FCC Measurement/Technical Report on

WLAN and Bluetooth Module on M.2 card

JODY-W377-00B

FCC ID: XPYJODYW377
IC: 8595A-JODYW377

Test Report Reference: MDE_UBLOX_2221_FCC_02

Test Laboratory:
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40880 Ratingen
Germany

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

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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 2: 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 2: 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 2: 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 2: 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 2: 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 §15.31, §15.407 (a)(1)**

Maximum Conducted Output Power
The measurement was performed according to ANSI C63.10, chapter 12.3.3.2 **Final Result**

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN a, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN a, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN a, high, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN a, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN a, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN a, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN a, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN a, low, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN a, mid, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN a, mid, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN a, mid, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN a, mid, U-NII-3	S01_AA01	2022-12-21	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-3	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN ac 20 MHz MIMO, mid, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN ac 20 MHz, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2C	S01_AA01	2022-12-21	Passed	Passed
WLAN ac 20 MHz, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ac 20 MHz, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, low, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 20 MHz, mid, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-1	S01_AA01	2022-11-09	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 Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ac 40 MHz MIMO, high, U-NII-2A	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-1	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2A	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-3	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz MIMO, mid, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN ac 40 MHz, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2C	S01_AA01	2022-12-21	Passed	Passed
WLAN ac 40 MHz, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ac 40 MHz, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 40 MHz, low, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ac 40 MHz, mid, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 80 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-20	Passed	Passed
WLAN ac 80 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-20	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-1	S01_AA01	2022-12-20	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-12-20	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-3	S01_AA01	2022-12-21	Passed	Passed
WLAN ac 80 MHz, high, U-NII-2C	S01_AA01	2022-12-21	Passed	Passed
WLAN ac 80 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-3	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-3	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN ax 20 MHz MIMO, mid, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407 **FCC §15.31, §15.407 (a)(1)**

Maximum Conducted Output Power
The measurement was performed according to ANSI C63.10, chapter 12.3.3.2 **Final Result**

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 20 MHz, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ax 20 MHz, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, low, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-1	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2A	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-1	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-2A	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-3	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz MIMO, mid, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN ax 40 MHz, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 40 MHz, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ax 40 MHz, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 40 MHz, low, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN ax 40 MHz, mid, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 80 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-20	Passed	Passed
WLAN ax 80 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-20	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-1	S01_AA01	2022-12-20	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-12-20	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-3	S01_AA01	2022-12-21	Passed	Passed
WLAN ax 80 MHz, high, U-NII-2C	S01_AA01	2022-12-21	Passed	Passed
WLAN ax 80 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-3	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-1	S01_AA01	2022-11-03	Passed	Passed

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407 **FCC §15.31, §15.407 (a)(1)**

Maximum Conducted Output Power
The measurement was performed according to ANSI C63.10, chapter 12.3.3.2 **Final Result**

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN n 20 MHz MIMO, high, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-3	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-1	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-2C	S01_AA01	2022-11-03	Passed	Passed
WLAN n 20 MHz MIMO, mid, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN n 20 MHz, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, high, U-NII-2C	S01_AA01	2022-12-21	Passed	Passed
WLAN n 20 MHz, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN n 20 MHz, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, low, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN n 20 MHz, mid, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, mid, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, mid, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN n 20 MHz, mid, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-1	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2A	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-1	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2A	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-3	S01_AA01	2022-11-28	Passed	Passed
WLAN n 40 MHz MIMO, mid, U-NII-2C	S01_AA01	2022-11-09	Passed	Passed
WLAN n 40 MHz, high, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN n 40 MHz, high, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN n 40 MHz, high, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN n 40 MHz, high, U-NII-3	S01_AA01	2022-11-23	Passed	Passed
WLAN n 40 MHz, low, U-NII-1	S01_AA01	2022-10-18	Passed	Passed
WLAN n 40 MHz, low, U-NII-2A	S01_AA01	2022-10-18	Passed	Passed
WLAN n 40 MHz, low, U-NII-2C	S01_AA01	2022-10-18	Passed	Passed
WLAN n 40 MHz, low, U-NII-3	S01_AA01	2022-11-23	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 Radio Technology, Operating Frequency, Subband	**Setup**	**Date**	**FCC**	**IC**
WLAN n 40 MHz, mid, U-NII-2C	S01_AA01	2022-10-18	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	**Setup**	**Date**	**FCC**	**IC**
WLAN a, low, 1GHz - 26GHz, U-NII-1 Remark: Conducted Measurement	S01_AA01	2022-12-19	Passed	Passed
WLAN a, low, 1GHz - 26GHz, U-NII-1 Remark: Radiated Measurement	S02_AA01	2022-10-21	Passed	Passed
WLAN a, low, 30MHz - 1GHz, U-NII-1 Remark: Conducted Measurement	S01_AA01	2022-12-19	Passed	Passed
WLAN a, low, 9kHz - 30MHz, U-NII-1 Remark: Conducted Measurement	S01_AA01	2022-12-19	Passed	Passed
WLAN a, mid, 30MHz - 1GHz, U-NII-1 Remark: Radiated Measurement	S02_AA01	2022-10-31	Passed	Passed
WLAN a, mid, 9kHz - 30MHz, U-NII-1 Remark: Radiated Measurement	S02_AA01	2022-10-31	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 Radio Technology, Operating Frequency, Subband	**Setup**	**Date**	**FCC**	**IC**
Radiated Measurement:				
WLAN a, high, U-NII-2A	S02_AA01	2022-10-26	Passed	Passed
WLAN a, low, U-NII-1	S02_AA01	2022-10-26	Passed	Passed
Conducted Measurement:				
WLAN a, high, U-NII-2A	S01_AA01	2022-12-12	Passed	Passed
WLAN a, high, U-NII-2C	S01_AA01	2022-12-22	Passed	Passed
WLAN a, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN a, low, U-NII-1	S01_AA01	2022-12-12	Passed	Passed
WLAN a, low, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN a, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed

Band Edge

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

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ac 20 MHz MIMO, high, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-19	Passed	Passed
WLAN ac 20 MHz MIMO, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-14	Passed	Passed
WLAN ac 20 MHz MIMO, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2A	S01_AA01	2022-12-12	Passed	Passed
WLAN ac 20 MHz, high, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 20 MHz, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 20 MHz, low, U-NII-1	S01_AA01	2022-12-12	Passed	Passed
WLAN ac 20 MHz, low, U-NII-2C	S01_AA01	2022-12-19	Passed	Passed
WLAN ac 20 MHz, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 40 MHz MIMO, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 40 MHz MIMO, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2A	S01_AA01	2022-12-12	Passed	Passed
WLAN ac 40 MHz, high, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 40 MHz, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 40 MHz, low, U-NII-1	S01_AA01	2022-12-12	Passed	Passed
WLAN ac 40 MHz, low, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 40 MHz, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 80 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 80 MHz MIMO, mid, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ac 80 MHz, low, U-NII-2C	S01_AA01	2022-12-19	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ac 80 MHz, mid, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-15 2022-12-22	Passed	Passed
WLAN ax 20 MHz MIMO, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 20 MHz MIMO, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2A	S01_AA01	2022-12-12	Passed	Passed
WLAN ax 20 MHz, high, U-NII-2C	S01_AA01	2022-12-13	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 Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 20 MHz, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 20 MHz, low, U-NII-1	S01_AA01	2022-12-12	Passed	Passed
WLAN ax 20 MHz, low, U-NII-2C	S01_AA01	2022-12-19	Passed	Passed
WLAN ax 20 MHz, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 40 MHz MIMO, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 40 MHz MIMO, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 40 MHz, high, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 40 MHz, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 40 MHz, low, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 40 MHz, low, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 40 MHz, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 80 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-15	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 80 MHz MIMO, mid, U-NII-3	S01_AA01	2022-12-19	Passed	Passed
WLAN ax 80 MHz, low, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN ax 80 MHz, mid, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2A	S01_AA01	2022-12-13	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-14	Passed	Passed
WLAN n 20 MHz MIMO, high, U-NII-3	S01_AA01	2022-12-19	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-1	S01_AA01	2022-12-13	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-14	Passed	Passed
WLAN n 20 MHz MIMO, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN n 20 MHz, high, U-NII-2A	S01_AA01	2022-12-12	Passed	Passed
WLAN n 20 MHz, high, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN n 20 MHz, high, U-NII-3	S01_AA01	2022-12-13	Passed	Passed
WLAN n 20 MHz, low, U-NII-1	S01_AA01	2022-12-12	Passed	Passed
WLAN n 20 MHz, low, U-NII-2C	S01_AA01	2022-12-22	Passed	Passed
WLAN n 20 MHz, low, U-NII-3	S01_AA01	2022-12-13	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2A	S01_AA01	2022-12-13 2022-12-22	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-2C	S01_AA01	2022-12-19	Passed	Passed
WLAN n 40 MHz MIMO, high, U-NII-3	S01_AA01	2022-12-15	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 Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN n 40 MHz MIMO, low, U-NII-1	S01_AA01	2022-12-13 2022-12-22	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-2C	S01_AA01	2022-12-14	Passed	Passed
WLAN n 40 MHz MIMO, low, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN n 40 MHz, high, U-NII-2A	S01_AA01	2022-12-12	Passed	Passed
WLAN n 40 MHz, high, U-NII-2C	S01_AA01	2022-12-13	Passed	Passed
WLAN n 40 MHz, high, U-NII-3	S01_AA01	2022-12-15	Passed	Passed
WLAN n 40 MHz, low, U-NII-1	S01_AA01	2022-12-12	Passed	Passed
WLAN n 40 MHz, low, U-NII-2C	S01_AA01	2022-12-22	Passed	Passed
WLAN n 40 MHz, low, U-NII-3	S01_AA01	2022-12-15	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	2023-01-04	--	valid
--	--	--	--

COMMENT: The module JODY-W377 mounted to the M.2 card has already been tested against this standard and according to the applicant corresponds to the previous setup in regards to the radio part. Due to this, only spot checks have been performed.
Report Reference: MDE_UBLOX_2030_FCC_02

(responsible for accreditation scope)
Dipl.-Ing. Marco Kullik

(responsible for testing and report)
Dipl.-Ing. Daniel Gall

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:	Dipl.-Ing. Marco Kullik
Report Template Version:	2022-05-25

3.2 PROJECT DATA

Responsible for testing and report:	Dipl.-Ing. Daniel Gall
Employees who performed the tests:	documented internally at 7Layers
Date of Report:	2023-01-04
Testing Period:	2022-10-18 to 2022-12-22

3.3 APPLICANT DATA

Company Name:	u-blox AG
Address:	Zürcherstrasse 68 8800 Thalwil Switzerland
Contact Person:	Filip Kruzela

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	WLAN and Bluetooth Module on M.2 card
Product name	JODY-W377-00B
Type	JODY-W377-00B
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. In the 5 GHz band it supports SISO and MIMO Mode for WLAN. Supported WLAN modes are a, n, ac and ax with 20 MHz (mode a, n, ac, ax), 40 MHz (mode n, ac, ax) and 80 MHz (mode ac, ax) BW. The ax Mode Supports MU-MIMO and OFDMA. 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	Enclosure Data DC Antenna The EUT is a module on an M.2 card. No cables were connected to the EUT itself except for u.fl to SMA adapter cables that were used for measurement or termination of the ports.
Antennas	External / 2 dBi (No antennas were provided for the tests, radiated measurements were performed with 50 Ohm terminations) Remark by laboratory: Naming of antenna ports for the report: 
Tested Datarates	WLAN a: 6 Mbit WLAN n: MCS 0 (SISO), MCS 8 (MIMO) WLAN ac, ax: MCS 0
Special software used for testing	Labtool V2.0.0.85-17.80.200.p204 on computer board provided by applicant

Used output power	5 GHz Mode | Ch. 36 40 44 48 52 56 60 64 100 104 108 112 116 132 136 140 144 149 153 157 161 165 A 16 17 17 17 18 18 18 16 15 18 18 18 18 18 18 15 16 16 16 16 16 16 N20 SISO 14 17 17 17 17 17 17 14 15 17 17 17 17 17 17 14 16 16 15 15 15 15 N20 MIMO 14 15 15 15 17 17 17 14 14 17 17 17 17 17 17 14 17 17 17 15 15 15 N40 SISO 13 16 16 13 12 16 N/A 15 14 14 14 N/A N40 MIMO 12 15 16 12 11 16 N/A 15 15 15 14 N/A Ac20 SISO 14 17 17 17 17 17 17 14 15 17 17 17 17 17 17 14 15 15 15 15 15 15 Ac20 MIMO 14 15 15 15 17 17 17 14 14 17 17 17 17 17 17 14 17 17 15 15 15 Ac40 SISO 13 16 16 13 12 16 N/A 14 14 14 14 N/A Ac40 MIMO 12 15 16 12 11 16 N/A 15 16 16 16 N/A Ac80 SISO 12 12 12 N/A 15 15 N/A Ac80 MIMO 11 11 11 N/A 16 15 N/A Ax20 SISO 14 15 15 15 15 15 15 14 14 15 15 15 15 15 15 14 14 14 14 14 14 14 Ax20 MIMO 14 14 14 14 15 15 15 14 14 15 15 15 15 15 15 14 15 15 15 13 13 13 Ax40 SISO 13 15 15 13 12 15 N/A 15 13 13 12 N/A Ax40 MIMO 12 14 15 12 11 15 N/A 15 15 15 13 N/A Ax80 SISO 12 12 12 N/A 14 15 N/A Ax80 MIMO 11 11 11 N/A 15 13 N/A Note by the laboratory: Settings that differ from original certification marked in yellow.

4.2 EUT MAIN COMPONENTS

Sample Name	**Sample Code**	**Description**
EUT aa01	DE1015168aa01	
Sample Parameter	**Value**	
Serial No.	M186009C3815E240500	
HW Version	05	
SW Version	2.0.0.86-17.80.200.p207	
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**
AUX01	UBLOX, M.2 card universal adapter, Rev. A, - , -	M.2 adapter
AUX02	Toradex, Ixora, V1.2A, - , 10629969	Board Computer for setting modes
AUX03	LogiLink, AU0002E, -, - , -	USB - RS232 adapter for remote control of AUX02
AUX04	Fujitsu Ltd., Lifebook U758 , 2018-07, Win10 Pro Engl. , DSAL009811	Laptop remote controlling AUX02

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_AA01	EUT aa01, AUX04, AUX02, AUX01, AUX03,	Conducted Setup
S02_AA01	EUT aa01, AUX01	Radiated Setup

4.6 OPERATING MODES / TEST CHANNELS

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

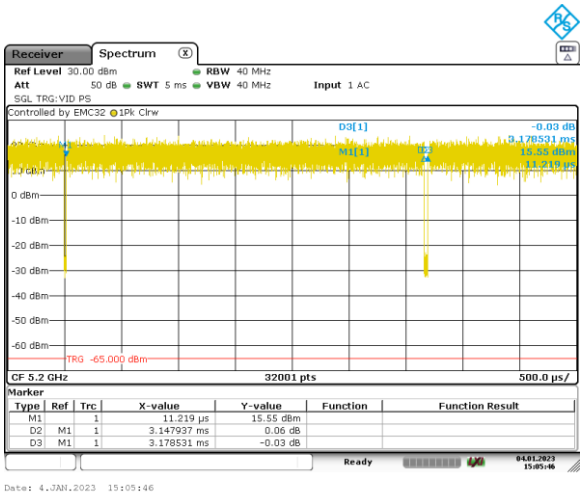
U-NII-Subband 1 5150 - 5250 MHz			U-NII-Subband 2A 5250 - 5350 MHz			U-NII-Subband 2C 5470 - 5725 MHz			U-NII-Subband 3 5725 - 5850 MHz			Nom. BW
low	mid	high	low	mid	high	low	mid	high	low	mid	high	20 MHz
36	40	48	52	60	64	100	116	140 / 144 1)	149	157	165	Ch.-No.
5180	5200	5240	5260	5300	5320	5500	5580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

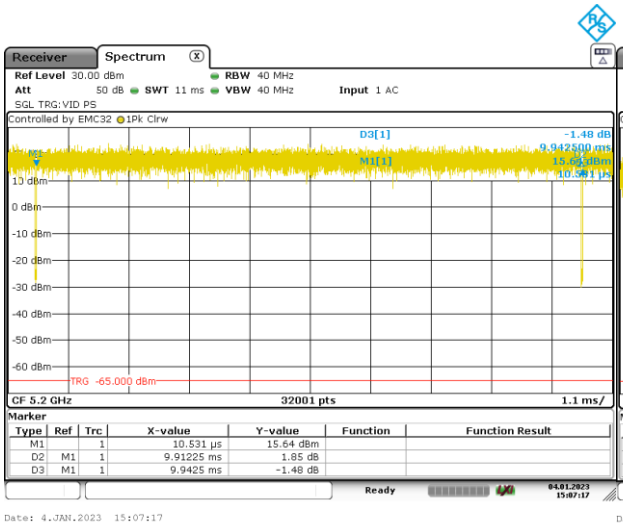
low	mid	high	low	mid	high	low	mid	high	low	mid	high	80 MHz
-	42	-	-	58	-	106	-	138 1)	155	-	-	Ch.-No.
-	5210	-	-	5290	-	5530	-	5690	5775	-	-	MHz

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 106.

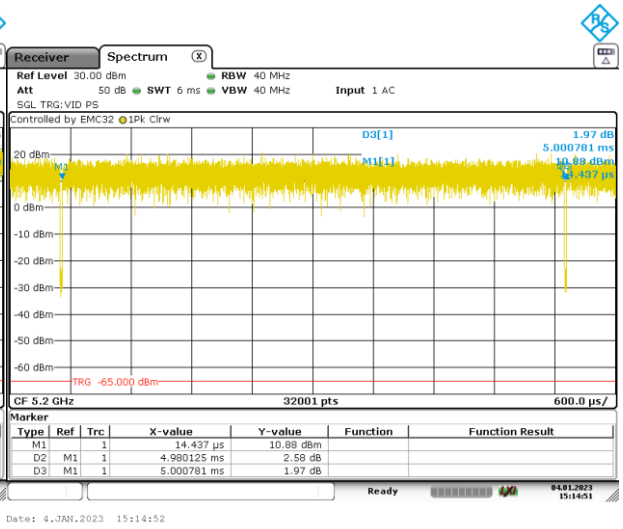
Duty Cycle:



WLAN a

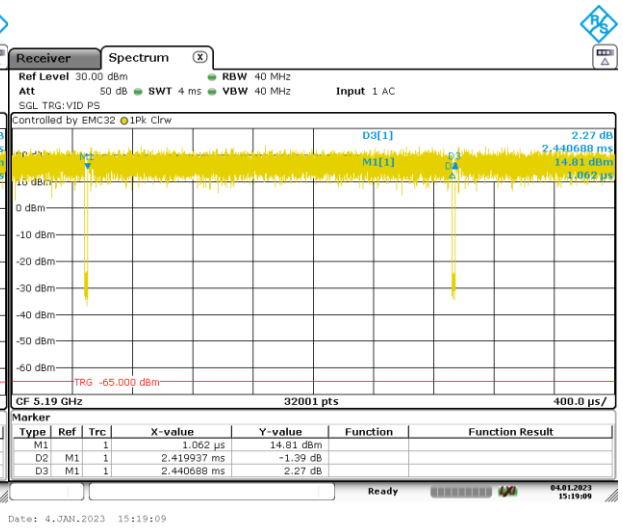


WLAN n 20 MHz SISO



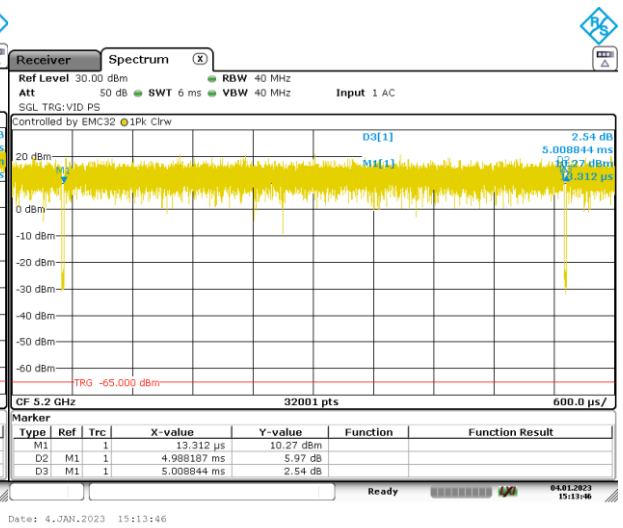
WLAN n 20 MHz MIMO

WLAN n 40 MHz SISO

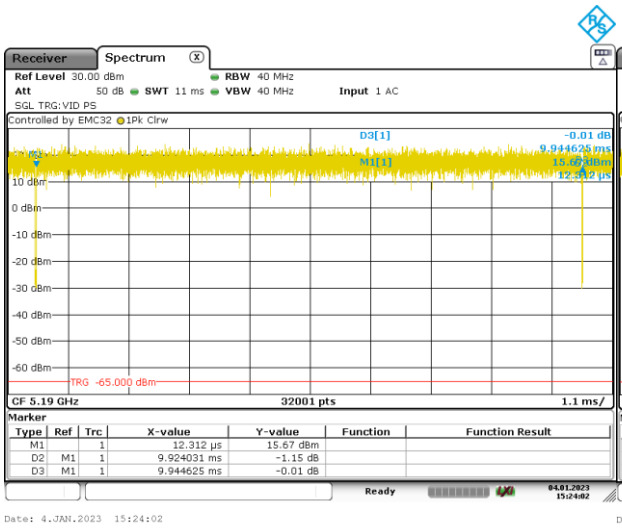


WLAN n 40 MHz MIMO

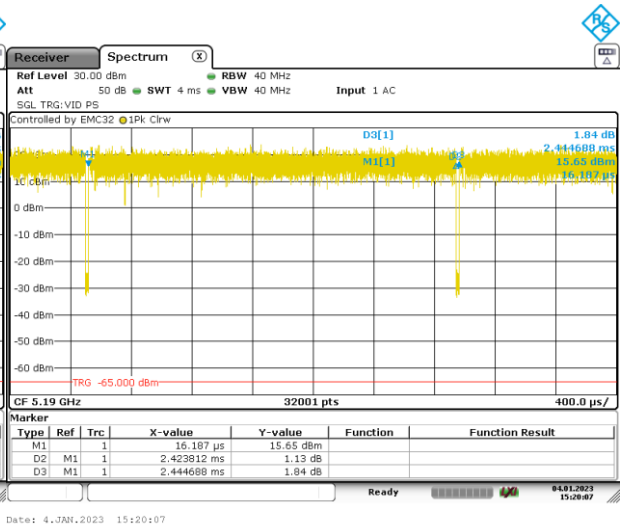
WLAN ac 20 MHz SISO



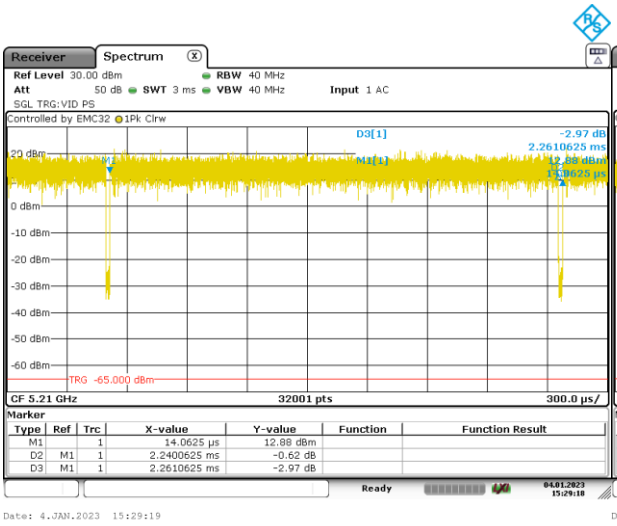
WLAN ac 20 MHz MIMO



WLAN ac 40 MHz SISO

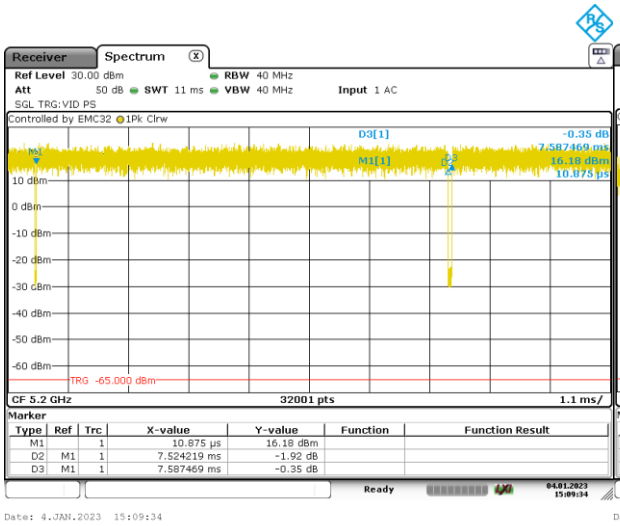


WLAN ac 40 MHz MIMO

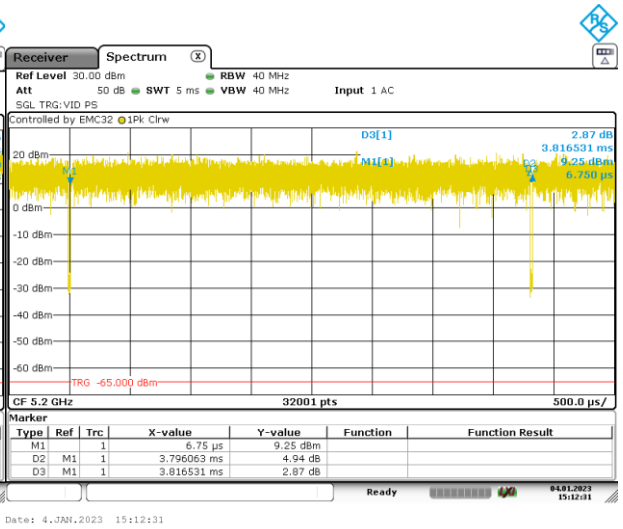


WLAN ac 80 MHz SISO

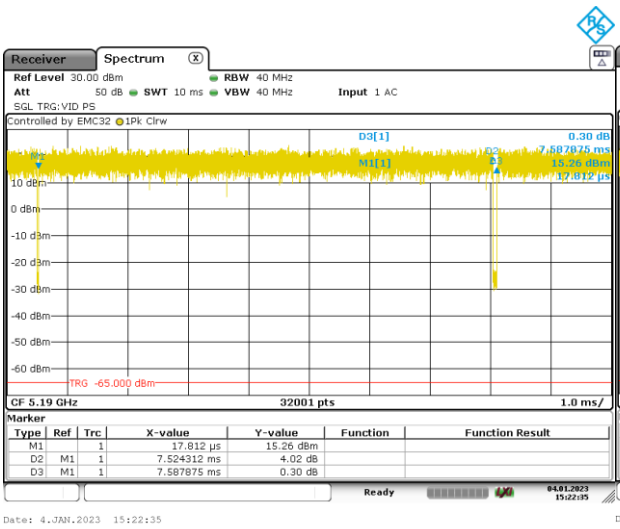
WLAN ac 80 MHz MIMO



WLAN ax 20 MHz SISO

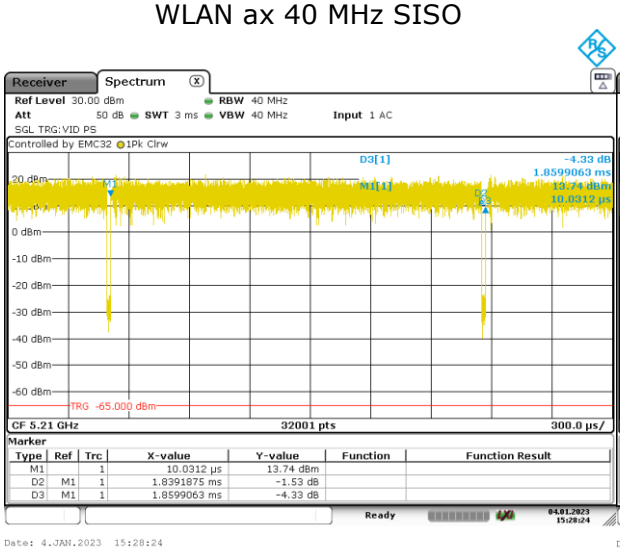


WLAN ax 20 MHz MIMO

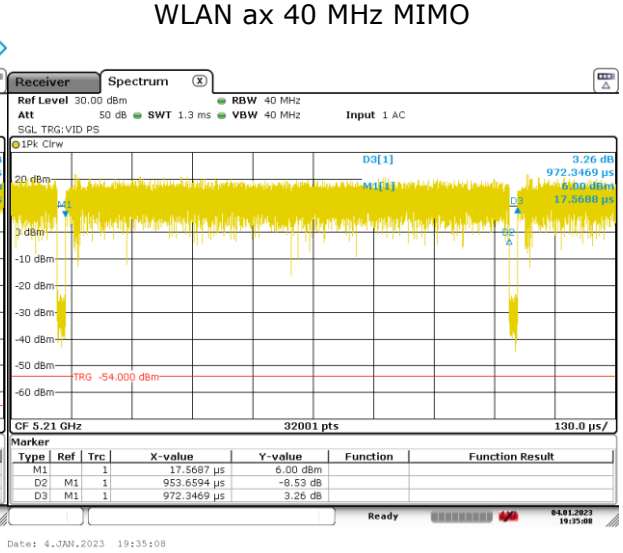


WLAN ax 40 MHz SISO

WLAN ax 40 MHz MIMO



WLAN ax 80 MHz SISO



WLAN ax 80 MHz MIMO

Mode	Full Period [ms]	Burst Length [ms]	DC
WLAN a-Mode; 20 MHz; 6 Mbit/s	3.178531	3.147937	0.990
WLAN n-Mode; 20 MHz; MCS0; SISO	9.9425	9.91225	0.997
WLAN n-Mode; 40 MHz; MCS0; SISO	9.932594	9.912344	0.998
WLAN n-Mode; 20 MHz; MCS8; MIMO	5.000781	4.980125	0.996
WLAN n-Mode; 40 MHz; MCS8; MIMO	2.440688	2.419937	0.991
WLAN ac-Mode; 20 MHz; MCS0; SISO	9.954531	9.923938	0.997
WLAN ac-Mode; 40 MHz; MCS0; SISO	9.944625	9.924031	0.998
WLAN ac-Mode; 80 MHz; MCS0; SISO	2.261063	2.240063	0.991
WLAN ac-Mode; 20 MHz; MCS0; MIMO	5.008844	4.988187	0.996
WLAN ac-Mode; 40 MHz; MCS0; MIMO	2.444688	2.423812	0.991
WLAN ac-Mode; 80 MHz; MCS0; MIMO	1.165	1.143938	0.982
WLAN ax-Mode; 20 MHz; MCS0; SISO	7.587469	7.524219	0.992
WLAN ax-Mode; 40 MHz; MCS0; SISO	7.587875	7.524312	0.992
WLAN ax-Mode; 80 MHz; MCS0; SISO	1.859906	1.839188	0.989
WLAN ax-Mode; 20 MHz; MCS0; MIMO	3.816531	3.796063	0.995
WLAN ax-Mode; 40 MHz; MCS0; MIMO	1.949438	1.928687	0.989
WLAN ax-Mode; 80 MHz; MCS0; MIMO	0.972347	0.953659	0.981

No Duty Cycle Correction applied to test results since Duty Cycle > 98%.

4.7 PRODUCT LABELLING

4.7.1 FCC ID LABEL

Please refer to the documentation of the applicant.

4.7.2 LOCATION OF THE LABEL ON THE EUT

Please refer to the documentation of the applicant.

5 TEST RESULTS

5.1 MAXIMUM CONDUCTED OUTPUT POWER

Standard **FCC Part 15 Subpart E**

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

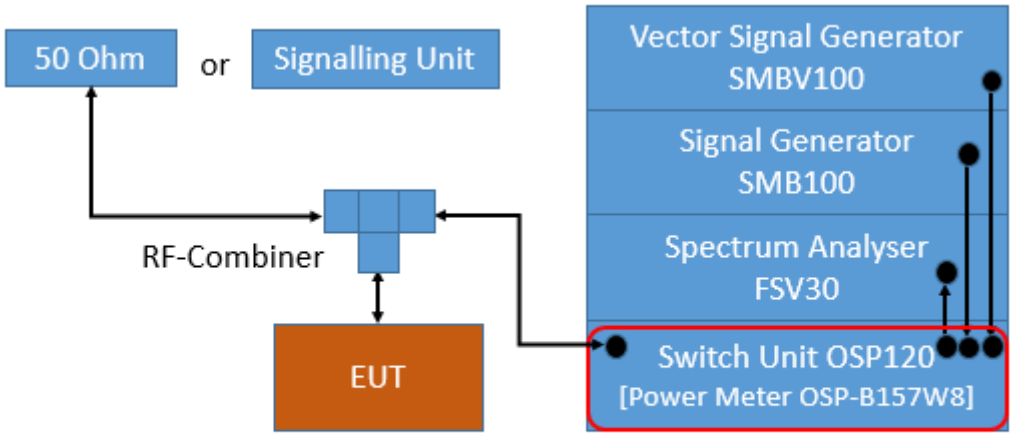
5.1.1 TEST DESCRIPTION

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

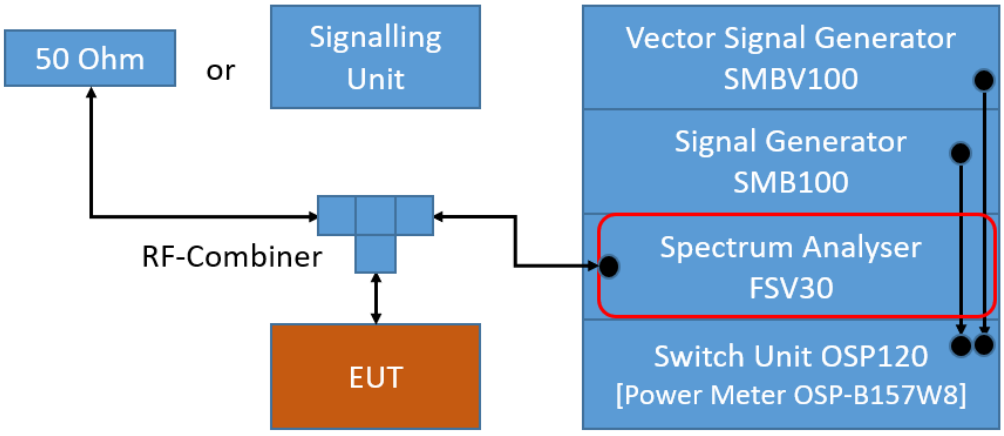
For U-NII bands 5,6,7,8:
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

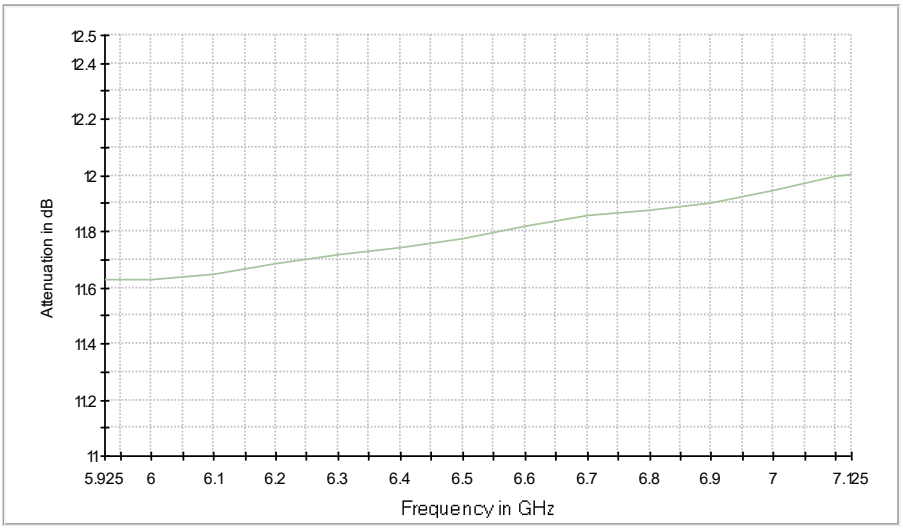
Analyzer settings:

- Resolution Bandwidth (RBW): 1 MHz
- Video Bandwidth (VBW): 3 MHz
- Trace: Average, RMS power averaging mode
- Sweeps: at least 100
- Sweeptime: 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

5.1.2 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 dBm + 10 log (26 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 it's 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 log10 B [dBm], whichever power is less.
e.i.r.p.: 1.0 W (30 dBm) or 17 + 10 log10 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/MHzfor 0°≤ θ< 8°
ii.-13 −0.716 (θ-8) dBW/MHzfor 8° ≤ θ< 40°
iii.-35.9 −1.22 (θ-40) dBW/MHzfor 40° ≤ θ ≤45°
iv.-42 dBW/MHzfor θ > 45°

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 log10 B [dBm], whichever power is less.
e.i.r.p.: 1.0 W (30 dBm) or 17 + 10 log10 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)

5.1.3 TEST PROTOCOL

Ambient temperature: 23–25 °C
Air Pressure: 1000–1010 hPa
Humidity: 30–48 %

WLAN a-Mode; 20 MHz; 6 Mbit/s

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	16.6	18.6	24.0	7.4	N/A		22.2	3.6	1)
	40	5200	17.4	19.4	24.0	6.6	N/A		22.2	2.8	1)
	48	5240	17.5	19.5	24.0	6.5	N/A		22.2	2.7	1)
2A	52	5260	18.6	20.6	24.0	5.4	23.5	4.9	29.5	8.9	1)
	60	5300	18.1	20.1	24.0	5.9	23.2	5.1	29.2	9.1	1)
	64	5320	16.2	18.2	24.0	7.8	23.2	7.0	29.2	11.0	1)
2C	100	5500	14.0	16.0	24.0	10.0	23.2	9.2	29.2	13.2	
	116	5580	17.9	19.9	24.0	6.1	23.2	5.4	29.2	9.4	
	140	5700	15.8	17.8	23.9	8.2	23.2	7.5	29.2	11.5	
3	149	5745	17.7	19.7	30.0	12.3	30.0	12.3	36.0	16.3	
	157	5785	17.8	19.8	30.0	12.2	30.0	12.2	36.0	16.2	
	165	5825	16.7	18.7	30.0	13.3	30.0	13.3	36.0	17.3	

WLAN n-Mode; 20 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	14.6	16.6	24.0	9.4	N/A		22.5	5.9	1)
	40	5200	17.8	19.8	24.0	6.2	N/A		22.5	2.7	1)
	48	5240	17.9	19.9	24.0	6.1	N/A		22.5	2.5	1)
2A	52	5260	17.2	19.2	24.0	6.8	23.5	6.2	29.5	10.2	1)
	60	5300	17.2	19.2	24.0	6.8	23.5	6.3	29.5	10.3	1)
	64	5320	14.7	16.7	24.0	9.3	23.5	8.7	29.5	12.7	1)
2C	100	5500	14.3	16.3	24.0	9.7	23.5	9.1	29.5	13.1	
	116	5580	16.6	18.6	24.0	7.4	23.5	6.8	29.5	10.8	
	140	5700	15.2	17.2	24.0	8.8	23.5	8.3	29.5	12.3	
3	149	5745	17.5	19.5	30.0	12.5	30.0	12.5	36.0	16.5	
	157	5785	16.5	18.5	30.0	13.5	30.0	13.5	36.0	17.5	
	165	5825	16.3	18.3	30.0	13.7	30.0	13.7	36.0	17.7	

WLAN n-Mode; 40 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	38	5190	14.0	16.0	24.0	10.0	N/A		23.0	7.0	1)
	46	5230	17.0	19.0	24.0	7.0	N/A		23.0	4.0	1)
2A	54	5270	16.2	18.2	24.0	7.8	24.0	7.8	30.0	11.8	1)
	62	5310	13.9	15.9	24.0	10.1	24.0	10.1	30.0	14.1	1)
2C	102	5510	11.6	13.6	24.0	12.4	24.0	12.4	30.0	16.4	
	110	5550	15.6	17.6	24.0	8.4	24.0	8.4	30.0	12.4	
	134	5670	15.4	17.4	24.0	8.6	24.0	8.6	30.0	12.6	
3	151	5755	15.8	17.8	30.0	14.2	30.0	14.2	36.0	18.2	
	159	5795	15.7	17.7	30.0	14.3	30.0	14.3	36.0	18.3	

WLAN ac-Mode; 20 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	14.5	16.5	24.0	9.5	N/A		22.5	5.9	1)
	40	5200	17.8	19.8	24.0	6.2	N/A		22.5	2.7	1)
	48	5240	18.0	20.0	24.0	6.0	N/A		22.5	2.4	1)
2A	52	5260	17.2	19.2	24.0	6.8	23.5	6.3	29.5	10.3	1)
	60	5300	17.2	19.2	24.0	6.8	23.5	6.3	29.5	10.3	1)
	64	5320	14.9	16.9	24.0	9.1	23.5	8.6	29.5	12.6	1)
2C	100	5500	13.9	15.9	24.0	10.1	23.5	9.5	29.5	13.5	
	116	5580	16.3	18.3	24.0	7.7	23.5	7.1	29.5	11.1	
	140	5700	15.3	17.3	24.0	8.7	23.5	8.2	29.5	12.2	
3	149	5745	16.8	18.8	30.0	13.2	30.0	13.2	36.0	17.2	
	157	5785	16.4	18.4	30.0	13.6	30.0	13.6	36.0	17.6	
	165	5825	16.7	18.7	30.0	13.3	30.0	13.3	36.0	17.3	

WLAN ac-Mode; 40 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	38	5190	14.1	16.1	24.0	9.9	N/A		23.0	6.9	1)
	46	5230	17.0	19.0	24.0	7.0	N/A		23.0	4.0	1)
2A	54	5270	16.1	18.1	24.0	7.9	24.0	7.9	30.0	11.9	1)
	62	5310	13.9	15.9	24.0	10.1	24.0	10.1	30.0	14.1	1)
2C	102	5510	11.7	13.7	24.0	12.3	24.0	12.3	30.0	16.3	
	110	5550	15.7	17.7	24.0	8.3	24.0	8.3	30.0	12.3	
	134	5670	15.2	17.2	24.0	8.8	24.0	8.8	30.0	12.8	
3	151	5755	15.8	17.8	30.0	14.2	30.0	14.2	36.0	18.2	
	159	5795	15.8	17.8	30.0	14.2	30.0	14.2	36.0	18.2	

WLAN ac-Mode; 80 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	42	5210	13.4	15.4	24.0	10.6	N/A		23.0	7.6	1)
2A	58	5290	12.6	14.6	24.0	11.4	24.0	11.4	30.0	15.4	1)
2C	106	5530	12.0	14.0	24.0	12.0	24.0	12.0	30.0	16.0	
	138	5690	16.0	18.0	24.0	8.0	24.0	8.0	30.0	12.0	
3	155	5775	17.2	19.2	30.0	12.8	30.0	12.8	36.0	16.8	

WLAN ax-Mode; 20 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	14.9	16.9	24.0	9.1	N/A		22.8	5.9	1)
	40	5200	16.1	18.1	24.0	7.9	N/A		22.7	4.6	1)
	48	5240	16.3	18.3	24.0	7.7	N/A		22.8	4.5	1)
2A	52	5260	15.5	17.5	24.0	8.5	23.7	8.3	29.7	12.3	1)
	60	5300	15.5	17.5	24.0	8.5	23.7	8.2	29.7	12.2	1)
	64	5320	15.1	17.1	24.0	8.9	23.8	8.7	29.8	12.7	1)
2C	100	5500	13.4	15.4	24.0	10.6	23.7	10.3	29.7	14.3	
	116	5580	14.6	16.6	24.0	9.4	23.7	9.1	29.7	13.1	
	140	5700	14.7	16.7	24.0	9.3	23.7	9.0	29.7	13.0	
3	149	5745	15.0	17.0	30.0	15.0	30.0	15.0	36.0	19.0	
	157	5785	15.1	17.1	30.0	14.9	30.0	14.9	36.0	18.9	
	165	5825	14.9	16.9	30.0	15.1	30.0	15.1	36.0	19.1	

WLAN ax-Mode; 40 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	38	5190	14.4	16.4	24.0	9.6	N/A		23.0	6.6	1)
	46	5230	16.3	18.3	24.0	7.7	N/A		23.0	4.7	1)
2A	54	5270	15.9	17.9	24.0	8.1	24.0	8.1	30.0	12.1	1)
	62	5310	13.8	15.8	24.0	10.2	24.0	10.2	30.0	14.2	1)
2C	102	5510	11.7	13.7	24.0	12.3	24.0	12.3	30.0	16.3	
	110	5550	15.0	17.0	24.0	9.0	24.0	9.0	30.0	13.0	
	134	5670	15.8	17.8	24.0	8.2	24.0	8.2	30.0	12.2	
3	151	5755	15.1	17.1	30.0	14.9	30.0	14.9	36.0	18.9	
	159	5795	14.6	16.6	30.0	15.4	30.0	15.4	36.0	19.4	

WLAN ax-Mode; 80 MHz; MCS0; SISO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	42	5210	13.7	15.7	24.0	10.3	N/A		23.0	7.3	1)
2A	58	5290	12.9	14.9	24.0	11.1	24.0	11.1	30.0	15.1	1)
2C	106	5530	12.0	14.0	24.0	12.0	24.0	12.0	30.0	16.0	
	138	5690	15.7	17.7	24.0	8.3	24.0	8.3	30.0	12.3	
3	155	5775	17.1	19.1	30.0	12.9	30.0	12.9	36.0	16.9	

WLAN n-Mode; 20 MHz; MCS8; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	17.1	19.1	24.0	6.9	N/A		22.5	3.4	1)
	40	5200	18.4	20.4	24.0	5.6	N/A		22.5	2.1	1)
	48	5240	18.4	20.4	24.0	5.6	N/A		22.5	2.1	1)
2A	52	5260	19.6	21.6	24.0	4.4	23.5	3.9	29.5	7.9	1)
	60	5300	20.2	22.2	24.0	3.8	23.5	3.3	29.5	7.3	1)
	64	5320	16.9	18.9	24.0	7.1	23.5	6.6	29.5	10.6	1)
2C	100	5500	16.0	18.0	24.0	8.0	23.5	7.5	29.5	11.5	
	116	5580	19.9	21.9	24.0	4.1	23.5	3.6	29.5	7.6	
	140	5700	17.1	19.1	24.0	6.9	23.5	6.4	29.5	10.4	
3	149	5745	20.4	22.4	30.0	9.6	30.0	9.6	36.0	13.6	
	157	5785	19.2	22.2	30.0	10.8	30.0	10.8	36.0	13.8	
	165	5825	18.9	21.9	30.0	11.1	30.0	11.1	36.0	14.1	

WLAN n-Mode; 40 MHz; MCS8; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	38	5190	15.2	17.2	24.0	8.8	N/A		23.0	5.8	1)
	46	5230	18.2	20.2	24.0	5.8	N/A		23.0	2.8	1)
2A	54	5270	18.9	20.9	24.0	5.1	24.0	8.8	30.0	9.1	1)
	62	5310	15.0	17.0	24.0	9.0	24.0	5.1	30.0	13.0	1)
2C	102	5510	13.0	15.0	24.0	11.0	24.0	9.0	30.0	15.0	
	110	5550	18.2	20.2	24.0	5.8	24.0	11.0	30.0	9.8	
	134	5670	18.0	20.0	24.0	6.0	24.0	5.8	30.0	10.0	
3	151	5755	19.1	21.3	30.0	10.9	30.0	12.0	36.0	14.7	
	159	5795	18.2	21.2	30.0	11.8	30.0	10.9	36.0	14.8	

WLAN ac-Mode; 20 MHz; MCS0; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	17.2	19.2	24.0	6.8	N/A		22.5	3.3	1)
	40	5200	18.4	20.4	24.0	5.6	N/A		22.5	2.1	1)
	48	5240	18.5	20.5	24.0	5.5	N/A		22.5	2.0	1)
2A	52	5260	19.8	21.8	24.0	4.2	23.5	3.7	29.5	7.7	1)
	60	5300	19.9	21.9	24.0	4.1	23.5	3.5	29.5	7.6	1)
	64	5320	16.7	18.7	24.0	7.3	23.5	6.8	29.5	10.8	1)
2C	100	5500	16.0	18.0	24.0	8.0	23.5	7.5	29.5	11.5	
	116	5580	19.8	21.8	24.0	4.2	23.5	3.7	29.5	7.7	
	140	5700	16.9	18.9	24.0	7.1	23.5	6.6	29.5	10.6	
3	149	5745	20.4	22.4	30.0	9.6	30.0	9.6	36.0	13.6	
	157	5785	19.1	22.1	30.0	10.9	30.0	10.9	36.0	13.9	
	165	5825	18.8	21.9	30.0	11.2	30.0	11.2	36.0	14.1	

WLAN ac-Mode; 40 MHz; MCS0; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	38	5190	15.3	17.3	24.0	8.7	N/A		23.0	5.7	1)
	46	5230	18.3	20.3	24.0	5.7	N/A		23.0	2.7	1)
2A	54	5270	18.7	20.7	24.0	5.3	24.0	8.7	30.0	9.3	1)
	62	5310	14.7	16.7	24.0	9.3	24.0	5.3	30.0	13.3	1)
2C	102	5510	12.9	14.9	24.0	11.1	24.0	9.3	30.0	15.1	
	110	5550	18.3	20.3	24.0	5.7	24.0	11.1	30.0	9.7	
	134	5670	17.6	19.6	24.0	6.4	24.0	5.7	30.0	10.4	
3	151	5755	18.8	20.8	30.0	11.2	30.0	12.4	36.0	15.2	
	159	5795	18.7	20.7	30.0	11.3	30.0	11.2	36.0	15.3	

WLAN ac-Mode; 80 MHz; MCS0; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	42	5210	14.7	16.7	24.0	9.3	N/A		23.0	6.3	1)
2A	58	5290	14.5	16.5	24.0	9.5	24.0	9.5	30.0	13.5	1)
2C	106	5530	13.5	15.5	24.0	10.5	24.0	10.5	30.0	14.5	
	138	5690	21.0	23.0	24.0	3.0	24.0	3.0	30.0	7.0	
3	155	5775	19.1	21.1	30.0	10.9	30.0	10.9	36.0	14.9	

WLAN ax-Mode; 20 MHz; MCS0; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	36	5180	17.6	19.6	24.0	6.4	N/A		22.8	3.2	1)
	40	5200	17.6	19.6	24.0	6.4	N/A		22.7	3.1	1)
	48	5240	17.8	19.8	24.0	6.2	N/A		22.8	3.0	1)
2A	52	5260	18.1	20.1	24.0	5.9	23.7	5.7	29.7	9.6	1)
	60	5300	18.3	20.3	24.0	5.7	23.7	5.4	29.7	9.4	1)
	64	5320	17.4	19.4	24.0	6.6	23.8	6.3	29.8	10.4	1)
2C	100	5500	16.5	18.5	24.0	7.5	23.7	7.3	29.7	11.2	
	116	5580	18.2	20.2	24.0	5.8	23.7	5.6	29.7	9.5	
	140	5700	17.3	19.3	24.0	6.7	23.7	6.5	29.7	10.4	
3	149	5745	18.7	20.7	30.0	11.3	30.0	11.3	36.0	15.3	
	157	5785	17.6	20.8	30.0	12.4	30.0	12.4	36.0	15.2	
	165	5825	17.3	20.7	30.0	12.7	30.0	12.7	36.0	15.3	

WLAN ax-Mode; 40 MHz; MCS0; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	38	5190	15.6	17.6	24.0	8.4	N/A		23.0	5.4	1)
	46	5230	17.7	19.7	24.0	6.3	N/A		23.0	3.3	1)
2A	54	5270	18.1	20.1	24.0	5.9	24.0	8.4	30.0	9.9	1)
	62	5310	15.3	17.3	24.0	8.7	24.0	5.9	30.0	12.7	1)
2C	102	5510	13.2	15.2	24.0	10.8	24.0	8.7	30.0	14.8	
	110	5550	17.5	19.5	24.0	6.5	24.0	10.8	30.0	10.5	
	134	5670	18.1	20.1	24.0	5.9	24.0	6.5	30.0	9.9	
3	151	5755	18.6	20.6	30.0	11.4	30.0	11.9	36.0	15.4	
	159	5795	17.7	20.5	30.0	12.3	30.0	11.4	36.0	15.5	

WLAN ax-Mode; 80 MHz; MCS0; MIMO

U-NII-Band	Ch. No.	Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC Cond. Limit [dBm]	Margin [dB]	IC Cond. Limit [dBm]	Margin [dB]	IC EIRP Limit [dBm]	Margin [dB]	
1	42	5210	15.3	17.3	24.0	8.7	N/A		23.0	5.7	1)
2A	58	5290	14.6	16.6	24.0	9.4	24.0	9.4	30.0	13.4	1)
2C	106	5530	13.7	15.7	24.0	10.3	24.0	10.3	30.0	14.3	
	138	5690	18.5	20.5	24.0	5.5	24.0	5.5	30.0	9.5	
3	155	5775	17.5	19.5	30.0	12.5	30.0	12.5	36.0	16.5	

Comparison to output power of JODY-W377 module certification:
20 MHz BW:

Channel | Mode	WLAN a	WLAN n SISO	WLAN ac SISO	WLAN ax SISO	WLAN n MIMO	WLAN ac MIMO	WLAN ax MIMO
36	0.1	0.0	0.1	-0.1	0.7	0.6	0.3
40	0.7	0.0	0.0	-0.1	-0.2	-0.1	-0.2
48	0.4	0.1	0.0	0.0	-0.1	-0.6	-0.2
52	-0.1	0.4	0.4	0.3	1.1	0.9	0.9
60	0.6	0.4	0.4	0.4	0.5	0.8	0.8
64	0.6	0.0	-0.2	-0.1	0.8	0.6	1.0
100	0.7	0.3	0.7	0.4	1.3	0.9	1.1
118	0.4	0.6	0.9	0.8	0.8	0.7	0.8
140	1.8	-0.8	-0.9	-0.1	-0.2	-0.3	-0.1
149	0.1	-0.7	-0.1	0.0	-0.8	-0.8	-0.8
157	-0.6	-0.4	-0.3	-0.8	-0.5	-0.4	-0.2
165	-0.7	-0.6	-1.0	-1.0	-0.2	-0.3	-0.1

40 MHz:

Channel | Mode	WLAN n SISO	WLAN ac SISO	WLAN ax SISO	WLAN n MIMO	WLAN ac MIMO	WLAN ax MIMO
38	-0.4	-0.5	-0.8	0.7	0.7	0.4
46	0.1	0.0	-0.4	0.0	-0.2	-0.1
54	0.6	0.5	1.8	0.7	1.1	0.7
62	0.3	0.1	0.2	1.7	1.1	1.6
102	0.6	0.4	0.4	1.2	1.4	1.4
110	0.6	0.3	-0.1	1.3	1.0	1.3
134	-0.5	-0.5	-1.0	0.3	0.5	0.2
151	-0.1	-0.4	-0.5	-0.9	-0.6	-0.7
159	-0.6	-0.8	-0.5	-0.4	-0.9	-0.6

80 MHz:

Channel | Mode	WLAN ac SISO	WLAN ax SISO	WLAN ac MIMO	WLAN ax MIMO
42	-0.1	-0.2	0.4	0.0
58	1.2	1.1	0.3	0.5
106	0.3	0.7	0.7	0.9
138	-0.4	-0.8	-0.5	-0.1
155	0.0	-1.0	-1.0	-0.1

Remark: **1)** Positive Difference = lower value than in original certification, negative value = higher value than in original certification.

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

Power Meter Measurement. No Plots Provided.

5.1.5 TEST EQUIPMENT USED

- R&S TS8997

5.2 UNDESIRABLE EMISSIONS; GENERAL FIELD STRENGTH LIMITS

Standard **FCC Part 15 Subpart E**

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

5.2.1 TEST DESCRIPTION

Radiated Measurement with 50 Ohm termination at antenna ports

The test set-up was made in accordance to the general provisions of ANSI C63.10 in a typical installation configuration. The measurements were performed according to the following sub-chapters of ANSI C63.10:

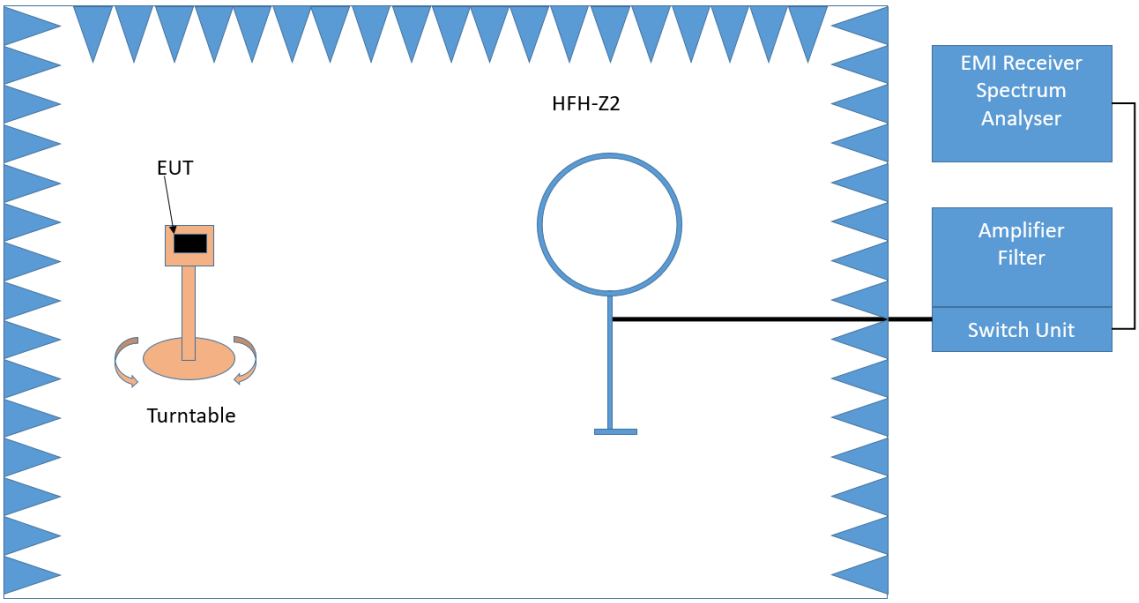
- < 30 MHz: Chapter 6.4
- 30 MHz – 1 GHz: Chapter 6.5
- > 1 GHZ: Chapter 6.6 (procedure according 6.6.5 used)

The measurement procedure is implemented into the EMI test software EMC32 from R&S. Exploratory tests are performed at 3 orthogonal axes to determine the worst-case orientation of a body-worn or handheld EUT. The final test on all kind of EUTs is also performed at 3 axes. A pre-check is performed while the EUT is powered.

Below 1 GHz:

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The influence of the EUT support table that is used between 30–1000 MHz was evaluated.

1. Measurement up to 30 MHz



Test Setup; Spurious Emission Radiated (SAC), 9 kHz – 30 MHz

The Loop antenna HFH2-Z2 is used.

Step 1: pre measurement

- Anechoic chamber
- Antenna distance: 3 m
- Detector: Peak-Maxhold
- Frequency range: 0.009 - 0.15 MHz and 0.15 – 30 MHz
- Frequency steps: 0.05 kHz and 2.25 kHz
- IF–Bandwidth: 0.2 kHz and 9 kHz
- Measuring time / Frequency step: 100 ms (FFT-based)

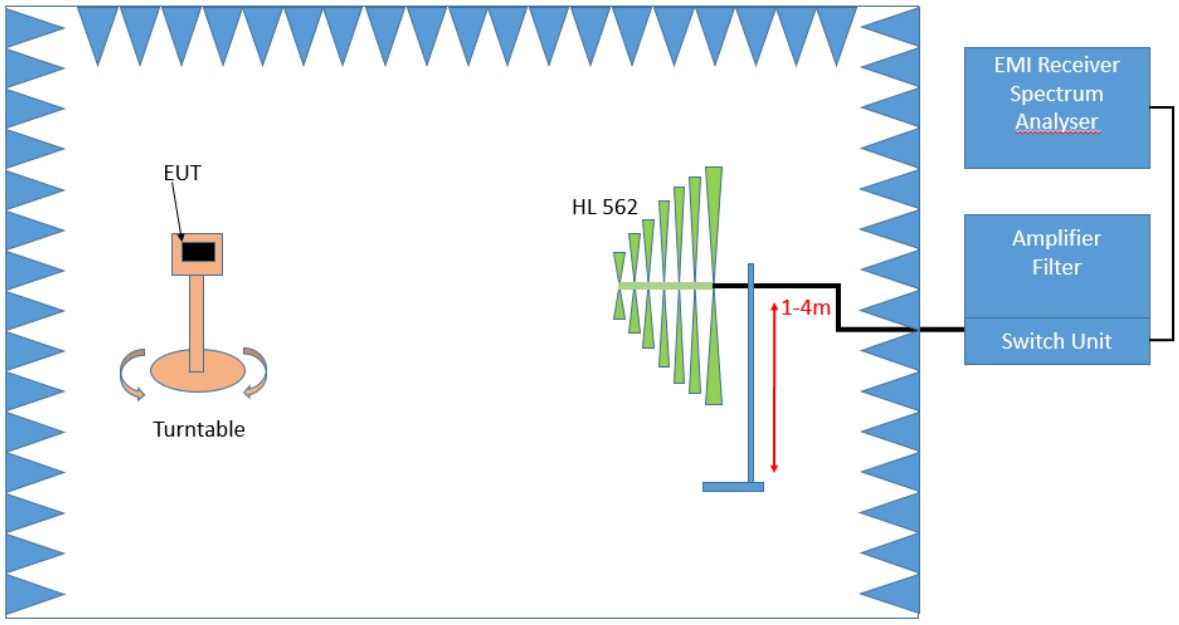
Intention of this step is, to determine the radiated EMI-profile of the EUT. Afterwards the relevant emissions for the final measurement are identified.

Step 2: final measurement

For the relevant emissions determined in step 1, an additional measurement with the following settings will be performed. Intention of this step is to find the maximum emission level.

- Open area test side
- Antenna distance: according to the Standard
- Detector: Quasi-Peak
- Frequency range: 0.009 – 30 MHz
- Frequency steps: measurement at frequencies detected in step 1
- IF–Bandwidth: 0.2 - 10 kHz
- Measuring time / Frequency step: 1 s

2. Measurement above 30 MHz and up to 1 GHz



Test Setup; Spurious Emission Radiated (SAC), 30 MHz- 1GHz

Step 1: Preliminary scan

This is a preliminary test to identify the highest amplitudes relative to the limit.

Settings for step 1:

- Antenna distance: 3 m
- Detector: Peak-Maxhold / Quasipeak (FFT-based)
- Frequency range: 30 – 1000 MHz
- Frequency steps: 30 kHz
- IF–Bandwidth: 120 kHz
- Measuring time / Frequency step: 100 ms
- Turntable angle range: –180° to 90°

- Turntable step size: 90°
-- Height variation range: 1 – 4 m
- Height variation step size: 1.5 m
- Polarisation: Horizontal + Vertical
Intention of this step is, to determine the radiated EMI-profile of the EUT. Afterwards the relevant emissions for the final measurement are identified.

Step 2: Adjustment measurement
In this step the accuracy of the turntable azimuth and antenna height will be improved. This is necessary to find out the maximum value of every frequency.
For each frequency, which was determined the turntable azimuth and antenna height will be adjusted. The turntable azimuth will slowly vary by 360°. During this action, the value of emission is continuously measured. The turntable azimuth at the highest emission will be recorded and adjusted. In this position, the antenna height will also slowly vary by 1 – 4 meter. During this action, the value of emission is also continuously measured. The antenna height of the highest emission will also be recorded and adjusted.
- Detector: Peak – Maxhold
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 120 kHz
- Measuring time: 100 ms
- Turntable angle range: 360 °
- Height variation range:1 – 4 m
- Antenna Polarisation: max. value determined in step 1

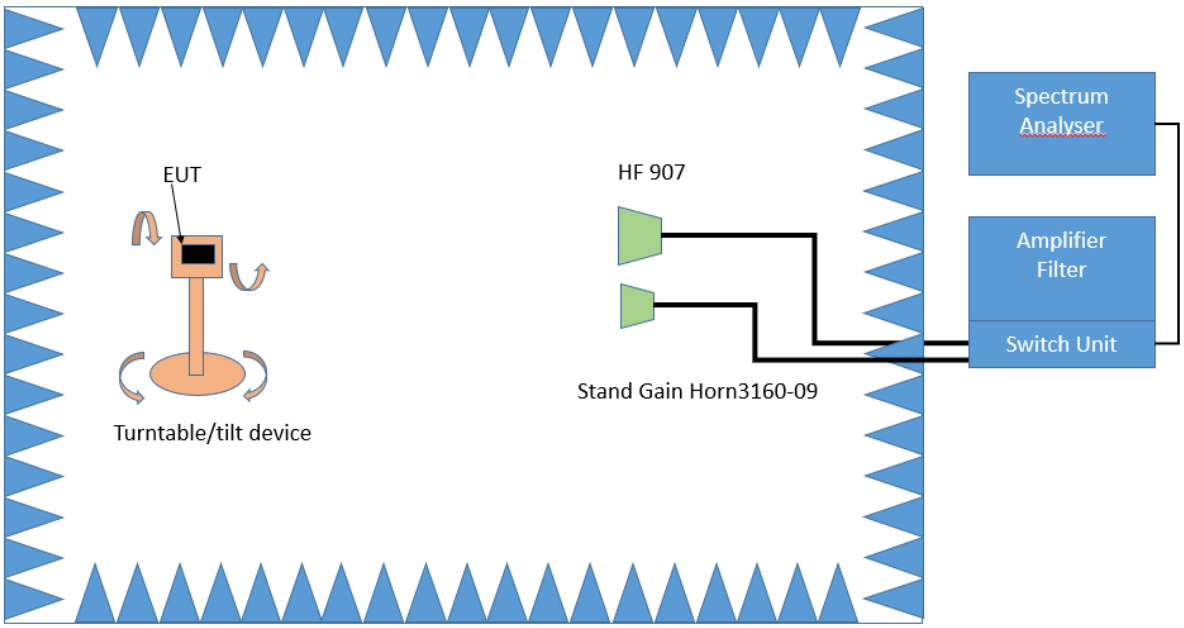
Step 3: Final measurement with QP detector
With the settings determined in step 2, the final measurement will be performed:
EMI receiver settings for step 3:
- Detector: Quasi-Peak (< 1 GHz)
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 120 kHz
- Measuring time: 1 s

After the measurement a plot will be generated which contains a diagram with the results of the preliminary scan and a chart with the frequencies and values of the results of the final measurement.

Above 1 GHz:

The Equipment Under Test (EUT) was set up on a non-conductive support (tilt device) at 1.5 m height in the fully-anechoic chamber.
All steps were performed with one height (1.5 m) of the receiving antenna only.

3. Measurement 1 GHz up to 26.5 GHz



Test Setup; Spurious Emission Radiated (FAC), 1 GHz-26.5 GHz

Step 1:
The Equipment Under Test (EUT) was set up on a non-conductive support (tilt device) at 1.5 m height in the fully-anechoic chamber.
All steps were performed with one height (1.5 m) of the receiving antenna only.
The EUT is turned during the preliminary measurement across the elevation axis, with a step size of 90 °.
The turn table step size (azimuth angle) for the preliminary measurement is 45 °.

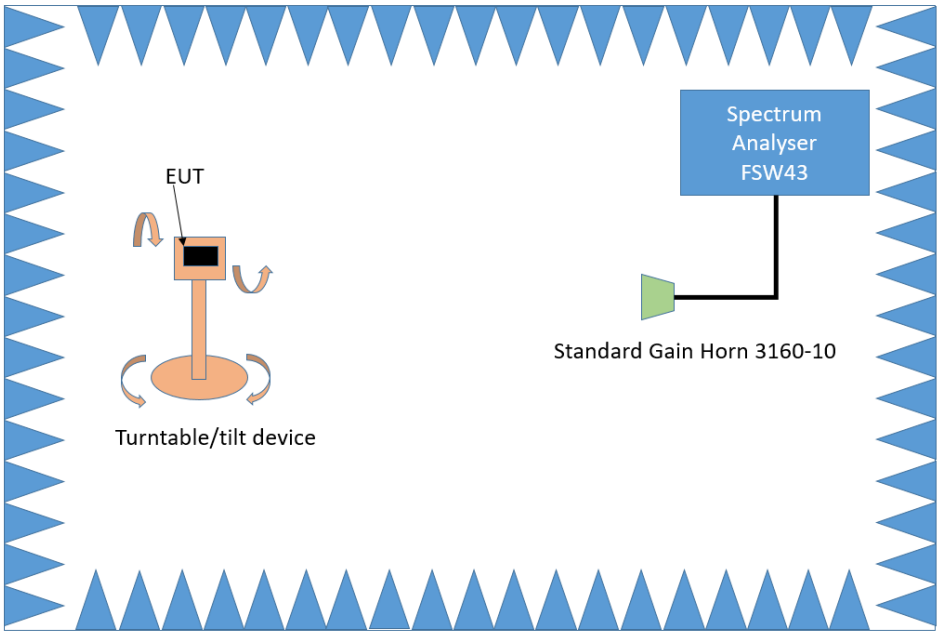
Step 2:
Due to the fact, that in this frequency range the test is performed in a fully anechoic room, the height scan of the receiving antenna instep 2 is omitted. Instead of this, a maximum search with a step size ± 45° for the elevation axis is performed.
The turn table azimuth will slowly vary by ± 22.5°.
The elevation angle will slowly vary by ± 45°
EMI receiver settings (for all steps):
- Detector: Peak, Average
- IF Bandwidth = 1 MHz

Step 3:
Spectrum analyser settings for step 3:
- Detector: Peak / Average
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 1 MHz
- Measuring time: 1 s

4. Measurement above 26.5 GHz up to 40 GHz

The following modifications, compared to the frequency range 1 GHz – 26.5 GHz, apply to the measurement procedure for the frequency range above 26.5 GHz:

- Measurement distance: 1m

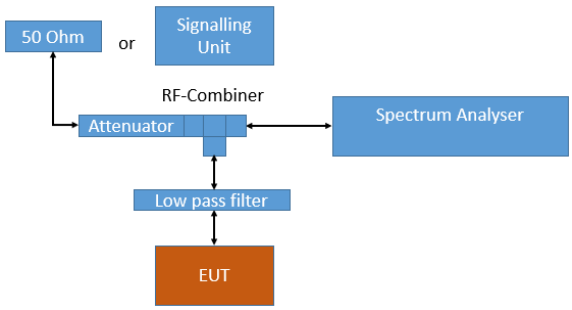


Test Setup; Spurious Emission Radiated (FAC), 26.5 – 40 GHz

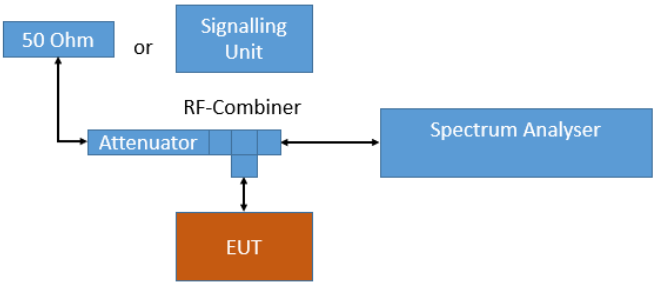
Conducted Measurements at antenna ports

The Equipment Under Test (EUT) was set up to perform the spurious emissions measurements.

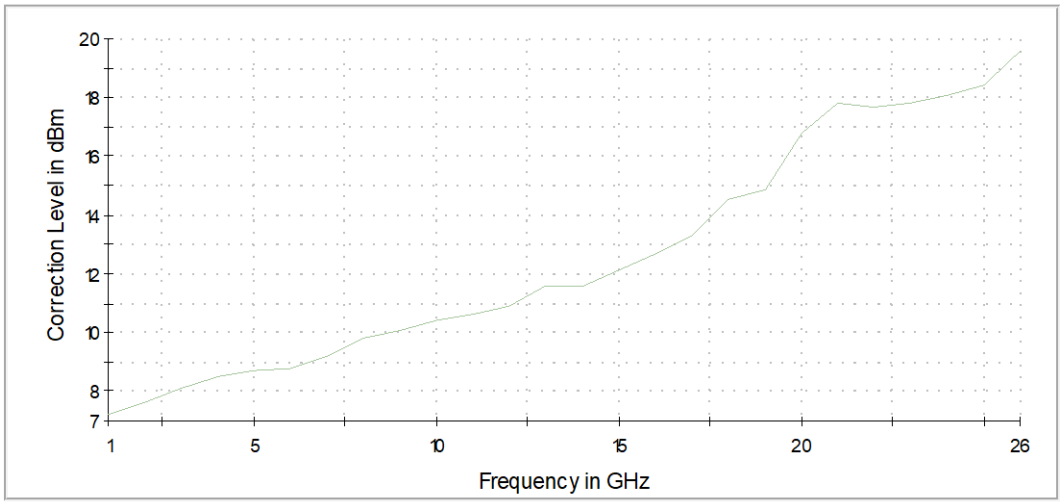
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

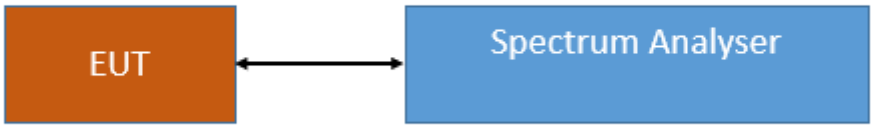


Measurement <1 GHz



Measurement 1 GHz - 26 GHz





Measurement 26 GHz - 40 GHz

Analyser settings:

- Frequency range: 0.009 – 30 MHz
- Resolution Bandwidth (RBW): 10 kHz
- Video Bandwidth (VBW): 30 kHz
- Trace: Maxhold
- Sweeps: till stable
- Sweep Time: coupled
- Detector: Peak

- Frequency range: 30 – 1000 MHz
- Resolution Bandwidth (RBW): 100 kHz
- Video Bandwidth (VBW): 300 kHz
- Trace: Maxhold
- Sweeps: till stable
- Sweep Time: coupled
- Detector: Peak

- Frequency range: 1000 – 26000 MHz
- Resolution Bandwidth (RBW): 1000 kHz
- Video Bandwidth (VBW): 3000 kHz
- Trace: Maxhold, Average Power
- Sweeps: 500
- Sweep Time: coupled
- Detector: Peak, RMS

- Frequency range: 26000 – 40000 MHz
- Resolution Bandwidth (RBW): 1000 kHz
- Video Bandwidth (VBW): 3000 kHz
- Trace: Maxhold, Average Power
- Sweeps: 1000
- Sweep Time: coupled
- Detector: Peak, RMS

For the conducted emissions in restricted bands the Value is measured in dBm and then converted to dBµV/m as given in KDB 789033:

1. Measure the conducted output power in dBm.
2. Add the maximum antenna gain in dBi. (Included in measurement result by offset)
3. Add the appropriate ground reflection factor (included in measurement result by transducer factor)
   6 dB for frequencies ≤ 30 MHz;
   4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive; and
   0 dB for frequencies > 1000 MHz).
4. Convert the resultant EIRP level to an equivalent electric field strength level using the following relationship:
   E = EIRP – 20 log D + 104.8
   Where E is the electric field strength in dBµV/m,
   EIRP is the equivalent isotropically radiated power in dBm
   D is the specified measurement distance in m

Value [dBµV/m] = Measured value [dBm] (including gain and ground reflection factor) – 20 log D + 104.8

5.2.2 TEST REQUIREMENTS / LIMITS

A) FCC

FCC Part 15 Subpart E, §15.407 (b)(1)
For transmitters operating in the 5150–5250 MHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5150–5350 MHz.

FCC Part 15 Subpart E, §15.407 (b)(2)
For transmitters operating in the 5250–5350 MHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5150–5350 MHz.

FCC Part 15 Subpart E, §15.407 (b)(3)
For transmitters operating in the 5470–5725 MHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5470–5725 MHz.

FCC Part 15 Subpart E, §15.407 (b)(4)
For transmitters operating in the 5725–5850 MHz band:
Limit: –27 dBm/MHz at 75 MHz or more above or below the band edge
increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge
increasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edge
increasing linearly to 27 dBm/MHz at the band edge.

FCC Part 15 Subpart E, §15.407 (b) (5)
For transmitters operating within the 5.925-7.125 GHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5.925-7.125 GHz.

FCC Part 15 Subpart E, §15.407 (b) (6)
For transmitters operating within the 5.925-7.125 GHz bands:
Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

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

RSS-247, 6.2.1.2, Emissions outside the band 5150-5250 MHz, indoor operation only:
Limit: –27 dBm/MHz EIRP outside of the band 5150–5250 MHz.

RSS-247, 6.2.2.2, Emissions outside the band 5250-5350 MHz:
Limit: –27 dBm/MHz EIRP outside of the band 5250–5350 MHz.

RSS-247, 6.2.3.2, Emissions outside the bands 5470-5600 MHz and 5650-5725 MHz:
Limit: –27 dBm/MHz EIRP outside of the band 5470–5725 MHz.
However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p.at 5850 MHz instead of 5725 MHz.
Note: No operation is permitted for the frequency range 5600–5650 MHz.

RSS-247, 6.2.4.2, Emissions outside the band 5725-5850 MHz:

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

C) FCC & IC

FCC Part 15 Subpart E, §15.405
The provisions of §§ 15.203 and 15.205 are included.

§15.407 (b)(6)
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

§15.407 (b)(7)
The provisions of §15.205 apply to intentional radiators operating under this section

FCC Part 15, Subpart C, §15.209, Radiated Emission Limits

Frequency in MHz	Limit (µV/m)	Measurement distance (m)	Limits (dBµV/m)
0.009 – 0.49	2400/F(kHz)@300m	3	(48.5 – 13.8)@300m
0.49 – 1.705	24000/F(kHz)@30m	3	(33.8 – 23.0)@30m
1.705 – 30	30@30m	3	29.5@30m

The measured values are corrected with an inverse linear distance extrapolation factor (40 dB/decade) according FCC 15.31 (2).

Frequency in MHz	Limit (µV/m)	Measurement distance (m)	Limits (dBµV/m)
30 – 88	100@3m	3	40.0@3m
88 – 216	150@3m	3	43.5@3m
216 – 960	200@3m	3	46.0@3m
960 - 26000	500@3m	3	54.0@3m
26000 - 40000	500@3m	1	54.0@3m

The measured values above 26 GHz are corrected with an inverse linear distance extrapolation factor (20 dB/decade).

§15.35(b) ..., there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit....

Used conversion factor:

- Limit (dBµV/m) = 20 log (Limit (µV/m)/1µV/m)
- Limit (dBµV/m) = EIRP [dBm] – 20 log (d [m]) + 104.8

Limit types (in result tables):
RB – Emissions falls into a "Restricted Band" according FCC §§15.205 and 15.209 *)
UE – "Undesirable Emission Limit" according FCC §15.407
BE-RB – Band Edge Limit basing on "Restricted Band Limits"
BE-UE – Band Edge Limit basing on "Undesirable Emission Limit"
*) Below 1 GHz the limits of §15.209 are applied for all frequencies.

5.2.3 TEST PROTOCOL

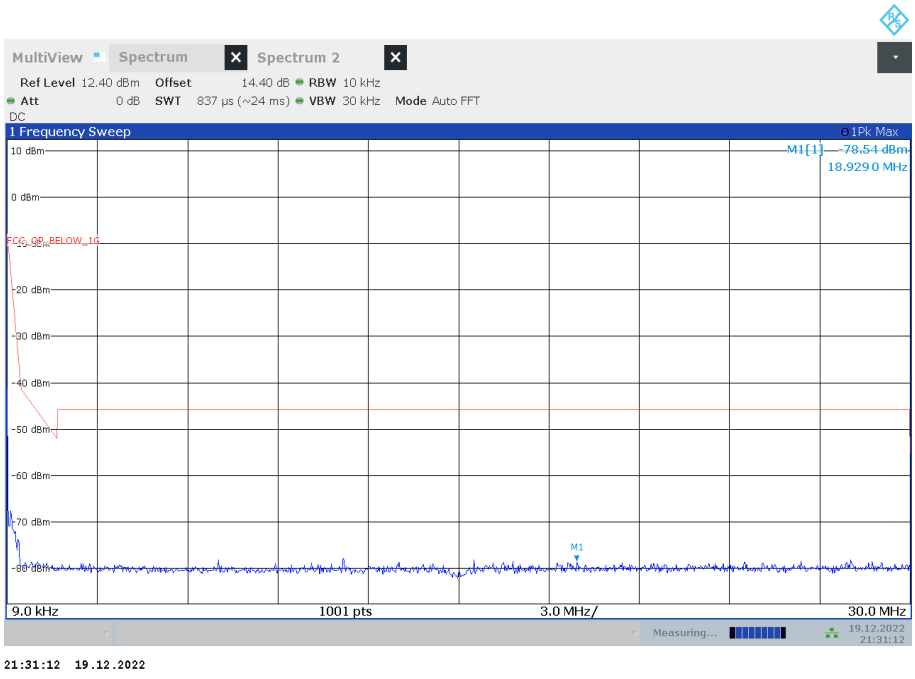
Ambient temperature: 23–25 °C
Air Pressure: 1000–1010 hPa
Humidity: 30–48 %
WLAN a-Mode; 20 MHz; 6 Mbit/s
Applied duty cycle correction (AV): 0 dB

Measurement Method	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
Radiated	5180	10360.3	53.0	PEAK	1000	68.2	15.2	UE
Radiated	5180	10360.3	38.3	AV	1000	-	-	UE
Radiated	5180	20720.0	57.8	PEAK	1000	74.0	16.2	RB
Radiated	5180	20720.0	52.0	AV	1000	54.0	2.0	RB
Conducted	5180	-	-	-	-	-	-	-

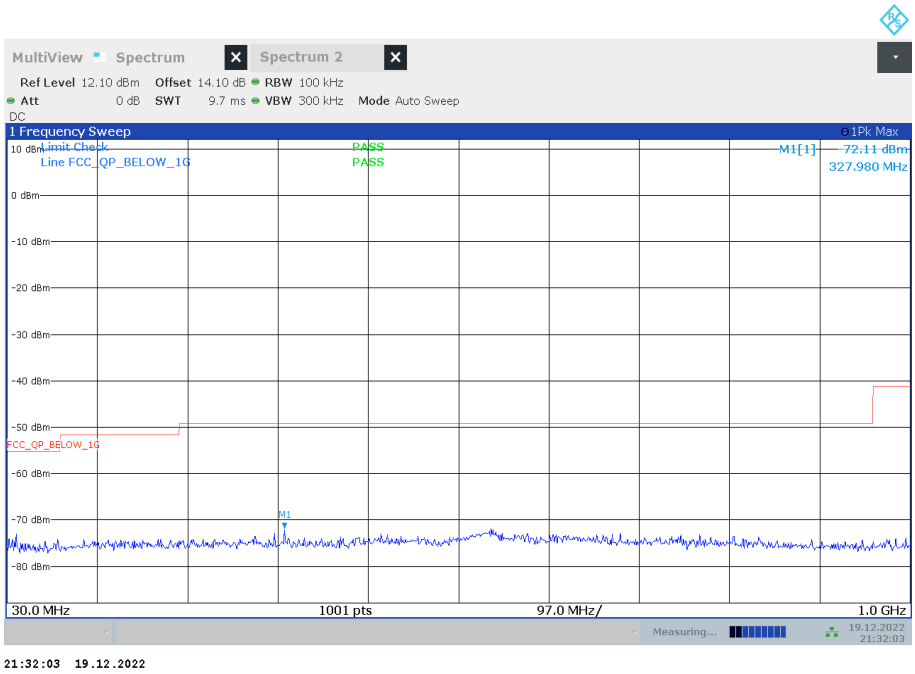
Remark: Please see next sub-clause for the measurement plot.

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

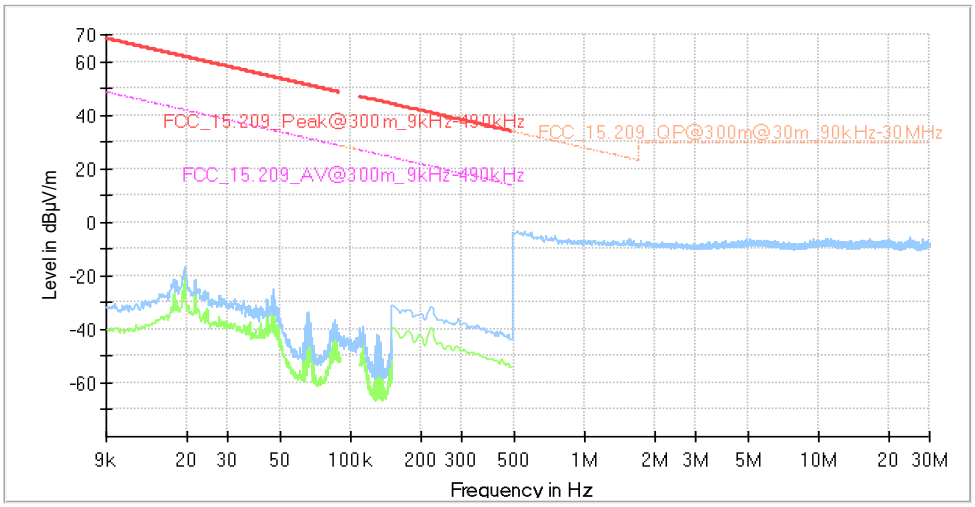
Radio Technology = WLAN a, Operating Frequency = low, Measurement range = 9kHz - 30MHz, Subband = U-NII-1
(S01_AA01)



Radio Technology = WLAN a, Operating Frequency = low, Measurement range = 30MHz - 1GHz, Subband = U-NII-1
(S01_AA01)



Radio Technology = WLAN a, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-1
(S02_AA01)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Azimuth (deg)	Corr. (dB/m)
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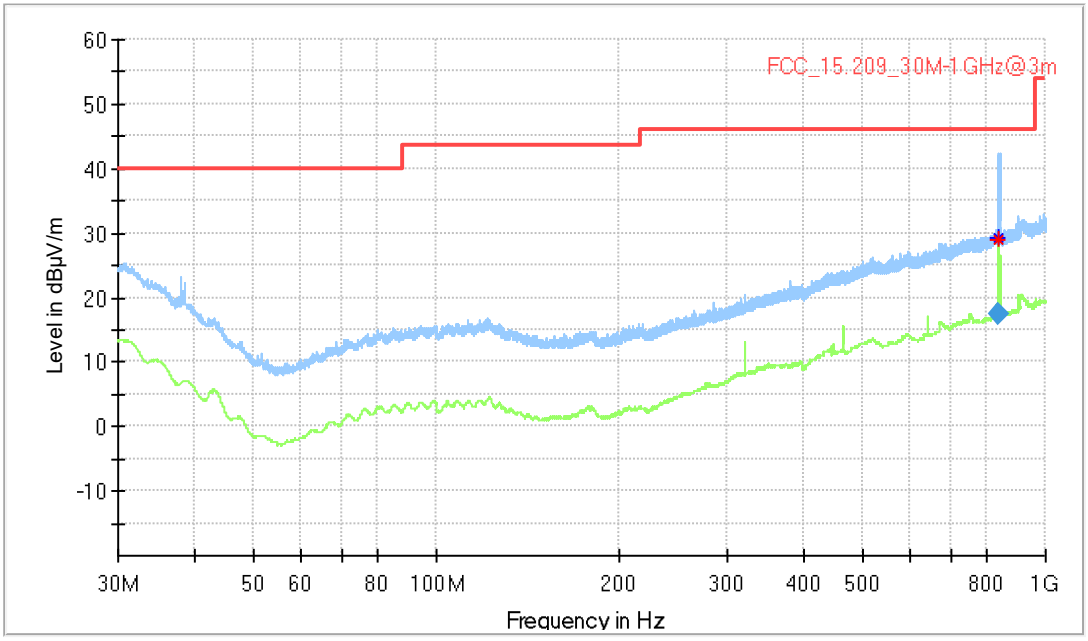
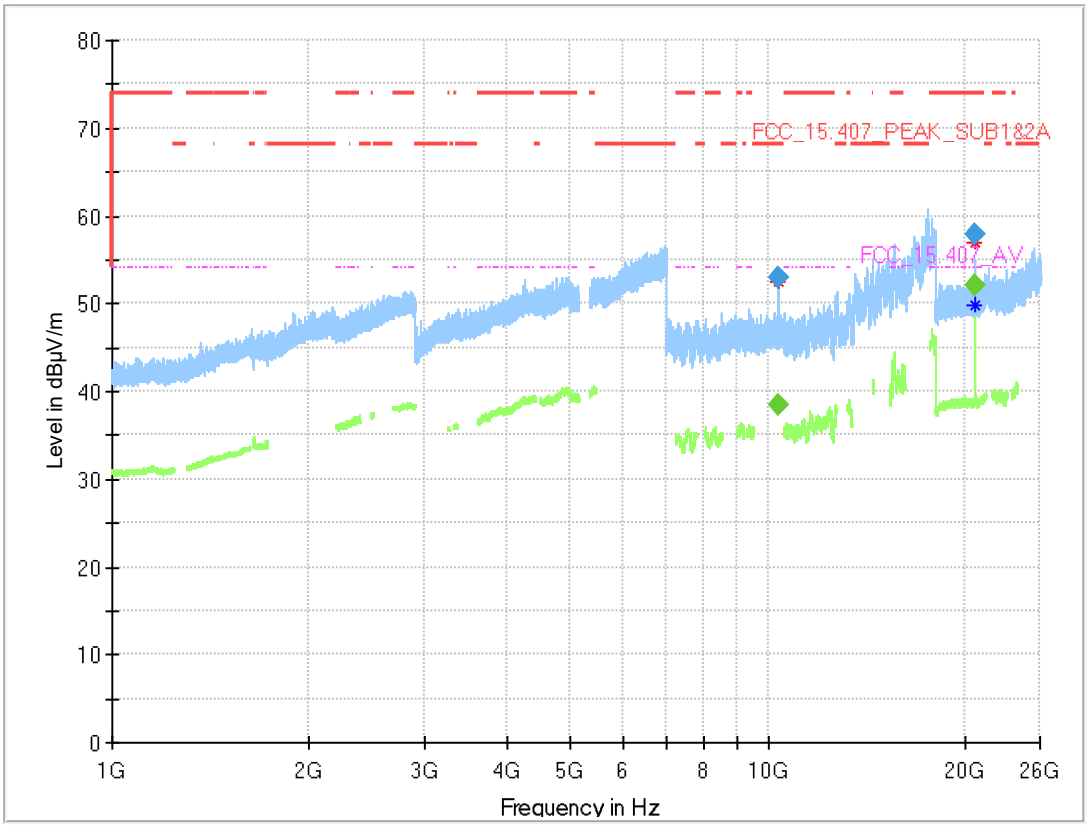
Radio Technology = WLAN a, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-1
(S02_AA01)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
839.220000	17.53	46.00	28.47	1000.0	120.000	165.0	V	-167.0	24.9

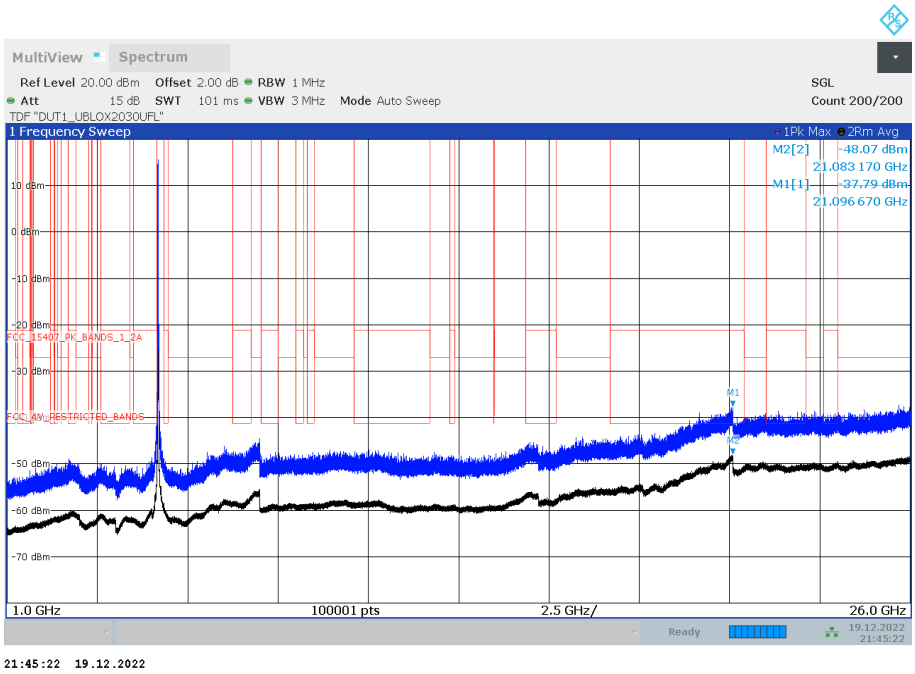
Radio Technology = WLAN a, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-1
(S02_AA01)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
10360.338	---	38.3	---	---	1000.0	1000.000	150.0	V	-91.0	15.0	-12.3
10360.338	53.0	---	68.20	15.21	1000.0	1000.000	150.0	V	-91.0	15.0	-12.3
20720.000	---	52.0	54.00	1.97	1000.0	1000.000	150.0	H	35.0	82.0	18.5
20720.000	57.8	---	74.00	16.18	1000.0	1000.000	150.0	H	35.0	82.0	18.5

Radio Technology = WLAN a, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-1
(S01_AA01)



5.2.5 TEST EQUIPMENT USED

- Radiated Emissions SAC H-Field
- Radiated Emissions FAR 5 GHz FCC
- Radiated Emissions SAC up to 1 GHz
- R&S TS8997

5.3 BAND EDGE

Standard **FCC Part 15 Subpart E**

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

5.3.1 TEST DESCRIPTION

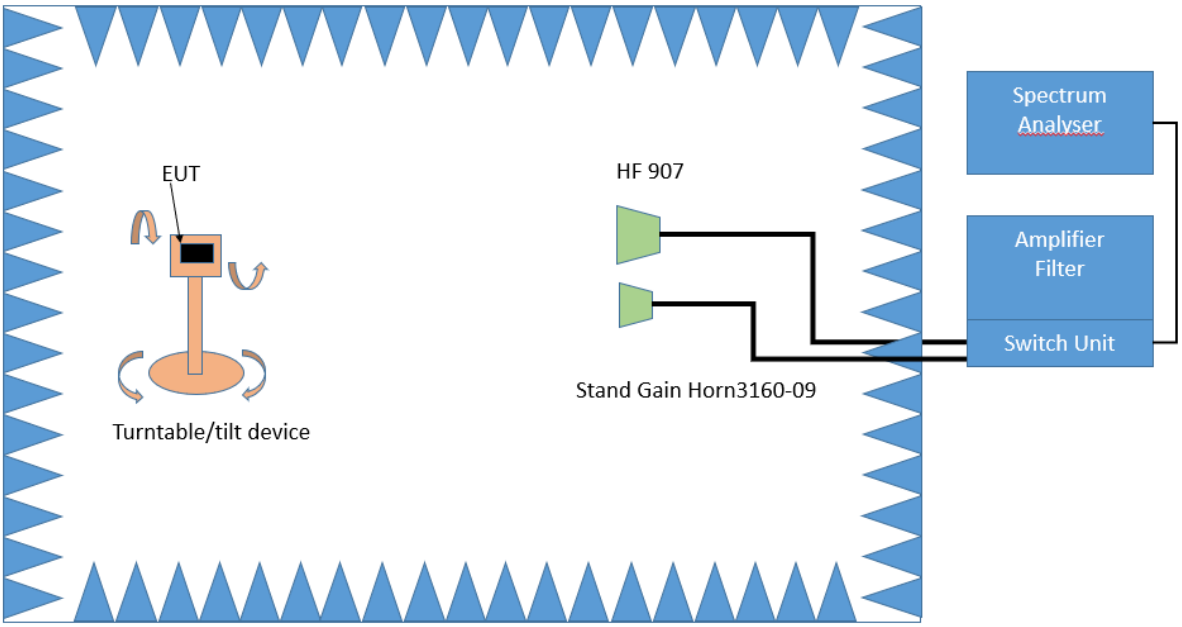
Radiated Measurement with 50 Ohm termination at antenna ports

The test set-up was made in accordance to the general provisions of ANSI C63.10 in a typical installation configuration. The measurements were performed according the following sub-chapter of ANSI C63.10:

- Chapter 6.10.5

The Equipment Under Test (EUT) was set up on a non-conductive support (tilt device) at 1.5 m height in the fully-anechoic chamber.
All steps were performed with one height (1.5 m) of the receiving antenna only (procedure according ANSI C63.10, chapter 6.6.5.

3. Measurement above 1 GHz



Test Setup; Spurious Emission Radiated (FAC), 1 GHz-26.5 GHz

Step 1:
The EUT is turned during the preliminary measurement across the elevation axis, with a step size of 90 °.
The turn table step size (azimuth angle) for the preliminary measurement is 45 °.
Spectrum analyser settings:
- Detector: Peak, Average
- RBW = 1 MHz
- VBW = 3 MHz

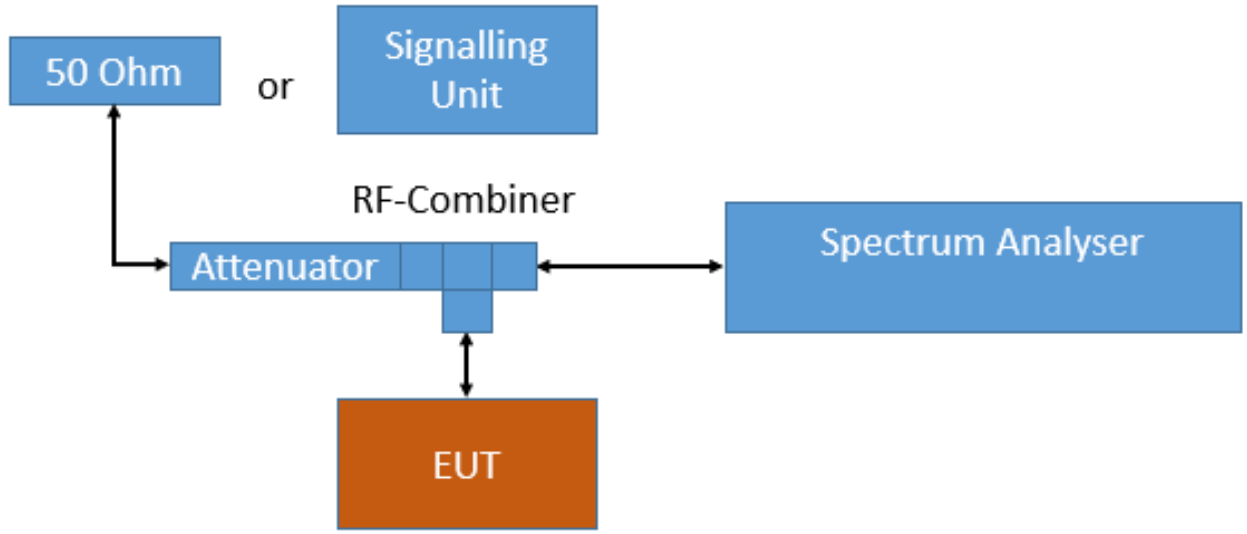
Step 2:
The turn table azimuth will slowly vary by ± 22.5°.
The elevation angle will slowly vary by ± 45°
Spectrum analyser settings:
- Detector: Peak

Step 3:
Spectrum analyser settings for step 3:
- Detector: Peak / CISPR Average
- Measured frequencies: in step 1 determined frequencies
- RBW = 1 MHz
- VBW = 3 MHz
- Measuring time: 1 s

Conducted Measurements at antenna ports

The Equipment Under Test (EUT) was set up to perform the spurious emissions measurements.

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.



Analyser settings:
- Frequency range: 5100 – 5400 MHz (U-NII band 1/2A)
  5430 – 5530 MHz (U-NII band 2C low BE)
  5655 – 5755 MHz (U-NII band 2C high BE)
  5611 – 5811 MHz (U-NII band 3 low BE)
  5765 – 5965 MHz (U-NII band 3 high BE)
- Resolution Bandwidth (RBW): 1000 kHz
- Video Bandwidth (VBW): 3000 kHz
- Trace: Maxhold, Average Power
- Sweeps: 10000
- Sweep Time: coupled
- Detector: Peak, RMS

For the conducted emissions in restricted bands the Value is measured in dBm and then converted to dBµV/m as given in KDB 558074:

1. Measure the conducted output power in dBm.
2. Add the maximum antenna gain in dBi. (Included in measurement result by offset)
3. Add the appropriate ground reflection factor (0 for measured range)
    6 dB for frequencies ≤ 30 MHz;
    4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive; and
    0 dB for frequencies > 1000 MHz).
4. Convert the resultant EIRP level to an equivalent electric field strength level using the following relationship:
    E = EIRP – 20 log D + 104.8
    Where E is the electric field strength in dBµV/m,
        EIRP is the equivalent isotropically radiated power in dBm
        D is the specified measurement distance in m

Value [dBµV/m] = Measured value [dBm] (including gain and ground reflection factor) – 20 log D + 104.8

5.3.2 TEST REQUIREMENTS / LIMITS

A) FCC

FCC Part 15 Subpart E, §15.407 (b)(1)
For transmitters operating in the 5150–5250 MHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5150–5350 MHz.

FCC Part 15 Subpart E, §15.407 (b)(2)
For transmitters operating in the 5250–5350 MHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5150–5350 MHz.

FCC Part 15 Subpart E, §15.407 (b)(3)
For transmitters operating in the 5470–5725 MHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5470–5725 MHz.

FCC Part 15 Subpart E, §15.407 (b)(4)
For transmitters operating in the 5725–5850 MHz band:
Limit: –27 dBm/MHz at 75 MHz or more above or below the band edge
    increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge
    increasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edge
    increasing linearly to 27 dBm/MHz at the band edge.

FCC Part 15 Subpart E, §15.407 (b) (5)
For transmitters operating within the 5.925-7.125 GHz band:
Limit: –27 dBm/MHz EIRP outside of the band 5.925-7.125 GHz.

FCC Part 15 Subpart E, §15.407 (b) (6)
For transmitters operating within the 5.925-7.125 GHz bands:
Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the

center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

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

RSS-247, 6.2.1.2, Emissions outside the band 5150-5250 MHz, indoor operation only:
Limit: –27 dBm/MHz EIRP outside of the band 5150–5250 MHz.

RSS-247, 6.2.2.2, Emissions outside the band 5250-5350 MHz:
Limit: –27 dBm/MHz EIRP outside of the band 5250–5350 MHz.

RSS-247, 6.2.3.2, Emissions outside the bands 5470-5600 MHz and 5650-5725 MHz:
Limit: –27 dBm/MHz EIRP outside of the band 5470–5725 MHz.
However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p.at 5850 MHz instead of 5725 MHz.
Note: No operation is permitted for the frequency range 5600–5650 MHz.

RSS-247, 6.2.4.2, Emissions outside the band 5725-5850 MHz:

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

C) FCC & IC

For band edges connected to a restricted band, the limits are specified in Section 15.209(a)

FCC Part 15, Subpart C, §15.209, Radiated Emission Limits

Frequency in MHz	Limit (µV/m)	Measurement distance (m)	Limits (dBµV/m)
0.009 – 0.49	2400/F(kHz)@300m	3	(48.5 – 13.8)@300m
0.49 – 1.705	24000/F(kHz)@30m	3	(33.8 – 23.0)@30m
1.705 – 30	30@30m	3	29.5@30m

The measured values are corrected with an inverse linear distance extrapolation factor (40 dB/decade) according FCC 15.31 (2).

Frequency in MHz	Limit (µV/m)	Measurement distance (m)	Limits (dBµV/m)
30 – 88	100@3m	3	40.0@3m
88 – 216	150@3m	3	43.5@3m
216 – 960	200@3m	3	46.0@3m
960 - 26000	500@3m	3	54.0@3m
26000 - 40000	500@3m	1	54.0@3m

The measured values above 26 GHz are corrected with an inverse linear distance extrapolation factor (20 dB/decade).

§15.35(b) ..., there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit....

Used conversion factor: Limit (dBµV/m) = 20 log (Limit (µV/m)/1µV/m)

5.3.3 TEST PROTOCOL

Ambient temperature: 23–25 °C
Air Pressure: 1000–1010 hPa
Humidity: 30–48 %

WLAN a-Mode; 20 MHz; 6 Mbit/s
Applied duty cycle correction (AV): 0 dB

U-NII-band	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Radiated	5180	5150.0	55.3	PEAK	1000	74.0	18.7	BE-RB
	Radiated	5180	5150.0	41.9	AV	1000	54.0	12.1	BE-RB
	Conducted	5180	5150.0	60.8	PEAK	1000	74.0	13.3	BE-RB
	Conducted	5180	5150.0	42.0	AV	1000	54.0	12.0	BE-RB
	Conducted	5200	5150.0	53.9	PEAK	1000	74.0	20.1	BE-RB
	Conducted	5200	5150.0	39.8	AV	1000	54.0	14.2	BE-RB
2A	Conducted	5300	5350.0	58.4	PEAK	1000	74.0	15.6	BE-RB
	Conducted	5300	5350.0	40.7	AV	1000	54.0	13.3	BE-RB
	Conducted	5320	5350.0	68.2	PEAK	1000	74.0	5.8	BE-RB
	Conducted	5320	5350.0	42.4	AV	1000	54.0	11.6	BE-RB
	Radiated	5320	5350.0	55.5	PEAK	1000	74.0	18.5	BE-RB
	Radiated	5320	5350.0	42.4	AV	1000	54.0	11.6	BE-RB
2C	Conducted	5500	5460.0	58.6	PEAK	1000	74.0	15.4	BE-RB
	Conducted	5500	5460.0	48.4	AV	1000	54.0	5.6	BE-RB
	Conducted	5500	5470.0	58.9	PEAK	1000	68.2	9.3	BE-UE
	Conducted	5520	5460.0	58.9	PEAK	1000	74.0	15.1	BE-RB
	Conducted	5520	5460.0	48.4	AV	1000	54.0	5.6	BE-RB
	Conducted	5520	5470.0	58.3	PEAK	1000	68.2	9.9	BE-UE
	Conducted	5680	5725.0	62.2	PEAK	1000	68.2	6.0	BE-UE
	Conducted	5700	5725.0	62.9	PEAK	1000	68.2	5.3	BE-UE
3	Conducted	5745	5650.0	58.2	PEAK	1000	68.2	10.0	BE-UE
	Conducted	5745	5725.0	78.6	PEAK	1000	122.2	43.6	BE-UE
	Conducted	5825	5850.0	69.7	PEAK	1000	122.2	52.5	BE-UE
	Conducted	5825	5925.0	60.7	PEAK	1000	68.2	7.5	BE-UE

WLAN n-Mode; 20 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5180	5150.0	50.0	PEAK	1000	74.0	24.0	BE-RB
	Conducted	5180	5150.0	40.5	AV	1000	54.0	13.5	BE-RB
	Conducted	5200	5150.0	58.1	PEAK	1000	74.0	15.9	BE-RB
	Conducted	5200	5150.0	41.1	AV	1000	54.0	12.9	BE-RB
2A	Conducted	5300	5350.0	51.8	PEAK	1000	74.0	22.2	BE-RB
	Conducted	5300	5350.0	40.2	AV	1000	54.0	13.8	BE-RB
	Conducted	5320	5350.0	51.2	PEAK	1000	74.0	22.9	BE-RB
	Conducted	5320	5350.0	40.8	AV	1000	54.0	13.2	BE-RB
2C	Conducted	5500	5460.0	59.6	PEAK	1000	74.0	14.4	BE-RB
	Conducted	5500	5460.0	48.5	AV	1000	54.0	5.5	BE-RB
	Conducted	5500	5470.0	58.6	PEAK	1000	68.2	9.6	BE-UE
	Conducted	5700	5725.0	62.7	PEAK	1000	68.2	5.6	BE-UE
3	Conducted	5745	5650.0	58.4	PEAK	1000	68.2	9.8	BE-UE
	Conducted	5825	5925.0	58.6	PEAK	1000	68.2	9.6	BE-UE

WLAN n-Mode; 40 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5190	5150.0	52.3	PEAK	1000	74.0	21.7	BE-RB
	Conducted	5190	5150.0	42.3	AV	1000	54.0	11.7	BE-RB
2A	Conducted	5310	5350.0	53.3	PEAK	1000	74.0	20.7	BE-RB
	Conducted	5310	5350.0	44.5	AV	1000	54.0	9.5	BE-RB
2C	Conducted	5510	5460.0	59.1	PEAK	1000	74.0	14.9	BE-RB
	Conducted	5510	5460.0	48.3	AV	1000	54.0	5.7	BE-RB
	Conducted	5510	5470.0	59.2	PEAK	1000	68.2	9.0	BE-UE
	Conducted	5670	5725.0	64.2	PEAK	1000	68.2	4.0	BE-UE
3	Conducted	5755	5650.0	57.8	PEAK	1000	68.2	10.4	BE-UE
	Conducted	5795	5925.0	57.9	PEAK	1000	68.2	10.4	BE-UE

WLAN ac-Mode; 20 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5180	5150.0	52.1	PEAK	1000	74.0	21.9	BE-RB
	Conducted	5180	5150.0	40.4	AV	1000	54.0	13.6	BE-RB
	Conducted	5200	5150.0	40.4	PEAK	1000	74.0	33.6	BE-RB
	Conducted	5200	5150.0	41.4	AV	1000	54.0	12.6	BE-RB
2A	Conducted	5300	5350.0	56.5	PEAK	1000	74.0	17.5	BE-RB
	Conducted	5300	5350.0	40.2	AV	1000	54.0	13.8	BE-RB
	Conducted	5320	5350.0	49.1	PEAK	1000	74.0	25.0	BE-RB
	Conducted	5320	5350.0	40.9	AV	1000	54.0	13.1	BE-RB
2C	Conducted	5500	5460.0	59.4	PEAK	1000	74.0	14.6	BE-RB
	Conducted	5500	5460.0	48.4	AV	1000	54.0	5.6	BE-RB
	Conducted	5500	5470.0	59.0	PEAK	1000	68.2	9.2	BE-UE
	Conducted	5700	5725.0	64.5	PEAK	1000	68.2	3.7	BE-UE
3	Conducted	5745	5650.0	58.6	PEAK	1000	68.2	9.6	BE-UE
	Conducted	5825	5925.0	61.1	PEAK	1000	68.2	7.1	BE-UE

WLAN ac-Mode; 40 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5190	5150.0	56.1	PEAK	1000	74.0	17.9	BE-RB
	Conducted	5190	5150.0	43.2	AV	1000	54.0	10.8	BE-RB
2A	Conducted	5310	5350.0	54.9	PEAK	1000	74.0	19.1	BE-RB
	Conducted	5310	5350.0	44.3	AV	1000	54.0	9.7	BE-RB
2C	Conducted	5510	5460.0	58.8	PEAK	1000	74.0	15.2	BE-RB
	Conducted	5510	5460.0	48.4	AV	1000	54.0	5.6	BE-RB
	Conducted	5510	5470.0	59.3	PEAK	1000	68.2	8.9	BE-UE
	Conducted	5670	5725.0	61.6	PEAK	1000	68.2	6.6	BE-UE
3	Conducted	5755	5650.0	58.7	PEAK	1000	68.2	9.5	BE-UE
	Conducted	5795	5925.0	60.1	PEAK	1000	68.2	8.1	BE-UE

WLAN ac-Mode; 80 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5210	5150.0	64.2	PEAK	1000	74.0	9.8	BE-RB
	Conducted	5210	5150.0	50.2	AV	1000	54.0	3.8	BE-RB
2A	Conducted	5290	5350.0	61.8	PEAK	1000	74.0	12.3	BE-RB
	Conducted	5290	5350.0	50.9	AV	1000	54.0	3.1	BE-RB
2C	Conducted	5530	5460.0	60.3	PEAK	1000	74.0	13.7	BE-RB
	Conducted	5530	5460.0	50.0	AV	1000	54.0	4.1	BE-RB
	Conducted	5530	5470.0	60.4	PEAK	1000	68.2	7.8	BE-UE
3	Conducted	5775	5650.0	63.9	PEAK	1000	68.2	4.3	BE-UE
	Conducted	5775	5925.0	64.7	PEAK	1000	68.2	3.5	BE-UE

WLAN ax-Mode; 20 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-band	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5180	5150.0	50.7	PEAK	1000	74.0	23.3	BE-RB
	Conducted	5180	5150.0	41.0	AV	1000	54.0	13.0	BE-RB
2A	Conducted	5320	5350.0	50.2	PEAK	1000	74.0	23.8	BE-RB
	Conducted	5320	5350.0	40.7	AV	1000	54.0	13.3	BE-RB
2C	Conducted	5500	5460.0	58.3	PEAK	1000	74.0	15.7	BE-RB
	Conducted	5500	5460.0	48.3	AV	1000	54.0	5.7	BE-RB
	Conducted	5500	5470.0	58.1	PEAK	1000	68.2	10.1	BE-UE
	Conducted	5700	5725.0	61.5	PEAK	1000	68.2	6.8	BE-UE
3	Conducted	5745	5650.0	58.0	PEAK	1000	68.2	10.2	BE-UE
	Conducted	5825	5925.0	59.9	PEAK	1000	68.2	8.3	BE-UE

WLAN ax-Mode; 40 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5190	5150.0	61.0	PEAK	1000	74.0	13.0	BE-RB
	Conducted	5190	5150.0	49.5	AV	1000	54.0	4.5	BE-RB
2A	Conducted	5310	5350.0	60.6	PEAK	1000	74.0	13.4	BE-RB
	Conducted	5310	5350.0	50.0	AV	1000	54.0	4.0	BE-RB
2C	Conducted	5510	5460.0	58.7	PEAK	1000	74.0	15.4	BE-RB
	Conducted	5510	5460.0	48.7	AV	1000	54.0	5.3	BE-RB
	Conducted	5510	5470.0	60.1	PEAK	1000	68.2	8.1	BE-UE
	Conducted	5670	5725.0	66.3	PEAK	1000	68.2	2.0	BE-UE
3	Conducted	5755	5650.0	58.4	PEAK	1000	68.2	9.8	BE-UE
	Conducted	5795	5925.0	59.7	PEAK	1000	68.2	8.5	BE-UE

WLAN ax-Mode; 80 MHz; MCS0; SISO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5210	5150.0	65.3	PEAK	1000	74.0	8.7	BE-RB
	Conducted	5210	5150.0	50.5	AV	1000	54.0	3.5	BE-RB
2A	Conducted	5290	5350.0	62.0	PEAK	1000	74.0	12.0	BE-RB
	Conducted	5290	5350.0	50.8	AV	1000	54.0	3.2	BE-RB
2C	Conducted	5530	5460.0	62.0	PEAK	1000	74.0	12.0	BE-RB
	Conducted	5530	5460.0	50.5	AV	1000	54.0	3.5	BE-RB
	Conducted	5530	5470.0	60.5	PEAK	1000	68.2	7.7	BE-UE
3	Conducted	5775	5650.0	59.2	PEAK	1000	68.2	9.0	BE-UE
	Conducted	5775	5925.0	60.4	PEAK	1000	68.2	7.8	BE-UE

WLAN n-Mode; 20 MHz; MCS8; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5180	5150.0	61.9	PEAK	1000	74.0	12.1	BE-RB
	Conducted	5180	5150.0	51.5	AV	1000	54.0	2.5	BE-RB
	Conducted	5200	5150.0	62.4	PEAK	1000	74.0	11.6	BE-RB
	Conducted	5200	5150.0	51.2	AV	1000	54.0	2.8	BE-RB
2A	Conducted	5300	5350.0	62.0	PEAK	1000	74.0	12.0	BE-RB
	Conducted	5300	5350.0	51.2	AV	1000	54.0	2.8	BE-RB
	Conducted	5320	5350.0	61.5	PEAK	1000	74.0	12.5	BE-RB
	Conducted	5320	5350.0	51.2	AV	1000	54.0	2.8	BE-RB
2C	Conducted	5500	5460.0	61.7	PEAK	1000	74.0	12.3	BE-RB
	Conducted	5500	5460.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5500	5470.0	61.7	PEAK	1000	68.2	6.5	BE-UE
	Conducted	5500	5460.0	61.9	PEAK	1000	74.0	12.1	BE-RB
	Conducted	5500	5460.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5500	5470.0	65.5	PEAK	1000	68.2	2.7	BE-UE
	Conducted	5680	5725.0	65.8	PEAK	1000	68.2	2.4	BE-UE
	Conducted	5700	5725.0	68.0	PEAK	1000	68.2	0.2	BE-UE
3	Conducted	5745	5650.0	61.1	PEAK	1000	68.2	7.1	BE-UE
	Conducted	5825	5925.0	62.3	PEAK	1000	68.2	5.9	BE-UE

WLAN n-Mode; 40 MHz; MCS8; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5190	5150.0	63.2	PEAK	1000	74.0	10.8	BE-RB
	Conducted	5190	5150.0	51.5	AV	1000	54.0	2.5	BE-RB
	Conducted	5230	5150.0	60.6	PEAK	1000	74.0	13.4	BE-RB
	Conducted	5230	5150.0	51.3	AV	1000	54.0	2.7	BE-RB
2A	Conducted	5270	5350.0	61.4	PEAK	1000	74.0	12.6	BE-RB
	Conducted	5270	5350.0	51.0	AV	1000	54.0	3.0	BE-RB
	Conducted	5310	5350.0	62.0	PEAK	1000	74.0	12.0	BE-RB
	Conducted	5310	5350.0	51.5	AV	1000	54.0	2.5	BE-RB
2C	Conducted	5510	5460.0	61.5	PEAK	1000	74.0	12.5	BE-RB
	Conducted	5510	5460.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5510	5470.0	61.4	PEAK	1000	68.2	6.8	BE-UE
	Conducted	5670	5725.0	65.0	PEAK	1000	68.2	3.2	BE-UE
3	Conducted	5755	5650.0	61.3	PEAK	1000	68.2	6.9	BE-UE
	Conducted	5795	5925.0	62.3	PEAK	1000	68.2	5.9	BE-UE

WLAN ac-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5180	5150.0	64.7	PEAK	1000	74.0	9.3	BE-RB
	Conducted	5180	5150.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5200	5150.0	61.8	PEAK	1000	74.0	12.2	BE-RB
	Conducted	5200	5150.0	51.1	AV	1000	54.0	2.9	BE-RB
2A	Conducted	5300	5350.0	62.8	PEAK	1000	74.0	11.2	BE-RB
	Conducted	5300	5350.0	51.2	AV	1000	54.0	2.8	BE-RB
	Conducted	5320	5350.0	62.4	PEAK	1000	74.0	11.6	BE-RB
	Conducted	5320	5350.0	51.2	AV	1000	54.0	2.8	BE-RB
2C	Conducted	5500	5460.0	61.5	PEAK	1000	74.0	12.5	BE-RB
	Conducted	5500	5460.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5500	5470.0	61.9	PEAK	1000	68.2	6.3	BE-UE
	Conducted	5520	5460.0	65.4	PEAK	1000	74.0	8.6	BE-RB
	Conducted	5520	5460.0	52.1	AV	1000	54.0	1.9	BE-RB
	Conducted	5520	5470.0	68.0	PEAK	1000	68.2	0.2	BE-UE
	Conducted	5680	5725.0	64.4	PEAK	1000	68.2	3.8	BE-UE
	Conducted	5700	5725.0	65.0	PEAK	1000	68.2	3.2	BE-UE
3	Conducted	5745	5650.0	61.2	PEAK	1000	68.2	7.0	BE-UE
	Conducted	5825	5925.0	63.5	PEAK	1000	68.2	4.7	BE-UE

WLAN ac-Mode; 40 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5190	5150.0	63.2	PEAK	1000	74.0	10.8	BE-RB
	Conducted	5190	5150.0	51.7	AV	1000	54.0	2.3	BE-RB
	Conducted	5230	5150.0	62.3	PEAK	1000	74.0	11.7	BE-RB
	Conducted	5230	5150.0	51.3	AV	1000	54.0	2.7	BE-RB
2A	Conducted	5270	5350.0	61.6	PEAK	1000	74.0	12.4	BE-RB
	Conducted	5270	5350.0	51.1	AV	1000	54.0	2.9	BE-RB
	Conducted	5310	5350.0	62.1	PEAK	1000	74.0	11.9	BE-RB
	Conducted	5310	5350.0	51.6	AV	1000	54.0	2.4	BE-RB
2C	Conducted	5510	5460.0	61.2	PEAK	1000	74.0	12.8	BE-RB
	Conducted	5510	5460.0	51.3	AV	1000	54.0	2.7	BE-RB
	Conducted	5510	5470.0	61.5	PEAK	1000	68.2	6.7	BE-UE
	Conducted	5550	5460.0	61.6	PEAK	1000	74.0	12.4	BE-RB
	Conducted	5550	5460.0	51.6	AV	1000	54.0	2.4	BE-RB
	Conducted	5550	5470.0	61.7	PEAK	1000	68.2	6.5	BE-UE
	Conducted	5670	5725.0	64.3	PEAK	1000	68.2	3.9	BE-UE
3	Conducted	5755	5650.0	61.2	PEAK	1000	68.2	7.0	BE-UE
	Conducted	5795	5925.0	62.8	PEAK	1000	68.2	5.4	BE-UE

WLAN ac-Mode; 80 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5210	5150.0	65.0	PEAK	1000	74.0	9.0	BE-RB
	Conducted	5210	5150.0	52.8	AV	1000	54.0	1.2	BE-RB
2A	Conducted	5290	5350.0	63.0	PEAK	1000	74.0	11.0	BE-RB
	Conducted	5290	5350.0	52.6	AV	1000	54.0	1.4	BE-RB
2C	Conducted	5530	5460.0	62.5	PEAK	1000	74.0	11.5	BE-RB
	Conducted	5530	5460.0	52.6	AV	1000	54.0	1.4	BE-RB
	Conducted	5530	5470.0	63.5	PEAK	1000	68.2	4.7	BE-UE
3	Conducted	5775	5650.0	67.9	PEAK	1000	68.2	0.3	BE-UE
	Conducted	5775	5925.0	63.7	PEAK	1000	68.2	4.5	BE-UE

WLAN ax-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5180	5150.0	69.1	PEAK	1000	74.0	4.9	BE-RB
	Conducted	5180	5150.0	51.6	AV	1000	54.0	2.4	BE-RB
	Conducted	5200	5150.0	61.8	PEAK	1000	74.0	12.2	BE-RB
	Conducted	5200	5150.0	51.0	AV	1000	54.0	3.0	BE-RB
2A	Conducted	5300	5350.0	60.8	PEAK	1000	74.0	13.2	BE-RB
	Conducted	5300	5350.0	50.9	AV	1000	54.0	3.1	BE-RB
	Conducted	5320	5350.0	70.8	PEAK	1000	74.0	3.2	BE-RB
	Conducted	5320	5350.0	51.4	AV	1000	54.0	2.6	BE-RB
2C	Conducted	5500	5460.0	61.6	PEAK	1000	74.0	12.4	BE-RB
	Conducted	5500	5460.0	51.5	AV	1000	54.0	2.5	BE-RB
	Conducted	5500	5470.0	62.0	PEAK	1000	68.2	6.2	BE-UE
	Conducted	5520	5460.0	61.9	PEAK	1000	74.0	12.1	BE-RB
	Conducted	5520	5460.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5520	5470.0	61.8	PEAK	1000	68.2	6.4	BE-UE
	Conducted	5680	5725.0	63.3	PEAK	1000	68.2	4.9	BE-UE
	Conducted	5700	5725.0	67.9	PEAK	1000	68.2	0.3	BE-UE
3	Conducted	5745	5650.0	61.3	PEAK	1000	68.2	6.9	BE-UE
	Conducted	5825	5925.0	62.7	PEAK	1000	68.2	5.5	BE-UE

WLAN ax-Mode; 40 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5190	5150.0	63.6	PEAK	1000	74.0	10.4	BE-RB
	Conducted	5190	5150.0	51.9	AV	1000	54.0	2.1	BE-RB
	Conducted	5230	5150.0	61.0	PEAK	1000	74.0	13.0	BE-RB
	Conducted	5230	5150.0	51.1	AV	1000	54.0	2.9	BE-RB
2A	Conducted	5270	5350.0	61.0	PEAK	1000	74.0	13.0	BE-RB
	Conducted	5270	5350.0	50.9	AV	1000	54.0	3.1	BE-RB
	Conducted	5310	5350.0	61.8	PEAK	1000	74.0	12.2	BE-RB
	Conducted	5310	5350.0	51.8	AV	1000	54.0	2.2	BE-RB
2C	Conducted	5510	5460.0	61.8	PEAK	1000	74.0	12.2	BE-RB
	Conducted	5510	5460.0	51.5	AV	1000	54.0	2.5	BE-RB
	Conducted	5510	5470.0	62.2	PEAK	1000	68.2	6.0	BE-UE
	Conducted	5550	5460.0	61.4	PEAK	1000	74.0	12.6	BE-RB
	Conducted	5550	5460.0	51.4	AV	1000	54.0	2.6	BE-RB
	Conducted	5550	5470.0	61.4	PEAK	1000	68.2	6.8	BE-UE
	Conducted	5670	5725.0	66.2	PEAK	1000	68.2	2.0	BE-UE
3	Conducted	5755	5650.0	60.9	PEAK	1000	68.2	7.3	BE-UE
	Conducted	5795	5925.0	62.6	PEAK	1000	68.2	5.6	BE-UE

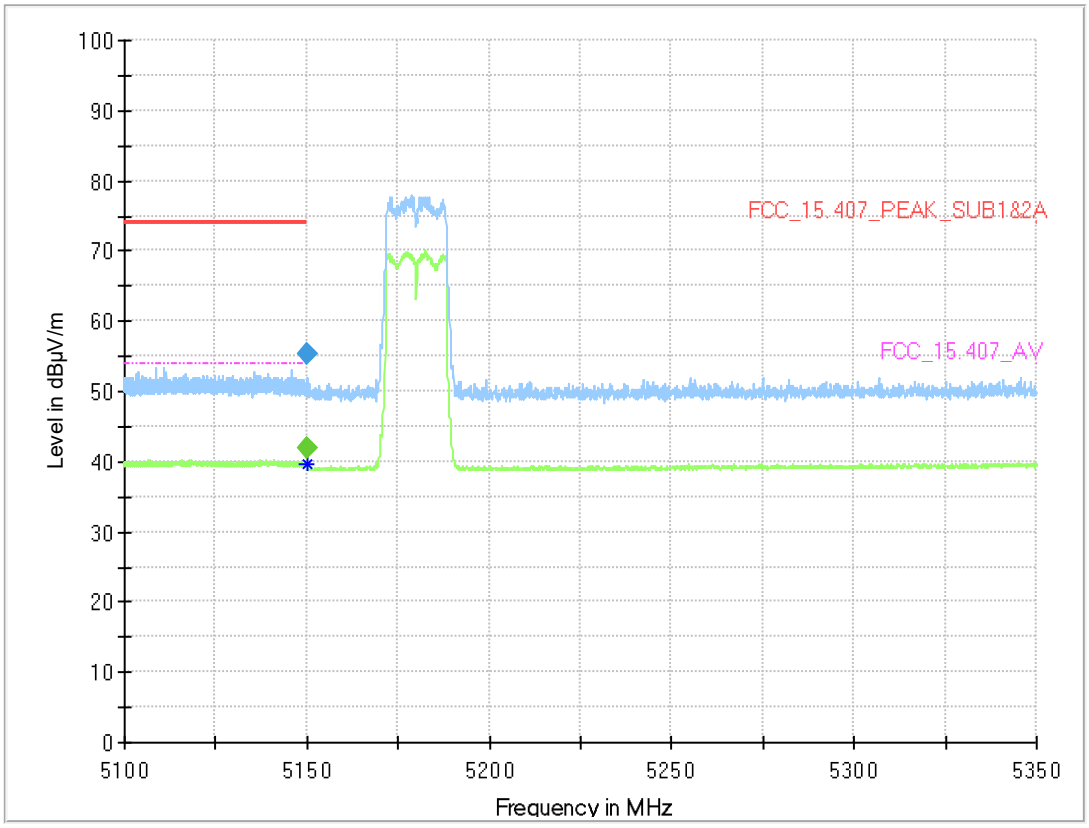
WLAN ax-Mode; 80 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 0 dB

U-NII-Subband	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin [dB]	Limit Type
1	Conducted	5210	5150.0	69.9	PEAK	1000	74.0	4.1	BE-RB
	Conducted	5210	5150.0	53.1	AV	1000	54.0	0.9	BE-RB
2A	Conducted	5290	5350.0	63.2	PEAK	1000	74.0	10.8	BE-RB
	Conducted	5290	5350.0	52.7	AV	1000	54.0	1.3	BE-RB
2C	Conducted	5530	5460.0	66.6	PEAK	1000	74.0	7.4	BE-RB
	Conducted	5530	5460.0	52.6	AV	1000	54.0	1.4	BE-RB
	Conducted	5530	5470.0	62.7	PEAK	1000	68.2	5.5	BE-UE
3	Conducted	5775	5650.0	66.0	PEAK	1000	68.2	2.2	BE-UE
	Conducted	5775	5925.0	62.7	PEAK	1000	68.2	5.5	BE-UE

Remark: Some measurements were performed with higher power setting and not retested since higher power is worst case.
Tests at higher setting: WLAN a mode 5745 + 5825 MHz power 18, WLAN n20 5700 + 5725 + 5825 MHz power 17, WLAN n 40 5755 + 5795 MHz power 16, WLAN ac 20 5700 power 15 + 5745 + 5825 MHz power 17, WLAN ac 40 5670 MHz power 15 + 5755 + 5795 MHz power 16, WLAN ac 80 5775 MHz power 16, WLAN ax 20 5745 + 5825 MHz power 15, WLAN ax 40 5755 + 5795 MHz power 15, WLAN n20 MIMO 5825 MHz power 17, WLAN n40 MIMO 5755 + 5825 MHz power 16, WLAN ac20 MIMO 5825 MHz power 17, WLAN ac80 MIMO 5775 MHz power 16, WLAN ax20 MIMO 5825 MHz power 15, WLAN ax40 MIMO 5825 MHz power 15, WLAN ax80 MIMO 5775 MHz power 15.
Please see next sub-clause for the measurement plot.

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

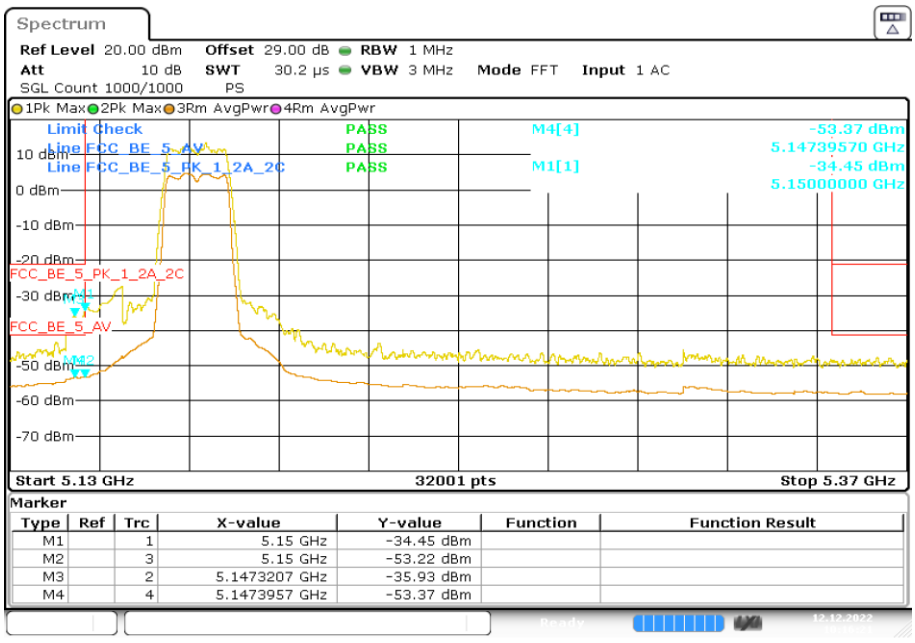
Radio Technology = WLAN a, Operating Frequency = low, Subband = U-NII-1 (S02_AA01)



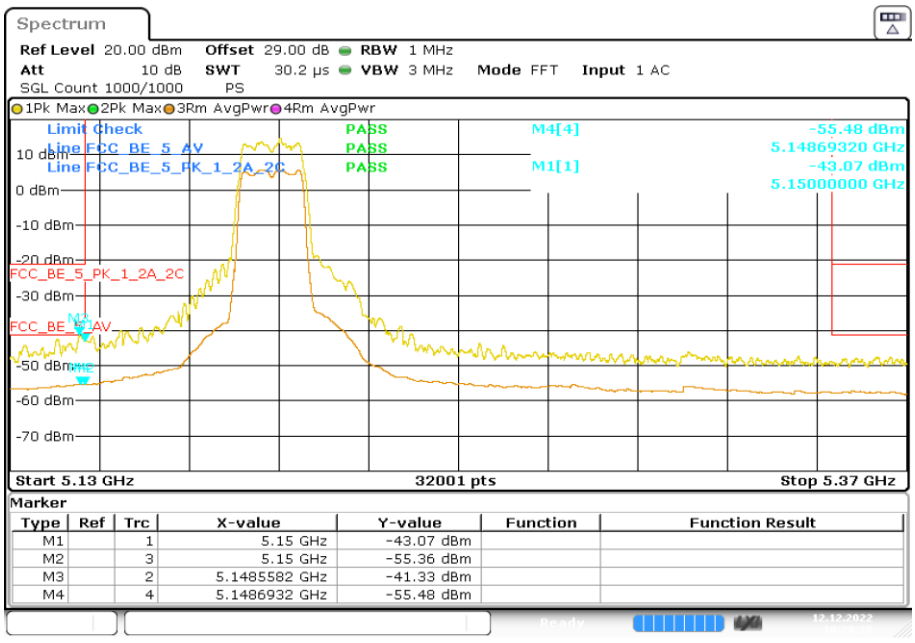
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
5149.913	---	41.9	54.00	12.10	1000.0	1000.000	150.0	H	86.0	105.0	13.5
5149.913	55.3	---	74.00	18.73	1000.0	1000.000	150.0	H	86.0	105.0	13.5

Radio Technology = WLAN a, Operating Frequency = low, Subband = U-NII-1 (S01_AA01)

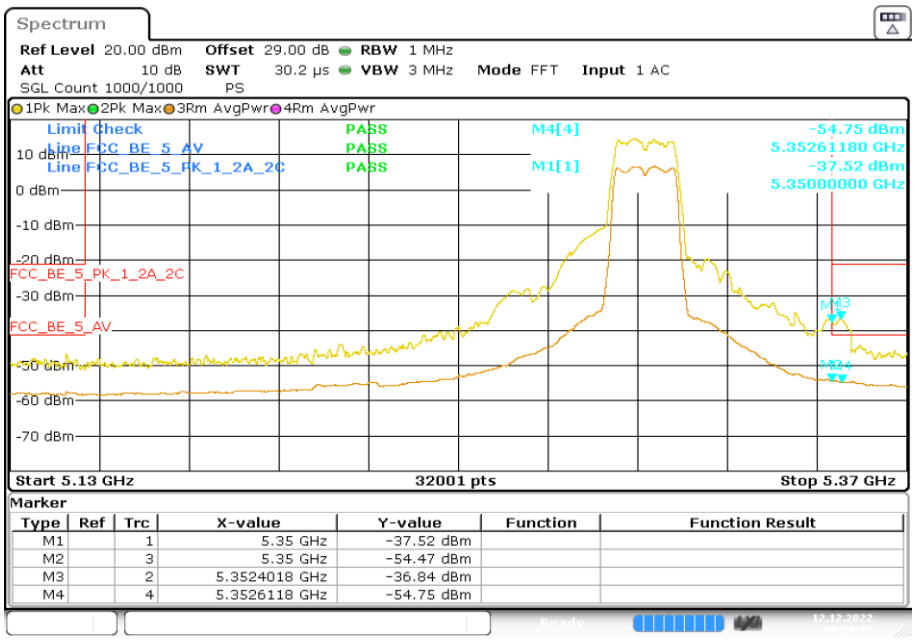


TX on CH. 36



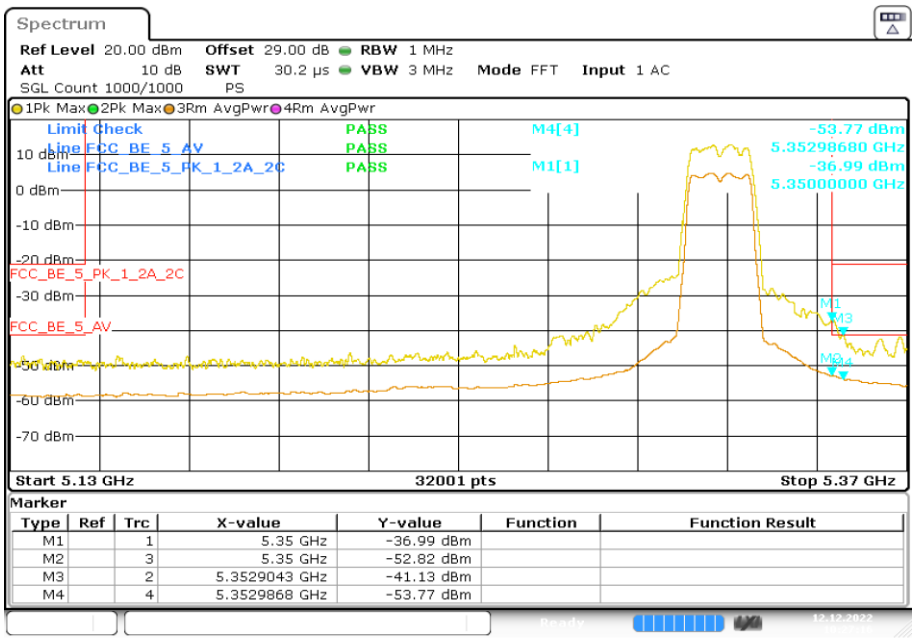
TX on CH. 40

Radio Technology = WLAN a, Operating Frequency = high, Subband = U-NII-2A (S01_AA01)



Date: 12.DEC.2022 10:24:18

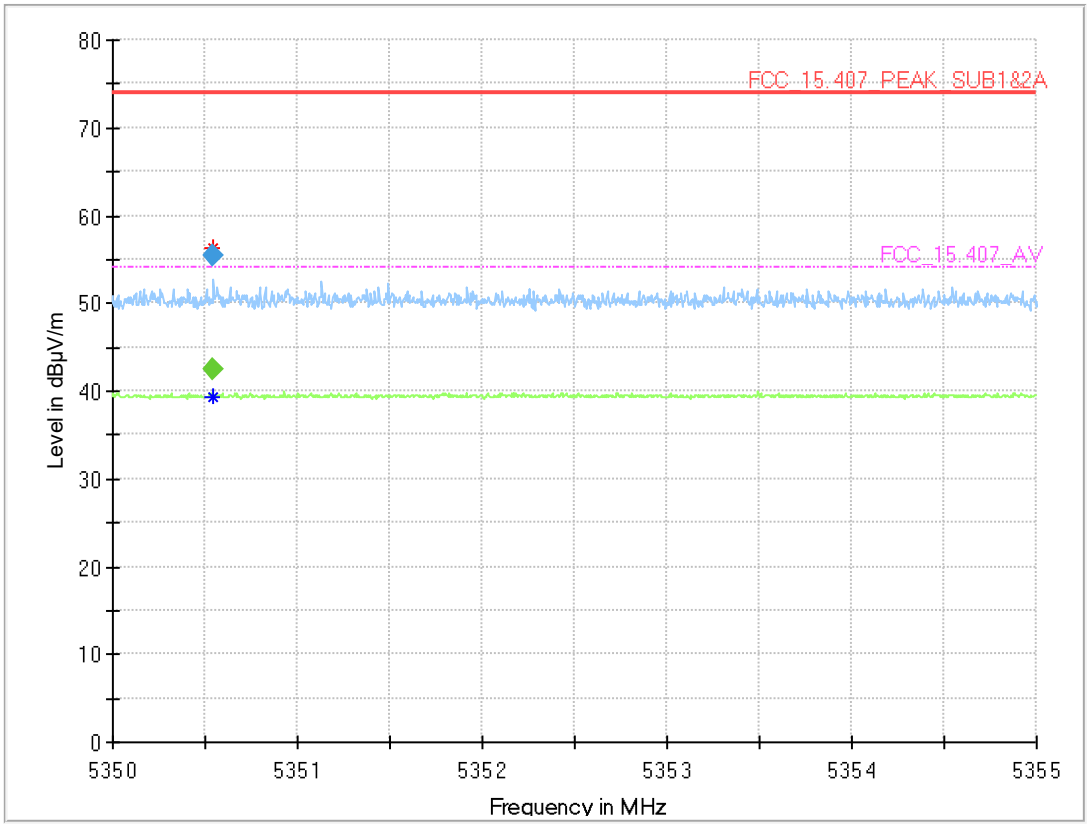
TX on CH. 60



Date: 12.DEC.2022 10:27:16

TX on CH. 64

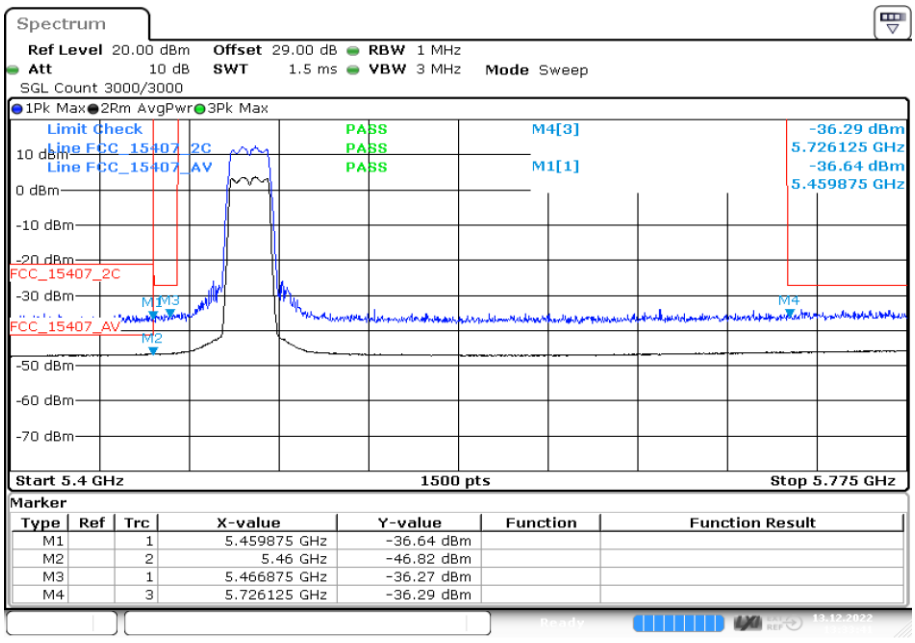
Radio Technology = WLAN a, Operating Frequency = high, Subband = U-NII-2A (S02_AA01)



Final_Result

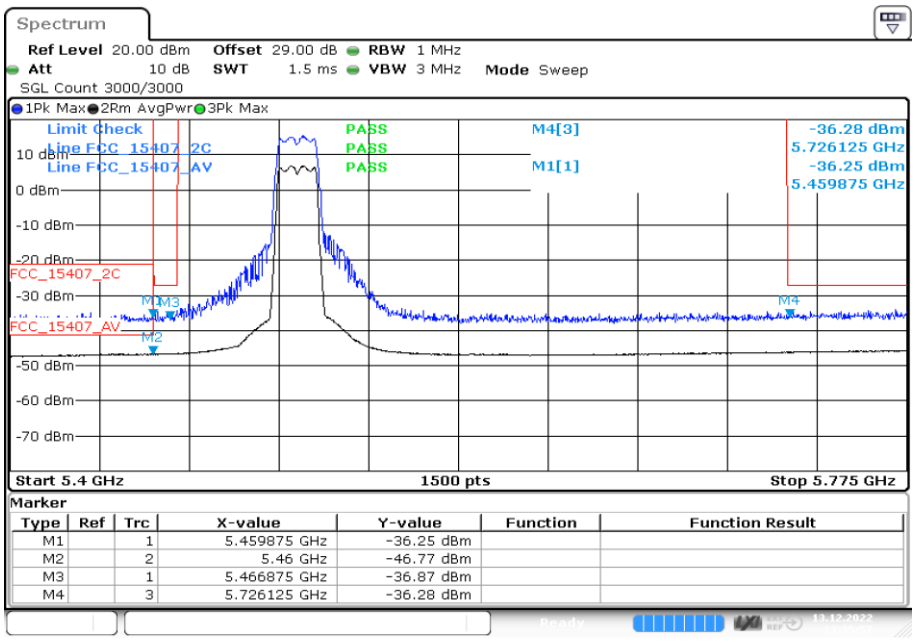
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
5350.545	---	42.4	54.00	11.65	1000.0	1000.000	150.0	V	101.0	92.0	14.1
5350.545	55.5	---	74.00	18.54	1000.0	1000.000	150.0	V	101.0	92.0	14.1

Radio Technology = WLAN a, Operating Frequency = low, Subband = U-NII-2C (S01_AA01)



Date: 13.DEC.2022 13:33:41

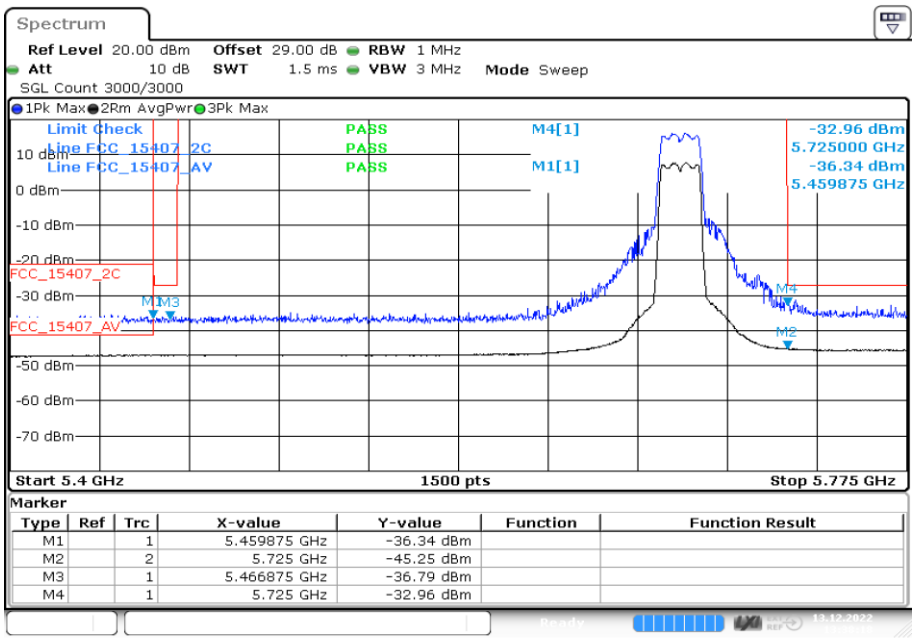
TX on CH. 100



Date: 13.DEC.2022 13:35:57

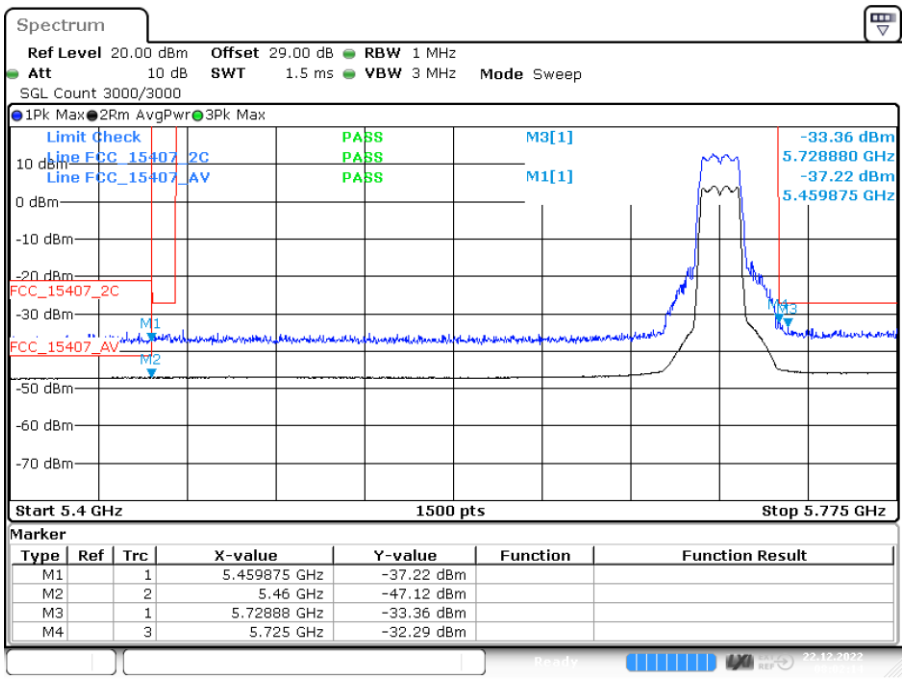
TX on CH. 104

Radio Technology = WLAN a, Operating Frequency = high, Subband = U-NII-2C (S01_AA01)



Date: 13.DEC.2022 13:38:18

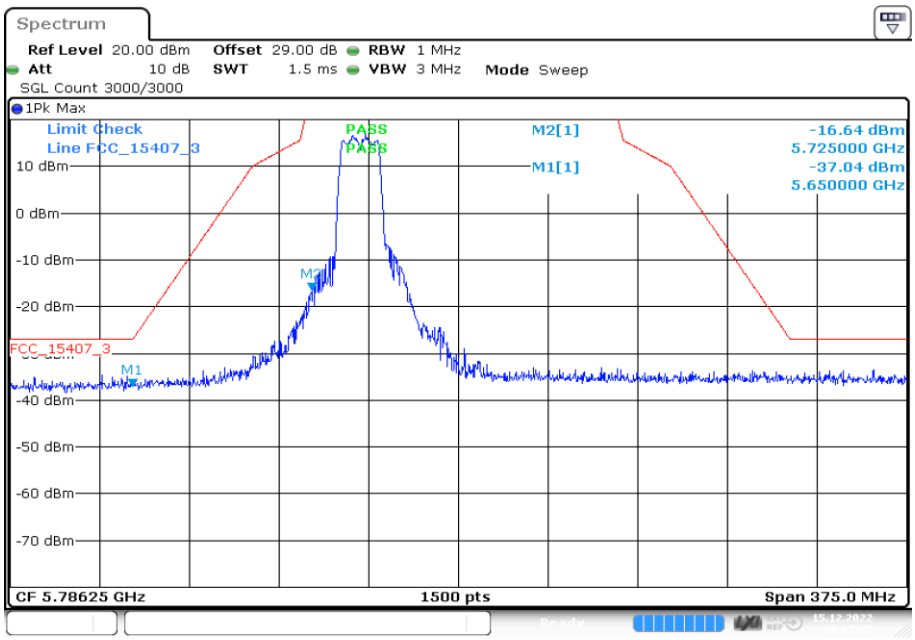
TX on CH. 136



Date: 22.DEC.2022 08:02:14

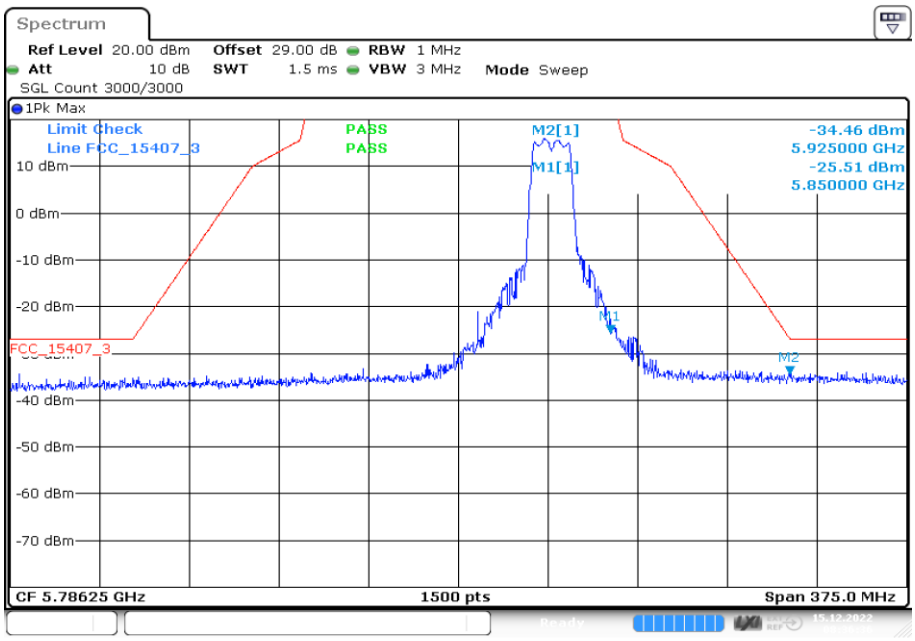
TX on CH. 140

Radio Technology = WLAN a, Operating Frequency = low, Subband = U-NII-3 (S01_AA01)



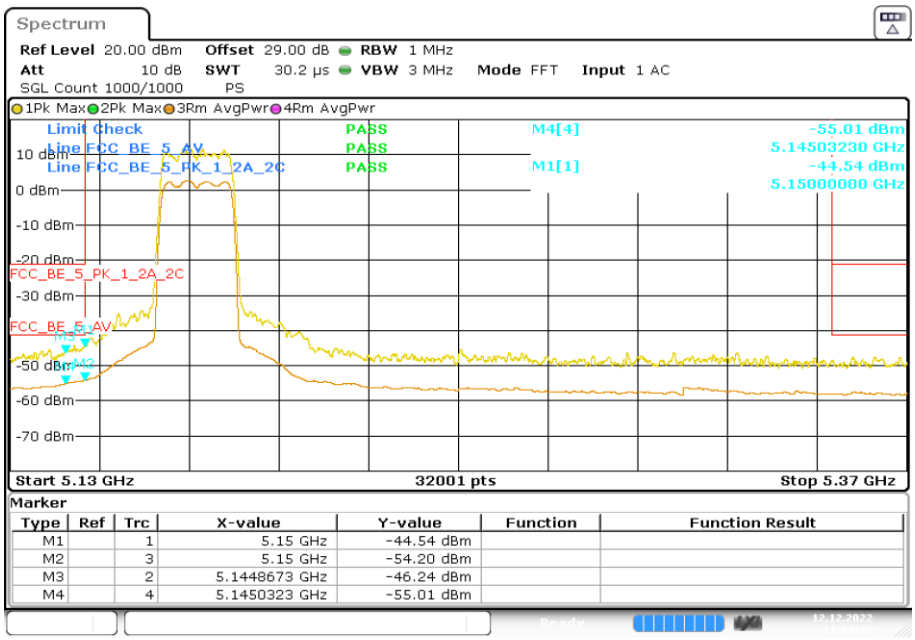
Date: 15.DEC.2022 08:25:25

Radio Technology = WLAN a, Operating Frequency = high, Subband = U-NII-3 (S01_AA01)



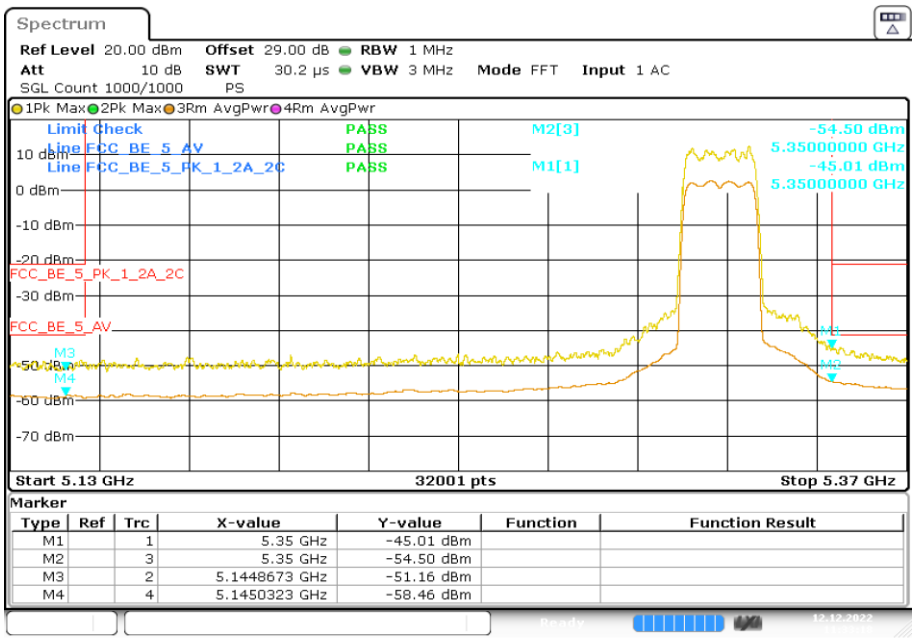
Date: 15.DEC.2022 08:36:37

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-1 (S01_AA01)



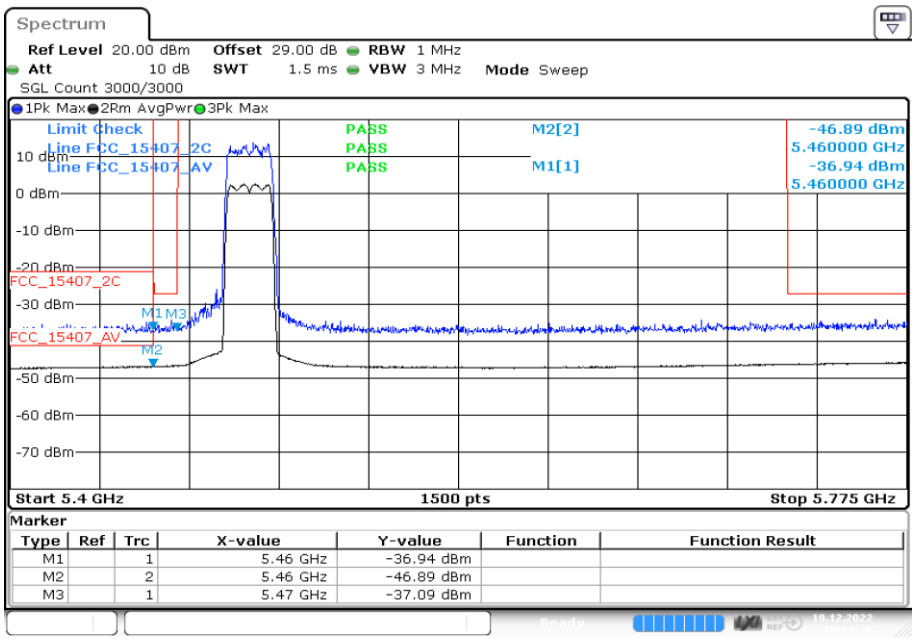
Date: 12.DEC.2022 11:23:31

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-2A (S01_AA01)



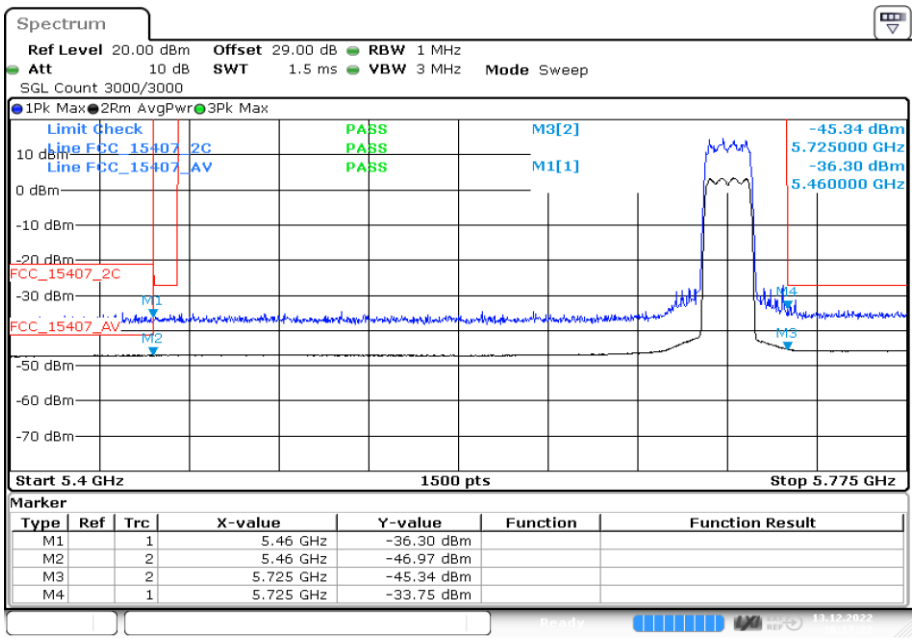
Date: 12.DEC.2022 11:33:18

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-2C (S01_AA01)



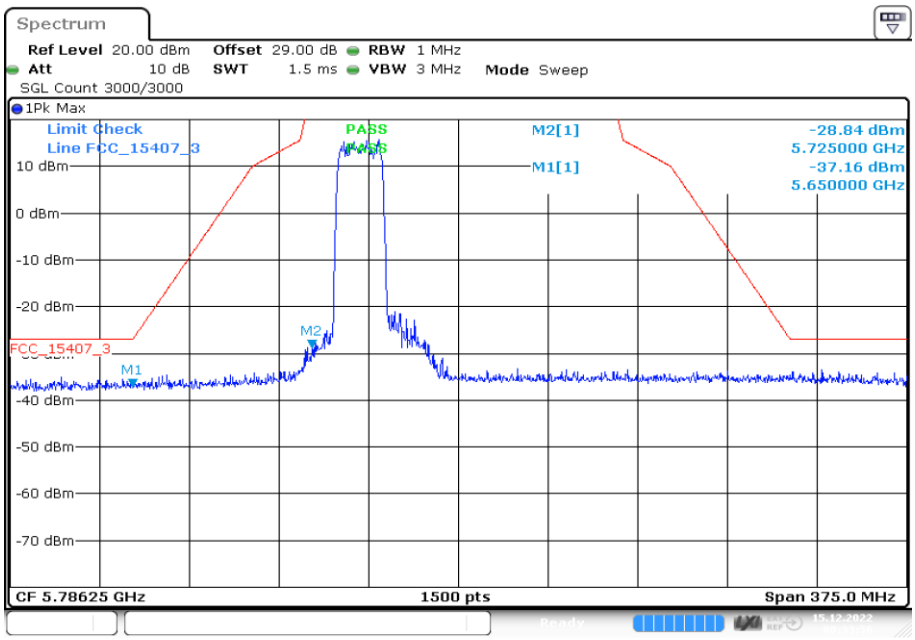
Date: 19.DEC.2022 10:23:36

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-2C (S01_AA01)



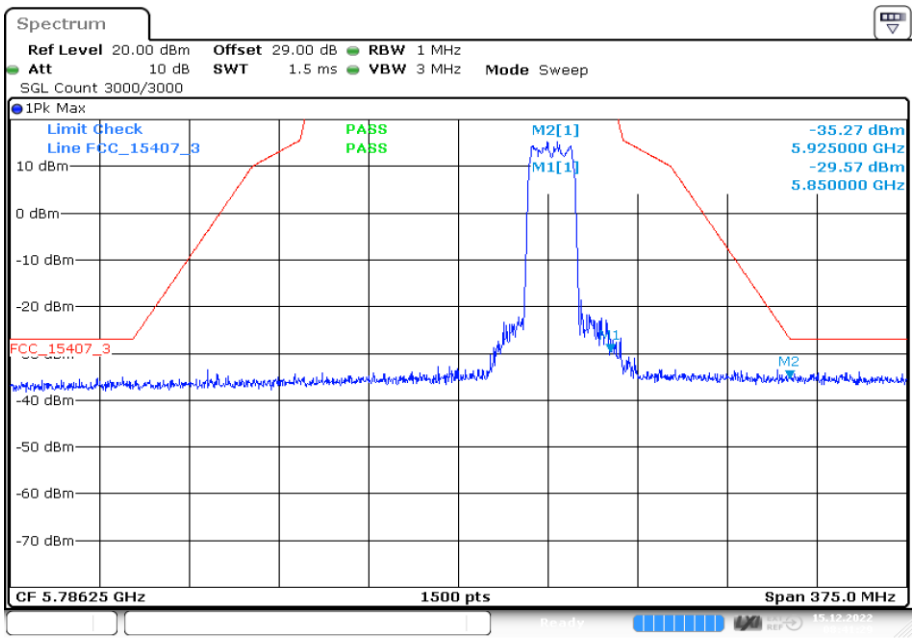
Date: 13.DEC.2022 16:17:21

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-3 (S01_AA01)



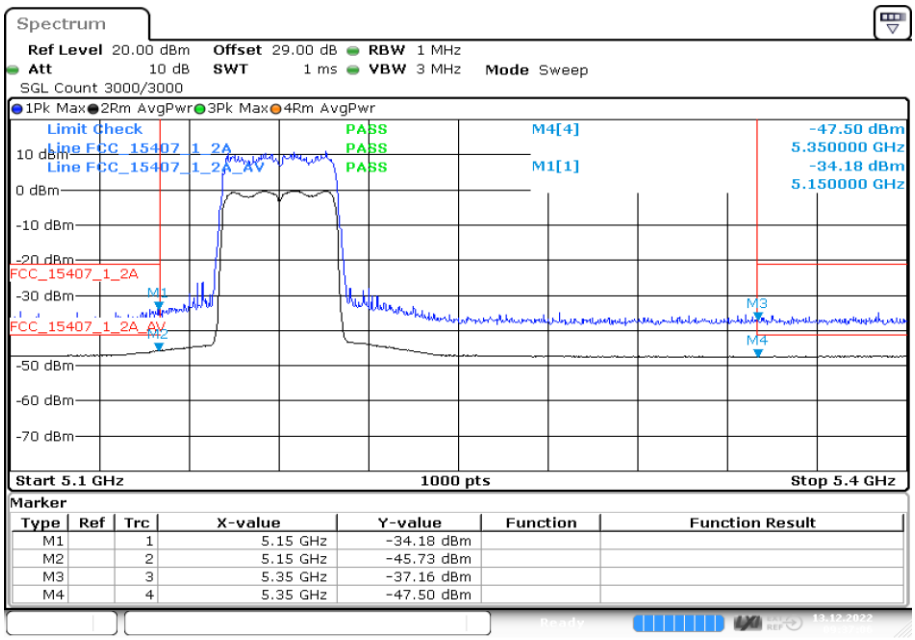
Date: 15.DEC.2022 08:33:56

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-3 (S01_AA01)



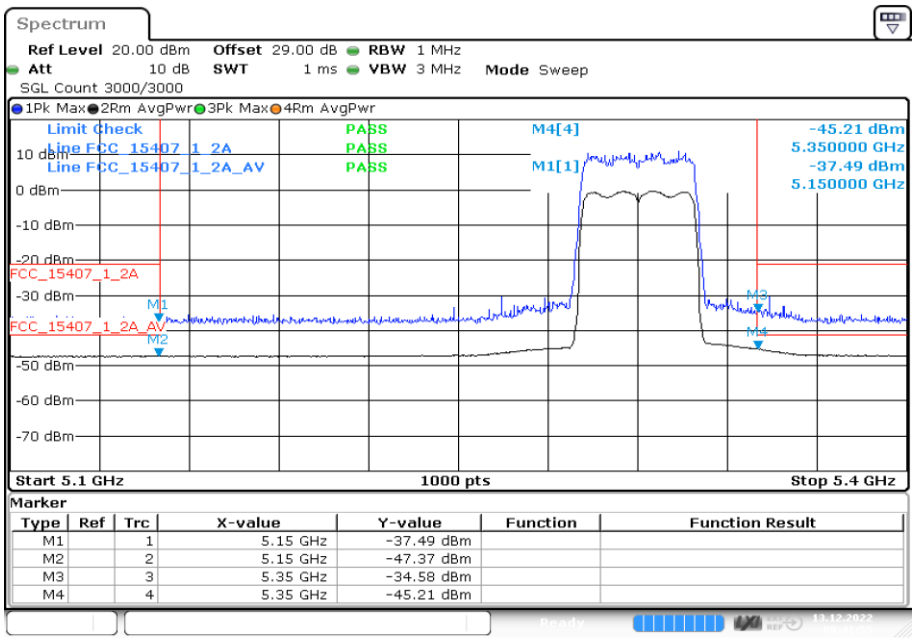
Date: 15.DEC.2022 08:41:29

Radio Technology = WLAN ax 40 MHz, Operating Frequency = low, Subband = U-NII-1 (S01_AA01)



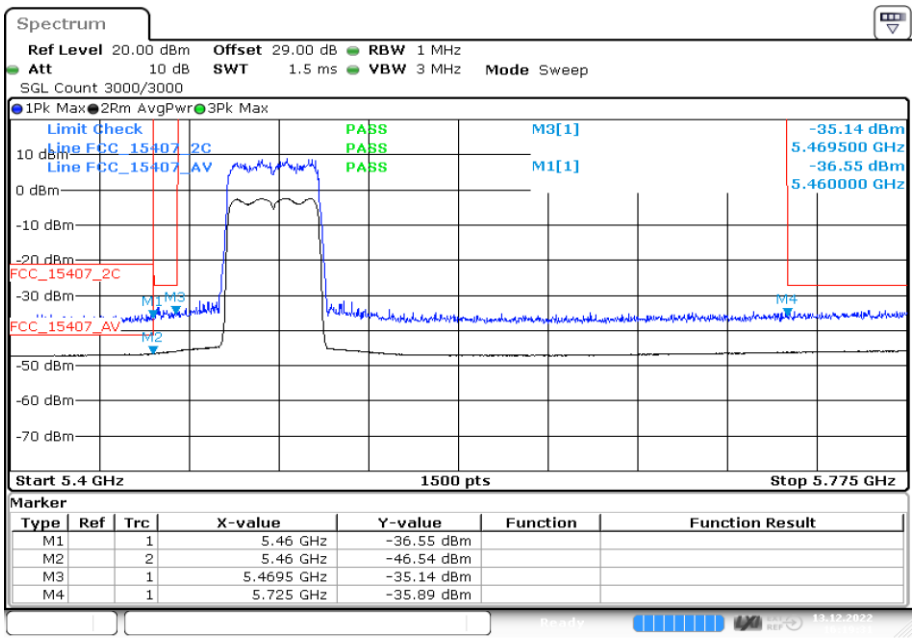
Date: 13.DEC.2022 09:37:06

Radio Technology = WLAN ax 40 MHz, Operating Frequency = high, Subband = U-NII-2A (S01_AA01)



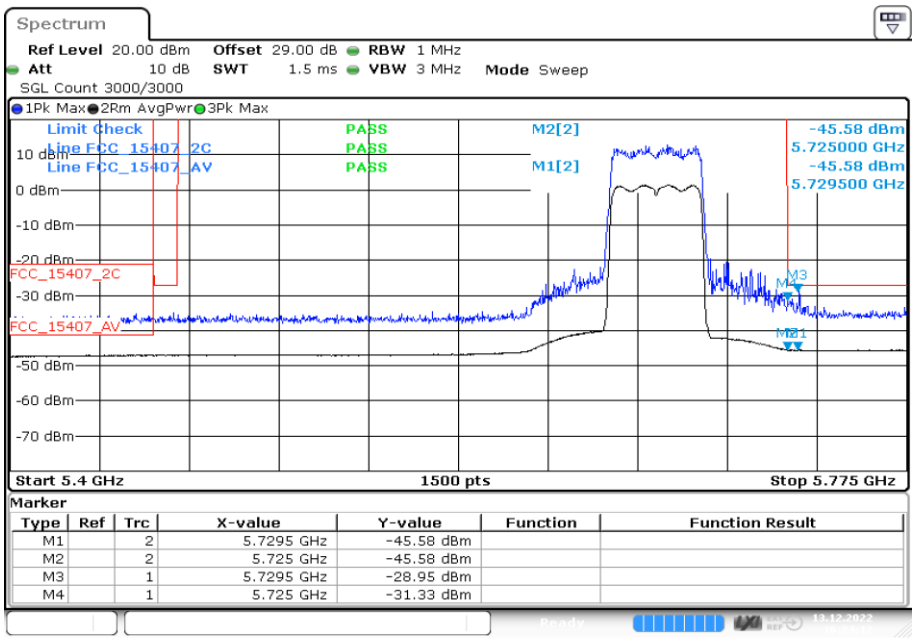
Date: 13.DEC.2022 09:41:55

Radio Technology = WLAN ax 40 MHz, Operating Frequency = low, Subband = U-NII-2C (S01_AA01)



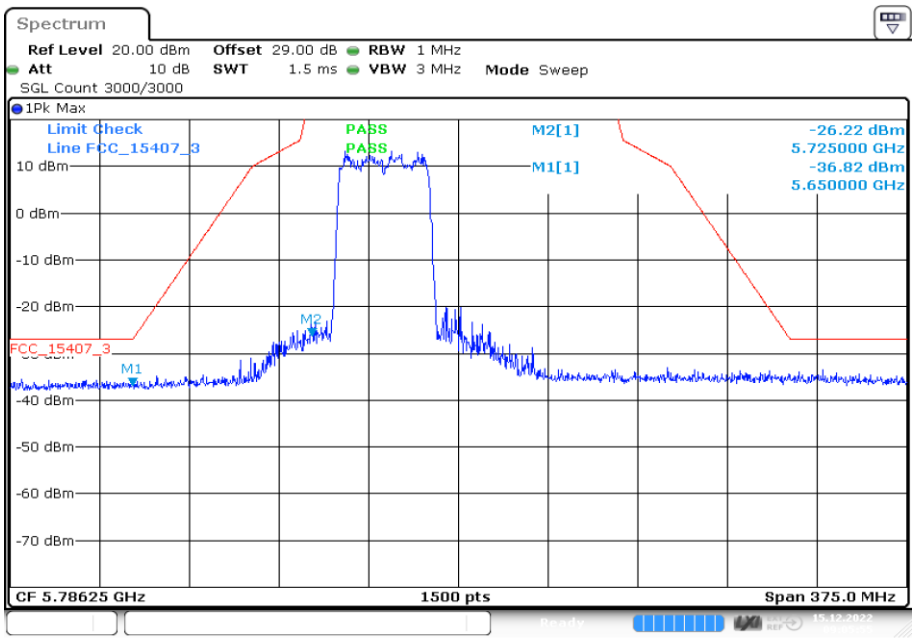
Date: 13.DEC.2022 16:19:32

Radio Technology = WLAN ax 40 MHz, Operating Frequency = high, Subband = U-NII-2C (S01_AA01)



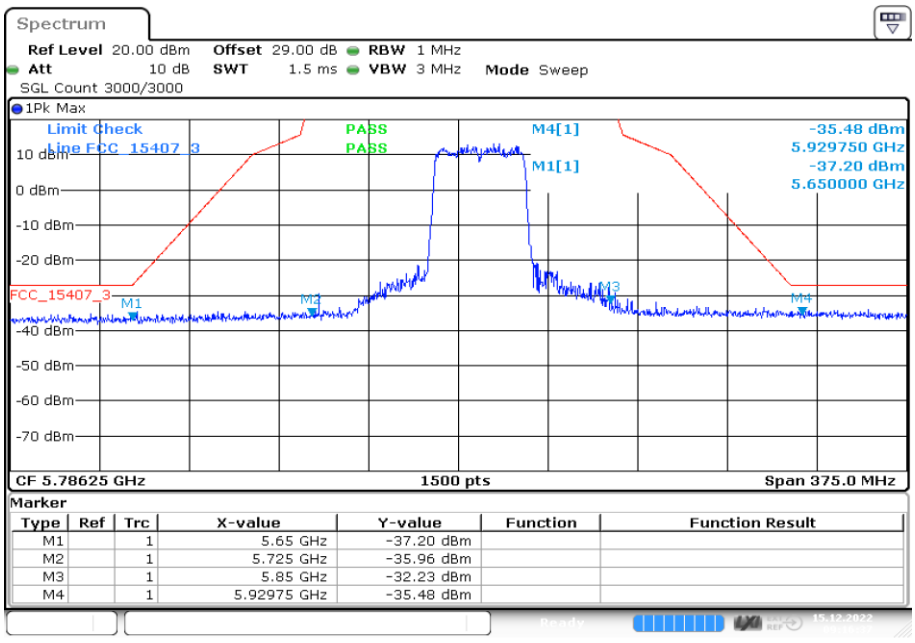
Date: 13.DEC.2022 16:24:12

Radio Technology = WLAN ax 40 MHz, Operating Frequency = low, Subband = U-NII-3 (S01_AA01)



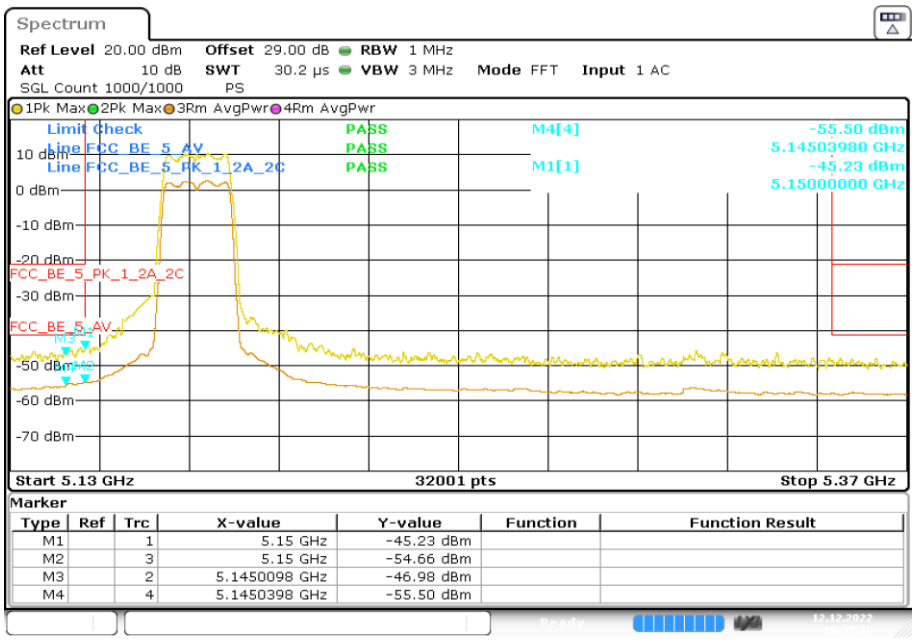
Date: 15.DEC.2022 09:05:56

Radio Technology = WLAN ax 40 MHz, Operating Frequency = high, Subband = U-NII-3 (S01_AA01)

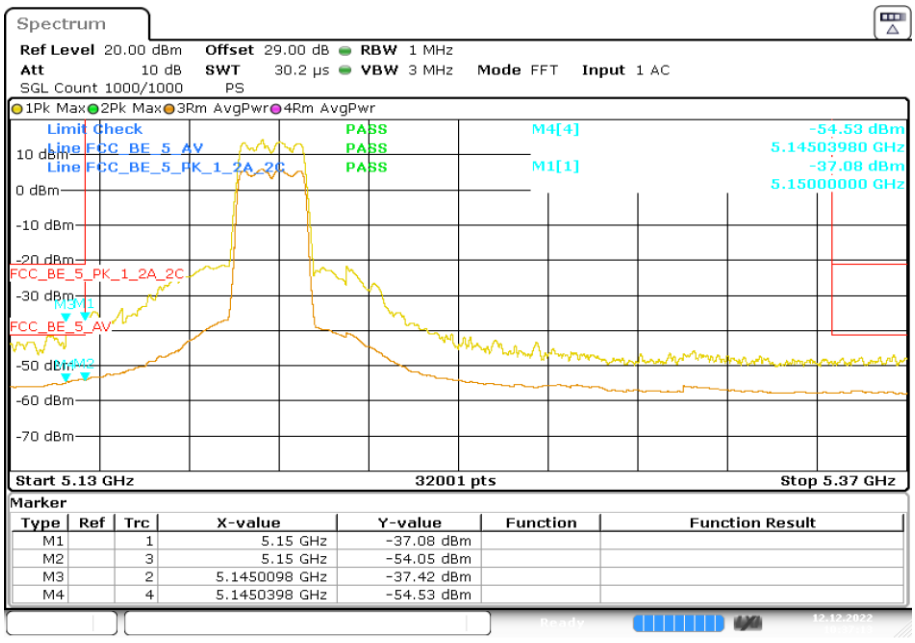


Date: 15.DEC.2022 09:16:37

Radio Technology = WLAN n 20 MHz, Operating Frequency = low, Subband = U-NII-1 (S01_AA01)

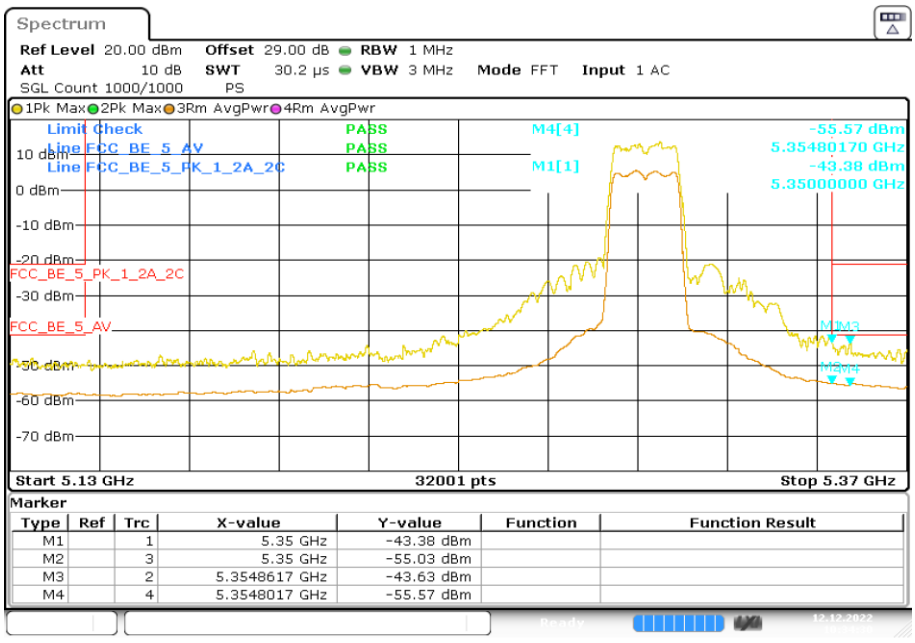


TX on CH. 36

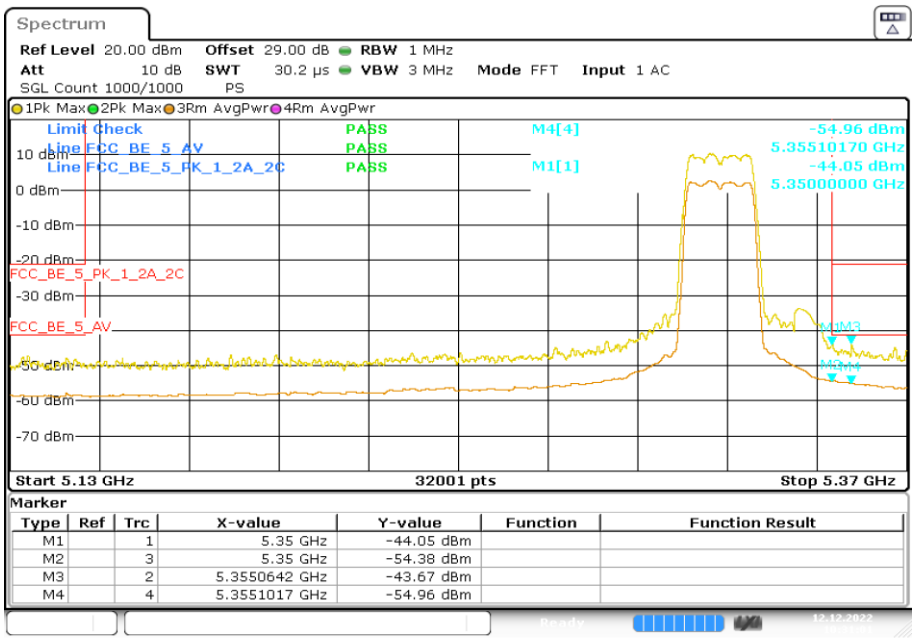


TX on CH. 40

Radio Technology = WLAN n 20 MHz, Operating Frequency = high, Subband = U-NII-2A (S01_AA01)

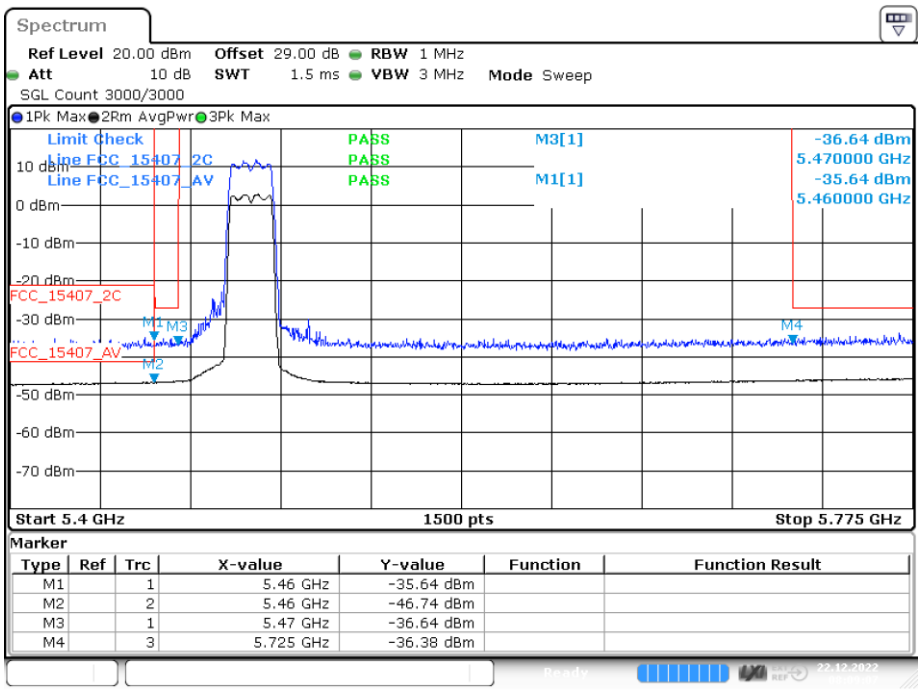


TX on CH. 60



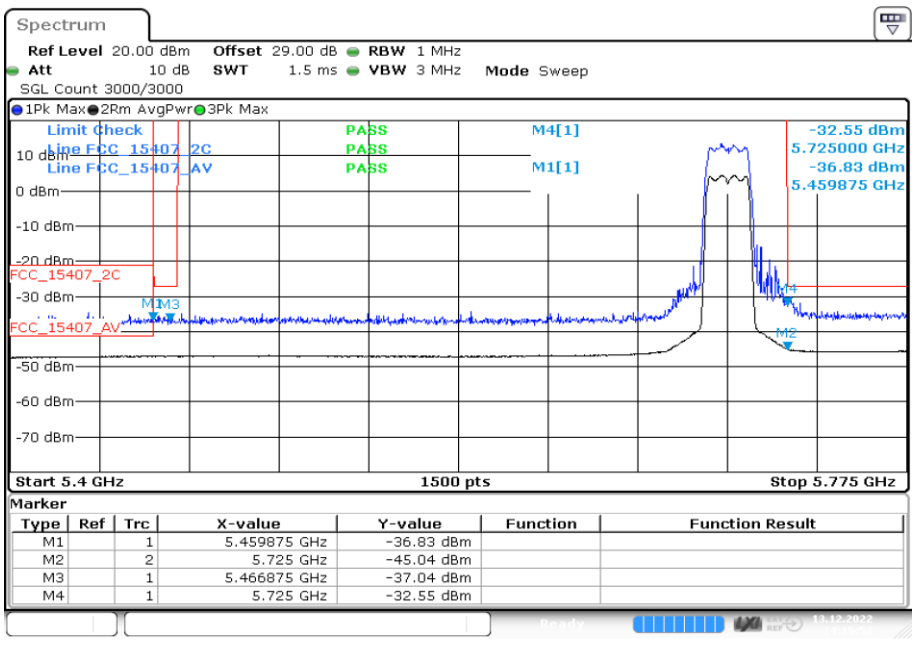
TX on CH. 64

Radio Technology = WLAN n 20 MHz, Operating Frequency = low, Subband = U-NII-2C (S01_AA01)



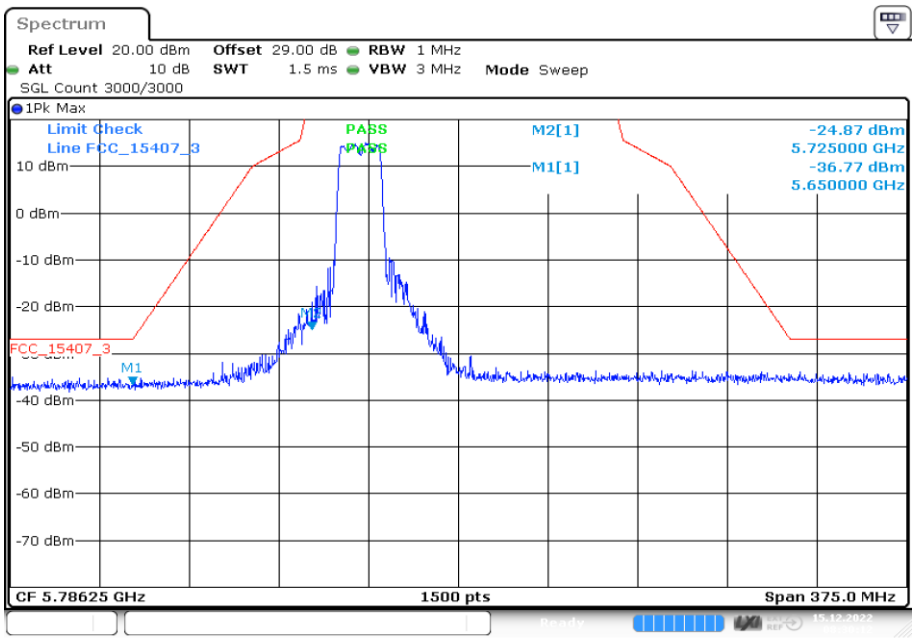
Date: 22.DEC.2022 08:09:07

Radio Technology = WLAN n 20 MHz, Operating Frequency = high, Subband = U-NII-2C (S01_AA01)



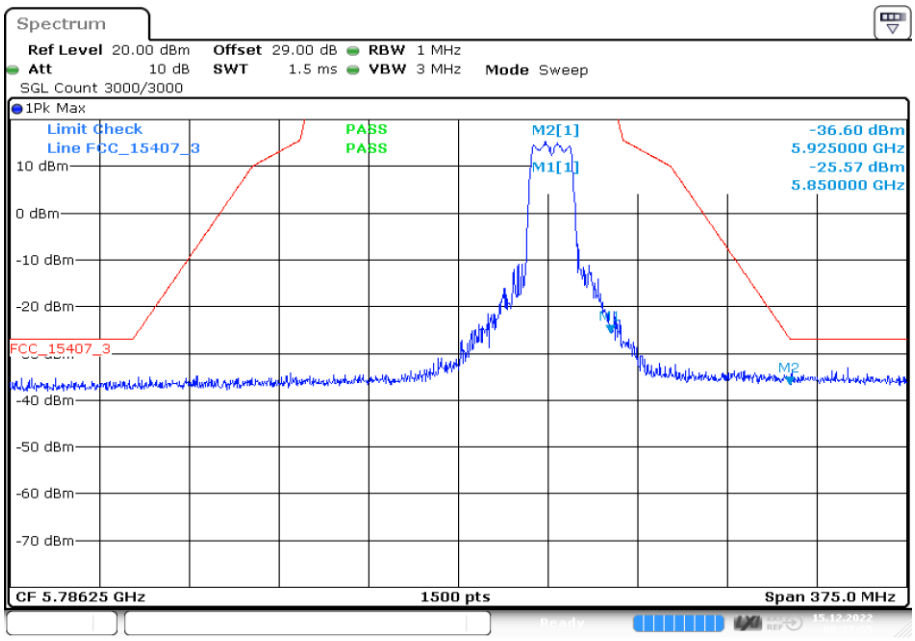
Date: 13.DEC.2022 14:15:53

Radio Technology = WLAN n 20 MHz, Operating Frequency = low, Subband = U-NII-3 (S01_AA01)



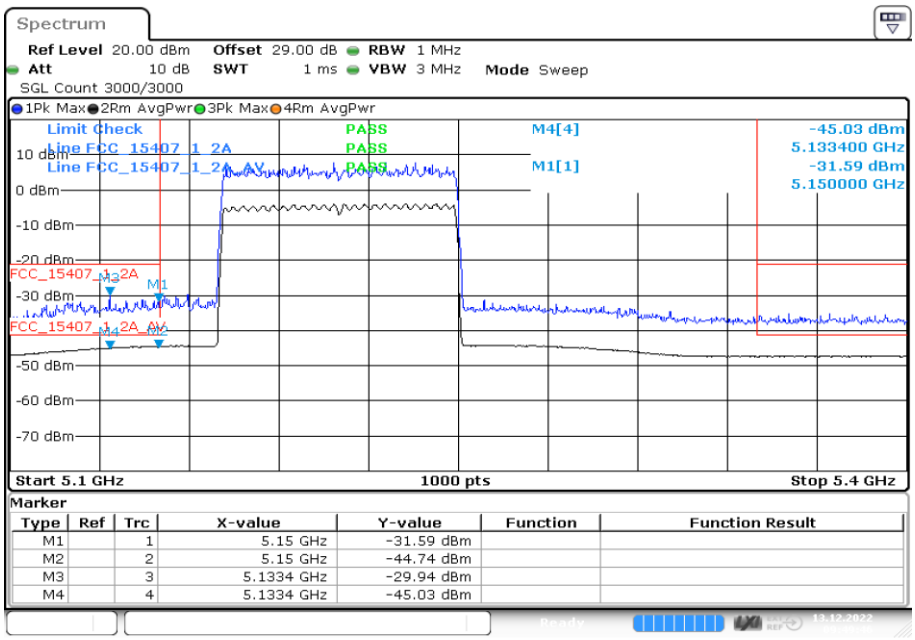
Date: 15.DEC.2022 08:30:12

Radio Technology = WLAN n 20 MHz, Operating Frequency = high, Subband = U-NII-3 (S01_AA01)



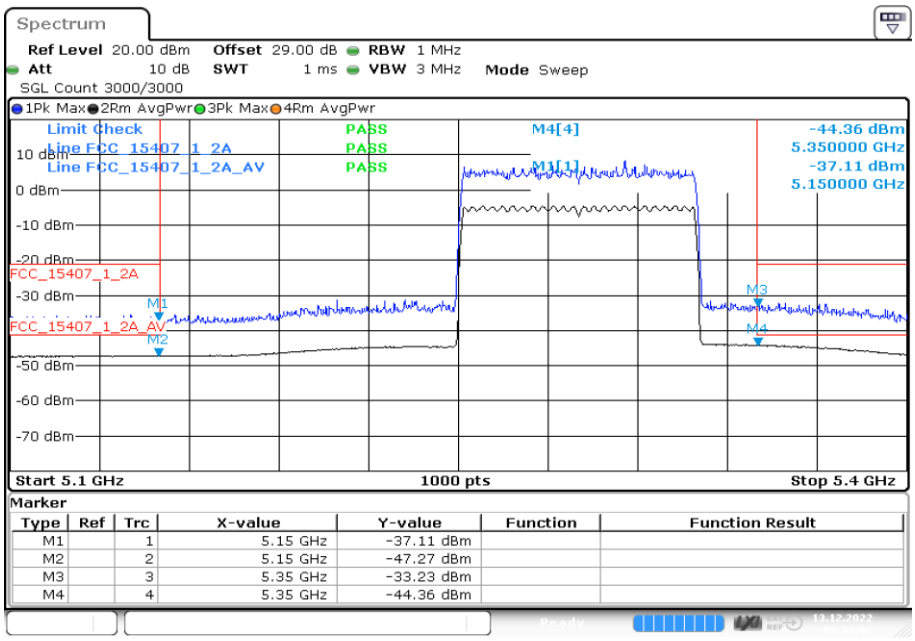
Date: 15.DEC.2022 08:37:59

Radio Technology = WLAN ax 80 MHz, Operating Frequency = mid, Subband = U-NII-1 (S01_AA01)



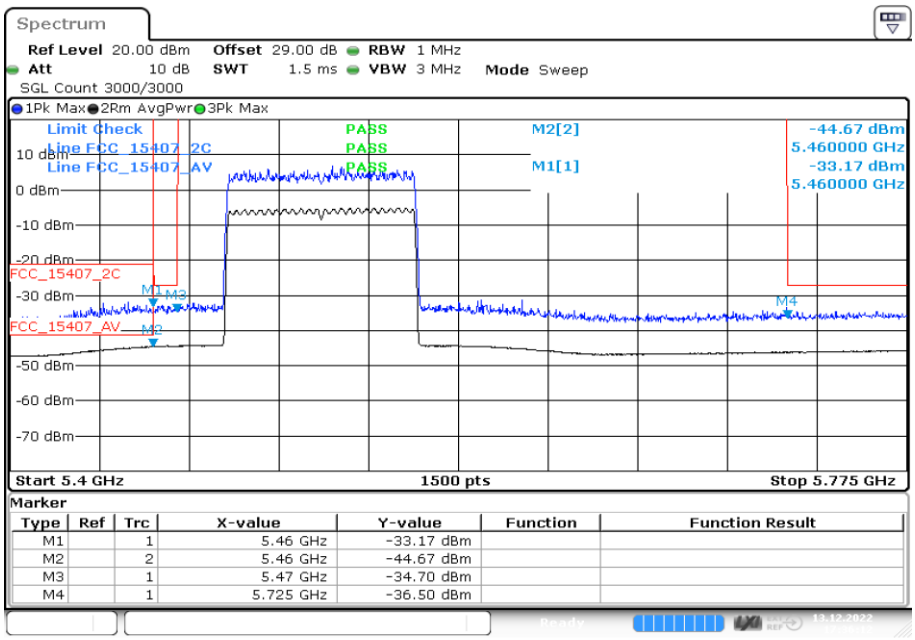
Date: 13.DEC.2022 09:49:47

Radio Technology = WLAN ax 80 MHz, Operating Frequency = mid, Subband = U-NII-2A (S01_AA01)



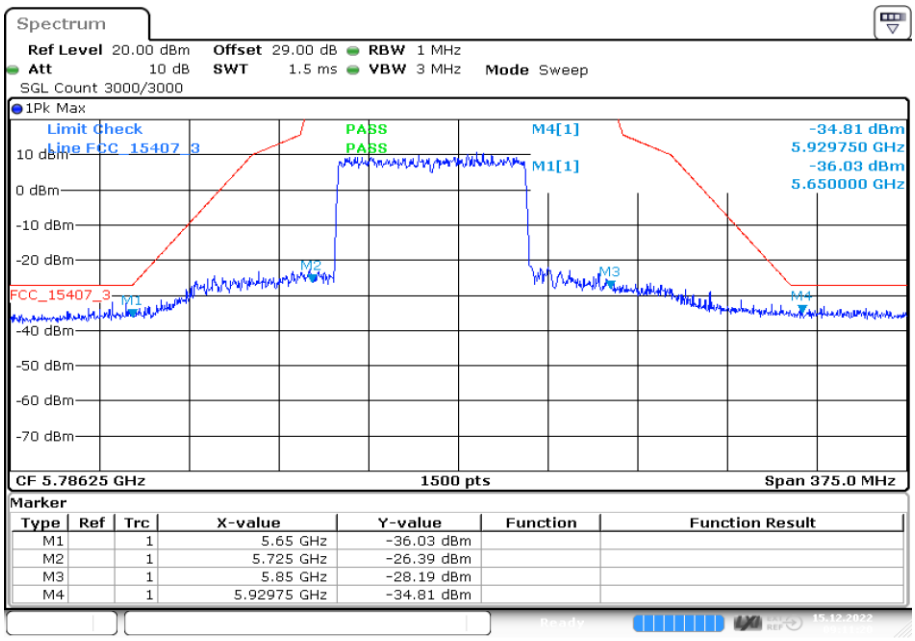
Date: 13.DEC.2022 09:53:02

Radio Technology = WLAN ax 80 MHz, Operating Frequency = low, Subband = U-NII-2C (S01_AA01)



Date: 13.DEC.2022 17:36:12

Radio Technology = WLAN ax 80 MHz, Operating Frequency = mid, Subband = U-NII-3 (S01_AA01)



Date: 15.DEC.2022 09:11:20