyser settings are according FCC Public Note "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E, 789033 D02", method **SA-3**.



TS8997; Maximum Power Spectral Density



Attenuation of the measurement path

For U-NII bands 5, 6, 7, 8:

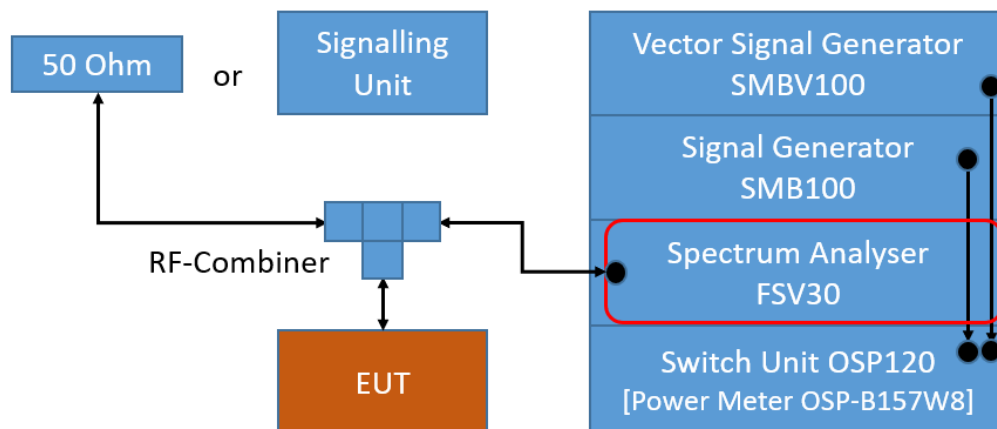
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

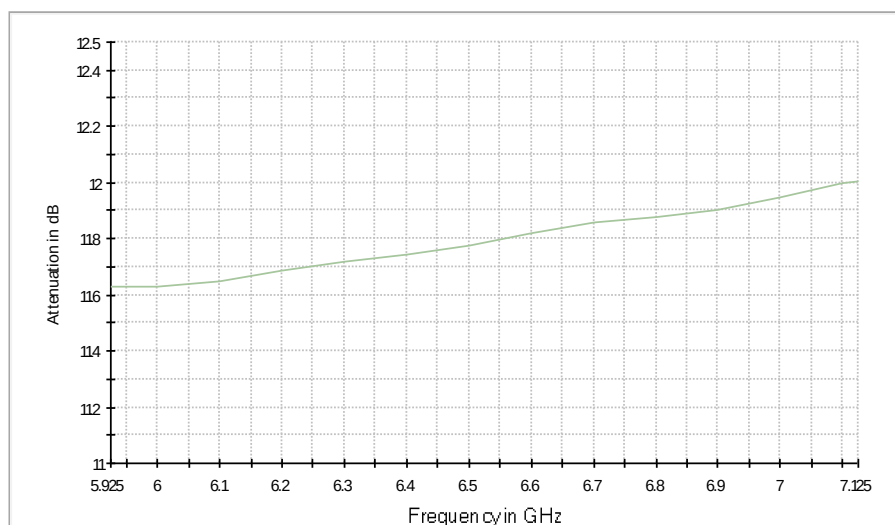
Analyzer settings:

- Resolution Bandwidth (RBW): 1 MHz
- Video Bandwidth (VBW): 3 MHz
- Trace: Average, RMS power averaging mode
- Sweeps: at least 100
- Sweptime: Auto
- Detector: RMS
- Trigger: free run (DC >98 %) or gated mode (DC < 98 %)

Note:

The analyser settings are according FCC Public Note "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E, 789033 D02", method **SA-1**.





Attenuation of measurement path

5.6.2 TEST REQUIREMENTS / LIMITS

A) FCC

FCC Part 15, Subpart E, §15.407 (a) (1)

For systems using digital modulation techniques in the 5.15 – 5.25 GHz bands:

(i) and (ii), outdoor and indoor access points: Limit: 17 dBm/MHz.

(iv), mobile and portable client devices: Limit: 11 dBm/MHz.

FCC Part 15, Subpart E, §15.407 (a) (2)

For systems using digital modulation techniques in the 5.25 – 5.35 GHz and 5.47 – 5.725 GHz bands:

Limit: 11 dBm/MHz.

FCC Part 15, Subpart E, §15.407 (a) (3)

For systems using digital modulation techniques in the 5.725 – 5.850 GHz bands:

Limit: 30 dBm/500 kHz.

FCC Part 15, Subpart E, §15.407 (a) (4):

For a standard power access point and fixed client devices in the 5.925 – 6.425 GHz and 6.525 – 6.875 GHz bands:

Limit: 23 dBm/MHz e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (5):

For an indoor access point in the 5.925 – 7.125 GHz bands:

Limit: 5 dBm/MHz e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (6):

For a subordinate device operating under an indoor access point in the 5.925 – 7.125 GHz bands:

Limit: 5 dBm/MHz e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (7):

For a client device, except for fixed client devices, operating under standard power access point in the 5.925-6.425 GHz and 6.525-6.875 GHz bands:
Limit: 17 dBm/MHz e.i.r.p.

FCC Part 15, Subpart E, §15.407 (a) (8):
For client devices operating under the control of an indoor access point in the 5.925 – 7.125 GHz bands:
Limit: -1 dBm/MHz e.i.r.p.

B) IC

Different frequency bands and limits apply, as compared to the FCC requirements.

RSS-247, 6.2.1 (1), Band 5150-5250 MHz, indoor operation only:
Limit (e.i.r.p.): 10 dBm/MHz.

RSS-247, 6.2.2 (1), Band 5250-5350 MHz:
Limit: 11 dBm/MHz.

RSS-247, 6.2.3 (1), Bands 5470-5600 MHz and 5650-5725 MHz:
Limit: 11 dBm/MHz.

RSS-247, 6.2.4 (1), Band 5725-5850 MHz:
Limit: 30 dBm/500 kHz.

5.6.3 TEST PROTOCOL

Ambient temperature: 24-26 °C
Air Pressure: 1000-1010 hPa
Humidity: 38-45 %
WLAN a-Mode; 20 MHz; 54 Mbit/s

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	2.4	7.9	11.0	8.6	N/A	-	10.0	2.1
	5200	2.6	8.1	11.0	8.4	N/A	-	10.0	1.9
	5240	3.0	8.5	11.0	8.0	N/A	-	10.0	1.5
2A	5260	2.7	8.2	11.0	8.3	11.0	8.3	N/A	-
	5300	2.8	8.3	11.0	8.2	11.0	8.2	N/A	-
	5320	2.7	8.2	11.0	8.3	11.0	8.3	N/A	-
2C	5500	2.5	8.0	11.0	8.6	11.0	8.6	N/A	-
	5580	2.7	8.2	11.0	8.3	11.0	8.3	N/A	-
	5700	2.9	8.4	11.0	8.1	11.0	8.1	N/A	-
2C+3	5720	3.3	8.8	11.0	7.7	11.0	7.7	N/A	-
3	5745	0.8	6.3	30.0	29.2	30.0	29.2	N/A	-
	5785	0.8	6.3	30.0	29.2	30.0	29.2	N/A	-
	5825	0.8	6.3	30.0	29.2	30.0	29.2	N/A	-

WLAN n-Mode; 20 MHz; MCS 7; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	1.1	6.6	11.0	9.9	N/A	-	10.0	3.4
	5200	1.2	6.7	11.0	9.8	N/A	-	10.0	3.3
	5240	2.1	7.6	11.0	8.9	N/A	-	10.0	2.4
2A	5260	1.6	7.1	11.0	9.4	11.0	9.4	N/A	-
	5300	1.7	7.2	11.0	9.3	11.0	9.3	N/A	-
	5320	1.5	7.0	11.0	9.5	11.0	9.5	N/A	-
2C	5500	1.5	7.0	11.0	9.5	11.0	9.5	N/A	-
	5580	1.6	7.1	11.0	9.4	11.0	9.4	N/A	-
	5700	1.8	7.3	11.0	9.2	11.0	9.2	N/A	-
2C+3	5720	2.3	7.8	11.0	8.7	11.0	8.7	N/A	-
3	5745	0.0	5.5	30.0	30.0	30.0	30.0	N/A	-
	5785	0.0	5.5	30.0	30.0	30.0	30.0	N/A	-
	5825	0.1	5.6	30.0	29.9	30.0	29.9	N/A	-

WLAN n-Mode; 40 MHz; MCS 7; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5190	-3.3	2.2	11.0	14.3	N/A	-	10.0	7.8
	5230	-2.9	2.6	11.0	13.9	N/A	-	10.0	7.4
2A	5270	-3.5	2.0	11.0	14.5	11.0	14.5	N/A	-
	5310	-3.4	2.1	11.0	14.4	11.0	14.4	N/A	-
2C	5510	-3.4	2.1	11.0	14.4	11.0	14.4	N/A	-
	5550	-2.8	2.7	11.0	13.8	11.0	13.8	N/A	-
	5670	-3.2	2.3	11.0	14.2	11.0	14.2	N/A	-
2C+3	5710	-3.0	2.5	11.0	14.0	11.0	14.0	N/A	-
3	5755	-5.6	-0.1	30.0	35.6	30.0	35.6	N/A	-
	5795	-5.9	-0.4	30.0	35.9	30.0	35.9	N/A	-

WLAN ac-Mode; 20 MHz; MCS 8; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	1.5	7.0	11.0	9.5	N/A	-	10.0	3.0
	5200	1.5	7.0	11.0	9.5	N/A	-	10.0	3.0
	5240	1.9	7.4	11.0	9.1	N/A	-	10.0	2.6
2A	5260	1.3	6.8	11.0	9.7	11.0	9.7	N/A	-
	5300	1.5	7.0	11.0	9.5	11.0	9.5	N/A	-
	5320	1.4	6.9	11.0	9.6	11.0	9.6	N/A	-
2C	5500	1.2	6.7	11.0	9.8	11.0	9.8	N/A	-
	5580	1.6	7.1	11.0	9.4	11.0	9.4	N/A	-
	5700	1.6	7.1	11.0	9.4	11.0	9.4	N/A	-
2C+3	5720	2.0	7.5	11.0	9.0	11.0	9.0	N/A	-
3	5745	-0.1	5.4	30.0	30.1	30.0	30.1	N/A	-
	5785	-0.1	5.4	30.0	30.1	30.0	30.1	N/A	-
	5825	0.0	5.5	30.0	30.0	30.0	30.0	N/A	-

WLAN ac-Mode; 40 MHz; MCS 9; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5190	-5.4	0.1	11.0	16.4	N/A	-	10.0	9.9
	5230	-5.0	0.5	11.0	16.0	N/A	-	10.0	9.5
2A	5270	-5.4	0.1	11.0	16.4	11.0	16.4	N/A	-
	5310	-4.8	0.7	11.0	15.8	11.0	15.8	N/A	-
2C	5510	-4.6	0.9	11.0	15.6	11.0	15.6	N/A	-
	5550	-3.6	1.9	11.0	14.6	11.0	14.6	N/A	-
	5670	-3.2	2.3	11.0	14.2	11.0	14.2	N/A	-
2C+3	5710	-3.1	2.4	11.0	14.1	11.0	14.1	N/A	-
3	5755	-5.6	-0.1	30.0	35.6	30.0	35.6	N/A	-
	5795	-6.0	-0.5	30.0	36.0	30.0	36.0	N/A	-

WLAN ac-Mode; 80 MHz; MCS 9; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5210	-6.2	-0.7	11.0	17.2	N/A	-	10.0	10.7
2A	5290	-6.7	-1.2	11.0	17.7	11.0	17.7	N/A	-
2C	5530	-6.1	-0.6	11.0	17.1	11.0	17.1	N/A	-
	5610	-5.5	0.0	11.0	16.5	11.0	16.5	N/A	-
2C+3	5690	-5.9	-0.4	11.0	16.9	11.0	16.9	N/A	-
3	5775	-8.7	-3.2	30.0	38.7	30.0	38.7	N/A	-

WLAN ax-Mode; 20 MHz; MCS 9; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz Hz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	-0.3	5.2	11.0	11.3	N/A	-	10.0	4.8
	5200	-0.1	5.4	11.0	11.1	N/A	-	10.0	4.6
	5240	0.3	5.8	11.0	10.7	N/A	-	10.0	4.2
2A	5260	-0.5	5.0	11.0	11.5	11.0	11.5	N/A	-
	5300	-0.3	5.2	11.0	11.3	11.0	11.3	N/A	-
	5320	-0.3	5.2	11.0	11.3	11.0	11.3	N/A	-
2C	5500	-0.5	5.0	11.0	11.5	11.0	11.5	N/A	-
	5580	0.5	6.0	11.0	10.5	11.0	10.5	N/A	-
	5700	-0.4	5.1	11.0	11.4	11.0	11.4	N/A	-
2C+3	5720	0.5	6.0	11.0	10.5	11.0	10.5	N/A	-
3	5745	-2.8	2.7	30.0	32.8	30.0	32.8	N/A	-
	5785	-3.2	2.3	30.0	33.2	30.0	33.2	N/A	-
	5825	-3.7	1.8	30.0	33.7	30.0	33.7	N/A	-

WLAN ax-Mode; 40 MHz; MCS 9; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz Hz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5190	-7.0	-1.5	11.0	18.0	N/A	-	10.0	11.5
	5230	-6.6	-1.1	11.0	17.6	N/A	-	10.0	11.1
2A	5270	-7.4	-1.9	11.0	18.4	11.0	18.4	N/A	-
	5310	-7.1	-1.6	11.0	18.1	11.0	18.1	N/A	-
2C	5510	-7.0	-1.5	11.0	18.0	11.0	18.0	N/A	-
	5550	-6.4	-0.9	11.0	17.4	11.0	17.4	N/A	-
	5670	-6.7	-1.2	11.0	17.7	11.0	17.7	N/A	-
2C+3	5710	-6.9	-1.4	11.0	17.9	11.0	17.9	N/A	-
3	5755	-9.6	-4.1	30.0	39.6	30.0	39.6	N/A	-
	5795	-9.8	-4.3	30.0	39.8	30.0	39.8	N/A	-

WLAN ax-Mode; 80 MHz; MCS 9; SISO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz Hz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5210	-8.9	-3.4	11.0	19.9	N/A	-	10.0	13.4
2A	5290	-9.2	-3.7	11.0	20.2	11.0	20.2	N/A	-
2C	5530	-8.6	-3.1	11.0	19.6	11.0	19.6	N/A	-
	5610	-7.6	-2.1	11.0	18.6	11.0	18.6	N/A	-
2C+3	5690	-8.5	-3.0	11.0	19.5	11.0	19.5	N/A	-
3	5775	-10.4	-4.9	30.0	40.4	30.0	40.4	N/A	-

WLAN n-Mode; 20 MHz; MCS 7; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	2.7	8.2	11.0	8.3	N/A	-	10.0	1.8
	5200	2.7	8.2	11.0	8.3	N/A	-	10.0	1.8
	5240	3.0	8.5	11.0	8.0	N/A	-	10.0	1.5
2A	5260	2.4	7.9	11.0	8.6	11.0	8.6	N/A	-
	5300	2.5	8.0	11.0	8.5	11.0	8.5	N/A	-
	5320	2.4	7.9	11.0	8.6	11.0	8.6	N/A	-
2C	5500	2.5	8.0	11.0	8.5	11.0	8.5	N/A	-
	5580	3.1	8.6	11.0	7.9	11.0	7.9	N/A	-
	5700	2.7	8.2	11.0	8.3	11.0	8.3	N/A	-
2C+3	5720	2.3	7.8	11.0	8.7	11.0	8.7	N/A	-
3	5745	0.3	5.8	30.0	29.7	30.0	29.7	N/A	-
	5785	0.1	5.6	30.0	29.9	30.0	29.9	N/A	-
	5825	0.2	5.7	30.0	29.8	30.0	29.8	N/A	-

WLAN n-Mode; 40 MHz; MCS 7; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5190	-3.3	2.2	11.0	14.3	N/A	-	10.0	7.8
	5230	-3.0	2.5	11.0	14.0	N/A	-	10.0	7.5
2A	5270	-3.7	1.8	11.0	14.7	11.0	14.7	N/A	-
	5310	-3.4	2.1	11.0	14.4	11.0	14.4	N/A	-
2C	5510	-3.7	1.8	11.0	14.7	11.0	14.7	N/A	-
	5550	-3.0	2.5	11.0	14.0	11.0	14.0	N/A	-
	5670	-3.4	2.1	11.0	14.4	11.0	14.4	N/A	-
2C+3	5710	-3.5	2.0	11.0	14.5	11.0	14.5	N/A	-
3	5755	-5.3	0.2	30.0	35.3	30.0	35.3	N/A	-
	5795	-5.8	-0.3	30.0	35.8	30.0	35.8	N/A	-

WLAN ac-Mode; 20 MHz; MCS 8; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	1.6	7.1	11.0	9.4	N/A	-	10.0	2.9
	5200	1.6	7.1	11.0	9.4	N/A	-	10.0	2.9
	5240	1.9	7.4	11.0	9.1	N/A	-	10.0	2.6
2A	5260	1.2	6.7	11.0	9.8	11.0	9.8	N/A	-
	5300	1.4	6.9	11.0	9.6	11.0	9.6	N/A	-
	5320	1.4	6.9	11.0	9.6	11.0	9.6	N/A	-
2C	5500	1.3	6.8	11.0	9.7	11.0	9.7	N/A	-
	5580	2.0	7.5	11.0	9.0	11.0	9.0	N/A	-
	5700	1.6	7.1	11.0	9.4	11.0	9.4	N/A	-
2C+3	5720	2.0	7.5	11.0	9.0	11.0	9.0	N/A	-
3	5745	-0.9	4.6	30.0	30.9	30.0	30.9	N/A	-
	5785	-0.8	4.7	30.0	30.8	30.0	30.8	N/A	-
	5825	-0.8	4.7	30.0	30.8	30.0	30.8	N/A	-

WLAN ac-Mode; 40 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5190	-3.5	2.0	11.0	14.5	N/A	-	10.0	8.0
	5230	-3.3	2.2	11.0	14.3	N/A	-	10.0	7.8
2A	5270	-3.6	1.9	11.0	14.6	11.0	14.6	N/A	-
	5310	-3.4	2.1	11.0	14.4	11.0	14.4	N/A	-
2C	5510	-3.5	2.0	11.0	14.5	11.0	14.5	N/A	-
	5550	-3.0	2.5	11.0	14.0	11.0	14.0	N/A	-
	5670	-3.4	2.1	11.0	14.4	11.0	14.4	N/A	-
2C+3	5710	-3.0	2.5	11.0	14.0	11.0	14.0	N/A	-
3	5755	-5.4	0.1	30.0	35.4	30.0	35.4	N/A	-
	5795	-5.6	-0.1	30.0	35.6	30.0	35.6	N/A	-

WLAN ac-Mode; 80 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5210	-6.3	-0.8	11.0	17.3	N/A	-	10.0	10.8
2A	5290	-6.4	-0.9	11.0	17.4	11.0	17.4	N/A	-
2C	5530	-6.3	-0.8	11.0	17.3	11.0	17.3	N/A	-
	5610	-5.7	-0.2	11.0	16.7	11.0	16.7	N/A	-
2C+3	5690	-6.2	-0.7	11.0	17.2	11.0	17.2	N/A	-
3	5775	-6.2	-0.7	30.0	36.2	30.0	36.2	N/A	-

WLAN ax-Mode; 20 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5180	-0.4	5.1	11.0	11.4	N/A	-	10.0	4.9
	5200	-0.2	5.3	11.0	11.2	N/A	-	10.0	4.7
	5240	0.2	5.7	11.0	10.8	N/A	-	10.0	4.3
2A	5260	-0.5	5.0	11.0	11.5	11.0	11.5	N/A	-
	5300	-0.4	5.1	11.0	11.4	11.0	11.4	N/A	-
	5320	-0.4	5.1	11.0	11.4	11.0	11.4	N/A	-
2C	5500	-0.6	4.9	11.0	11.6	11.0	11.6	N/A	-
	5580	0.0	5.5	11.0	11.0	11.0	11.0	N/A	-
	5700	-0.2	5.3	11.0	11.2	11.0	11.2	N/A	-
2C+3	5720	0.4	5.9	11.0	10.6	11.0	10.6	N/A	-
3	5745	-2.5	3.0	30.0	32.5	30.0	32.5	N/A	-
	5785	-2.5	3.0	30.0	32.5	30.0	32.5	N/A	-
	5825	-2.5	3.0	30.0	32.5	30.0	32.5	N/A	-

WLAN ax-Mode; 40 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5190	-7.4	-1.9	11.0	18.4	N/A	-	10.0	11.9
	5230	-7.1	-1.6	11.0	18.1	N/A	-	10.0	11.6
2A	5270	-7.5	-2.0	11.0	18.5	11.0	18.5	N/A	-
	5310	-7.3	-1.8	11.0	18.3	11.0	18.3	N/A	-
2C	5510	-7.5	-2.0	11.0	18.5	11.0	18.5	N/A	-
	5550	-6.8	-1.3	11.0	17.8	11.0	17.8	N/A	-

	5670	-7.2	-1.7	11.0	18.2	11.0	18.2	N/A	-
2C+3	5710	-7.0	-1.5	11.0	18.0	11.0	18.0	N/A	-
3	5755	-9.1	-3.6	30.0	39.1	30.0	39.1	N/A	-
	5795	-9.4	-3.9	30.0	39.4	30.0	39.4	N/A	-

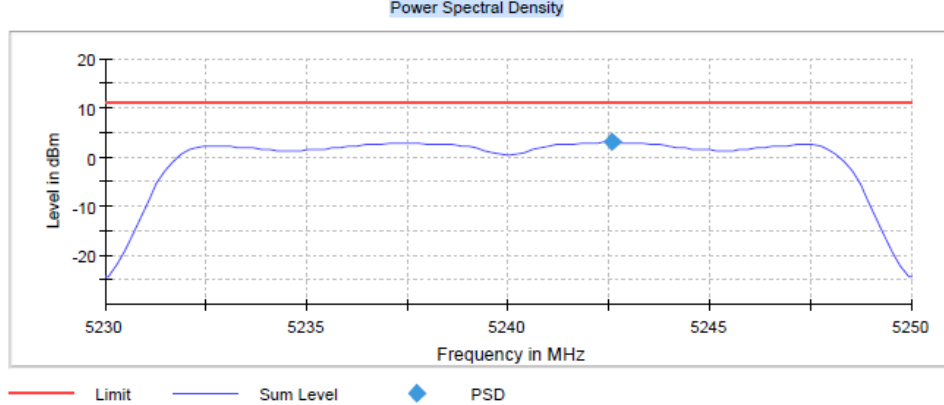
WLAN ax-Mode; 80 MHz; MCS 9; MIMO

U-NII-Subband	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC Limit [dBm/MHz] or [dBm/500 kHz] (U-NII-3)	Margin [dB]	ISED Limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]	ISED E.I.R.P limit [dBm/MHz] or [dBm/500kHz] (U-NII-3)	Margin [dB]
1	5210	-8.6	-3.1	11.0	19.6	N/A	-	10.0	13.1
2A	5290	-8.9	-3.4	11.0	19.9	11.0	19.9	N/A	-
2C	5530	-8.6	-3.1	11.0	19.6	11.0	19.6	N/A	-
	5610	-7.9	-2.4	11.0	18.9	11.0	18.9	N/A	-
2C+3	5690	-8.6	-3.1	11.0	19.6	11.0	19.6	N/A	-
3	5775	-9.7	-4.2	30.0	39.7	30.0	39.7	N/A	-

Remark: Please see next sub-clause for the measurement plot.

5.6.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

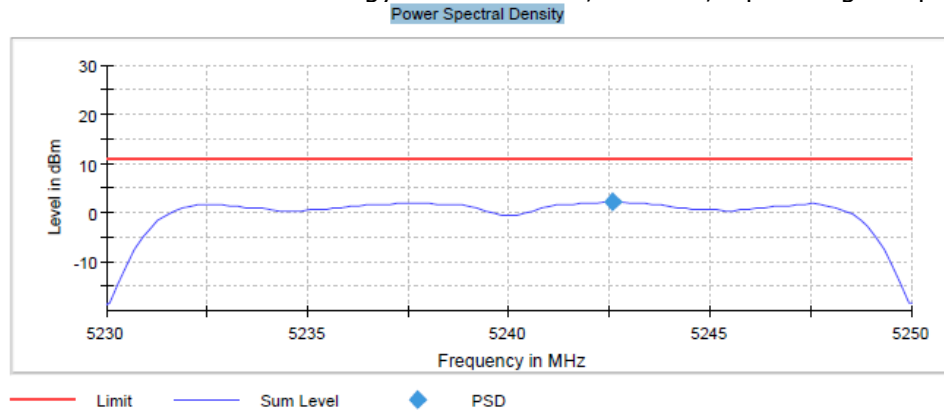
Radio Technology = WLAN a, UNII- 1, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.23000 GHz
Stop Frequency	5.25000 GHz
Span	20.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	101
SweepTime	1.010 s
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	RMS
SweepCount	60
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 15
Stable	3 / 3
Max Stable Difference	0.01 dB

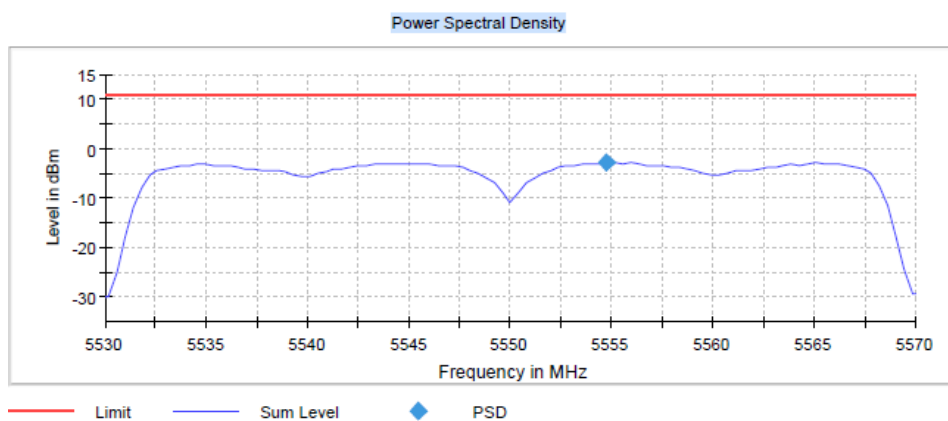
Radio Technology = WLAN n 20, UNII- 1, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.23000 GHz
Stop Frequency	5.25000 GHz
Span	20.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	101
SweepTime	1.010 s
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	RMS
SweepCount	60
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 15
Stable	3 / 3
Max Stable Difference	0.00 dB

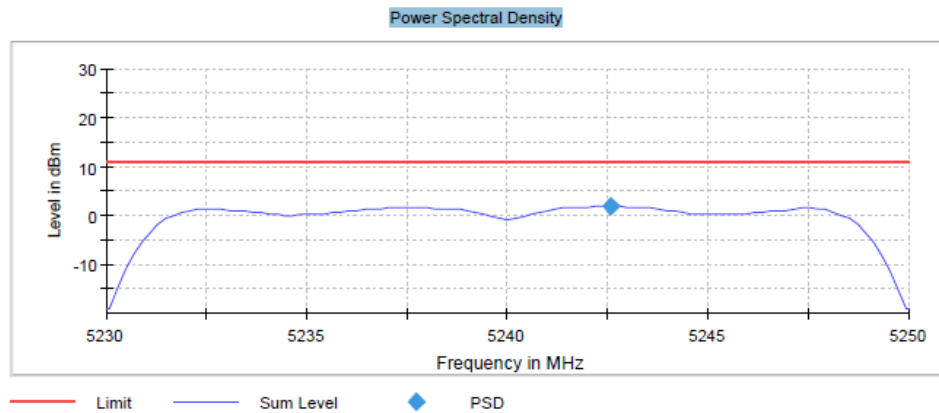
Radio Technology = WLAN n 40, UNII- 2C, Operating Frequency = mid



Measurement

Setting	Instrument Value
Start Frequency	5.53000 GHz
Stop Frequency	5.57000 GHz
Span	40.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	101
SweepTime	1.010 s
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	RMS
SweepCount	60
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 15
Stable	3 / 3
Max Stable Difference	0.00 dB

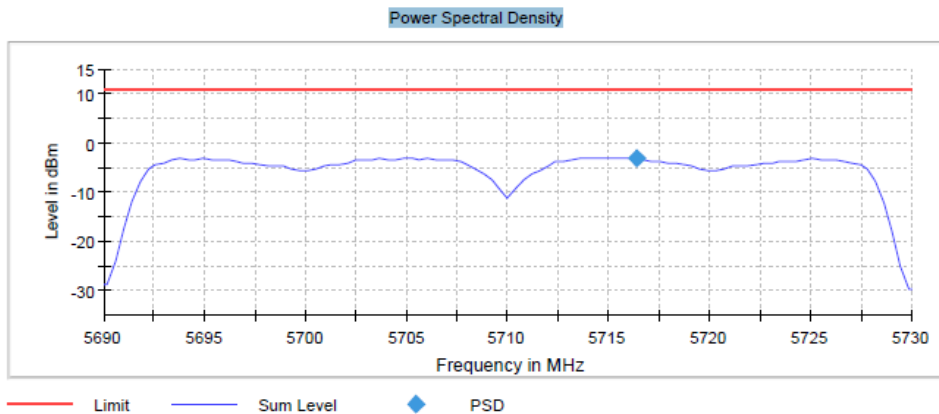
Radio Technology = WLAN ac 20, UNII- 1, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.23000 GHz
Stop Frequency	5.25000 GHz
Span	20.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	101
SweepTime	1.010 s
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	RMS
SweepCount	60
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 15
Stable	3 / 3
Max Stable Difference	0.00 dB

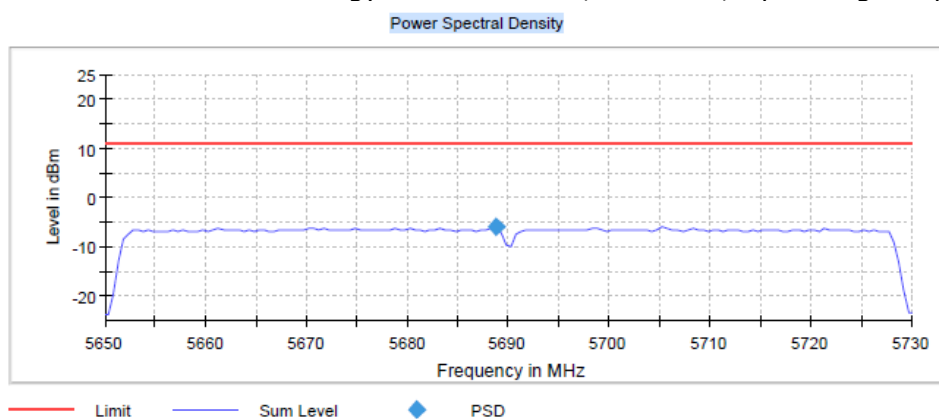
Radio Technology = WLAN ac 40, UNII- 2C, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.69000 GHz
Stop Frequency	5.73000 GHz
Span	40.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	101
SweepTime	1.010 s
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	RMS
SweepCount	60
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 15
Stable	3 / 3
Max Stable Difference	0.01 dB

Radio Technology = WLAN ac 80, UNII- 2C, Operating Frequency = high



Measurement

Setting	Instrument Value
Start Frequency	5.65000 GHz
Stop Frequency	5.73000 GHz
Span	80.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	160
SweepTime	3.200 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	RMS
SweepCount	18751
Filter	3 dB
Trace Mode	Max Hold
SweepType	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 15
Stable	3 / 3
Max Stable Difference	0.17 dB