

FCC Measurement/Technical Report on

WLAN and Bluetooth Module

MAYA-W386

FCC ID: XPYMAW3A
IC: 8595A-MAYAW3A

Test Report Reference: MDE_UBLOX_2408_FCC_09_rev01

Test Laboratory:

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Deutsche
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D-PL-12140-01-00

Note:

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

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Table of Contents

1	Applied Standards and Test Summary	3
1.1	Applied Standards	3
1.2	FCC-IC Correlation Table	4
1.3	Measurement Summary	5
2	Revision History / Signatures	11
3	Administrative Data	12
3.1	Testing Laboratory	12
3.2	Project Data	12
3.3	Applicant Data	12
3.4	Manufacturer Data	13
4	Test object Data	14
4.1	General EUT Description	14
4.2	EUT Main components	15
4.3	Ancillary Equipment	15
4.4	Auxiliary Equipment	15
4.5	EUT Setups	16
4.6	Operating Modes / Test Channels	16
4.7	Product labelling	16
5	Test Results	17
5.1	26 dB Bandwidth	17
5.2	99 % Bandwidth	20
5.3	Maximum Conducted Output Power	23
5.4	Peak Power Spectral Density	29
5.5	Undesirable Emissions; General Field Strength Limits	33
5.6	Band Edge	92
5.7	In-Band Emissions	99
6	Test Equipment	105
6.1	Test Equipment Hardware	105
6.2	Test Equipment Software	109
7	Antenna Factors, Cable Loss and Sample Calculations	110
7.1	LISN R&S ESH3-Z5 (150 kHz – 30 MHz)	110
7.2	Antenna R&S HFH2-Z2 (9 kHz – 30 MHz)	111
7.3	Antenna R&S HL562 (30 MHz – 1 GHz)	112
7.4	Antenna R&S HF907 (1 GHz – 18 GHz)	113
7.5	Antenna EMCO 3160-09 (18 GHz – 26.5 GHz)	114
7.6	Antenna EMCO 3160-10 (26.5 GHz – 40 GHz)	115
8	Measurement Uncertainties	116
9	Photo Report	117

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 and 15 (10-1-24 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:

"GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE 6 GHz (U-NII) DEVICES PART 15, SUBPART E, 987594 D02 U-NII 6GHz EMC Measurement v03, 2024-10-10".

ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024 is applied.

1.2 FCC-IC CORRELATION TABLE

Correlation of measurement requirements for UNII / LE-LAN (e.g. WLAN 6 GHz) equipment from FCC and IC

UNII equipment

Measurement	FCC reference	IC reference
Conducted emissions on AC Mains	§ 15.207	RSS-Gen Issue 5 & AMD 1 & AMD 2: 8.8
Occupied bandwidth	§ 15.403 (26 dB) / § 15.407 (a) (11)	RSS-248 Issue 3: 4.4 (99%)
Maximum conducted output power	§ 15.407 (a) (4) to (9), (12)	RSS-248 Issue 3: 4.5
Maximum power spectral density	§ 15.407 (a) (4) to (9), (13)	RSS-248 Issue 3: 4.5
Transmitter undesirable emissions; General Field Strength Limits, Restricted Bands, In-Band Emissions	§ 15.407 (b) § 15.209 (a)	RSS-Gen Issue 5: 6.13 / 8.9 / 8.10; RSS-248 Issue 3: 4.6
Frequency stability	§ 15.407 (g)	RSS-Gen Issue 5: 6.11 / 8.11
Antenna requirement	§ 15.203 / 15.204 § 15.407 (a) (10)	RSS-Gen Issue 5: 6.8 RSS-248 Issue 3: 4.8.3 c. / 4.8.4 c.
Contention Based Protocol	§ 15.407 (d) (6)	RSS-248 Issue 3: 4.7
Receiver spurious emissions	-	-

1.3 MEASUREMENT SUMMARY

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407

FCC §15.31, §15.403 (i)

26 dB Bandwidth

The measurement was performed according to ANSI C63.10,
chapter 12.5.2

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 20 MHz, high, U-NII-5	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, high, U-NII-6	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, high, U-NII-7	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, high, U-NII-8	S01_BC01	2025-10-20	Passed	N/A
WLAN ax 20 MHz, low, U-NII-5	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, low, U-NII-6	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, low, U-NII-7	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, low, U-NII-8	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, mid, U-NII-5	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, mid, U-NII-6	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, mid, U-NII-7	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, mid, U-NII-8	S01_BC01	2025-05-28	Passed	N/A
WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8	S01_BC01	2025-05-28	Passed	N/A

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407

FCC §15.31, IC RSS 248 Ch. 4.4

99 % Bandwidth

The measurement was performed according to ANSI C63.10,
chapter 12.5.3 (6.9.3)

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 20 MHz, high, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-8	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, low, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8	S01_BC01	2025-05-28	Passed	Passed

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.31, §15.407 (a)(8)

Maximum Conducted Output Power

 The measurement was performed according to ANSI C63.10,
 chapter 12.4.3.2

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 20 MHz, high, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-8	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, low, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8	S01_BC01	2025-05-28	Passed	Passed

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.31, §15.407 (a)(8)

Peak Power Spectral Density

 The measurement was performed according to ANSI C63.10,
 chapter 12.6 (SA-1)

Final Result

OP-Mode Radio Technology, Operating Frequency, Subband	Setup	Date	FCC	IC
WLAN ax 20 MHz, high, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-8	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, low, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8	S01_BC01	2025-05-28	Passed	Passed

47 CFR CHAPTER I FCC PART 15
FCC §15.205, §15.209, §15.407 (b)(6)
Subpart E §15.407

Undesirable Emissions; General Field Strength Limits

The measurement was performed according to ANSI C63.10, chapter 6.4, 6.5, 6.6.5 (radiated); 12.7.5, 12.7.6, 12.7.7.2 (conducted)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Measurement range, Subband				
WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-8 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-15	Passed	Passed
WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-5 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed
WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed

47 CFR CHAPTER I FCC PART 15
FCC §15.205, §15.209, §15.407 (b)(6)
Subpart E §15.407

Undesirable Emissions; General Field Strength Limits

The measurement was performed according to ANSI C63.10, chapter 6.4, 6.5, 6.6.5 (radiated); 12.7.5, 12.7.6, 12.7.7.2 (conducted)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Measurement range, Subband				
WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-6 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed
WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-5 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-6 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-7 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.205, §15.209, §15.407 (b)(6)

Undesirable Emissions; General Field Strength Limits

The measurement was performed according to ANSI C63.10, chapter 6.4, 6.5, 6.6.5 (radiated); 12.7.5, 12.7.6, 12.7.7.2 (conducted) **Final Result**

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Measurement range, Subband				
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-07-24	Passed	Passed
WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-8 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed
WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-5 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-10	Passed	Passed
WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-8 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-10	Passed	Passed
WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-5 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-5 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-22	Passed	Passed
WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-6 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-7 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-8 Remark: Measurement Method Conducted	S01_BC01	2025-10-06	Passed	Passed
WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-8 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-22	Passed	Passed

47 CFR CHAPTER I FCC PART 15
Subpart E §15.407
FCC §15.407 (b)(6)

Band Edge

The measurement was performed according to ANSI C63.10,
chapter 6.6.5 (radiated); 12.7.6, 12.7.7.2 (conducted)

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ax 20 MHz, high, U-NII-8 Remark: Measurement Method: Conducted	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, high, U-NII-8 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-15	Passed	Passed
WLAN ax 20 MHz, low, U-NII-5 Remark: Measurement Method: Conducted	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-5 Remark: Measurement Method Radiated with 50 Ohm termination	S02_BG03	2025-07-14	Passed	Passed

47 CFR CHAPTER I FCC PART 15 Subpart E §15.407 **FCC §15.31, §15.407 (b)(7)**

In-Band Emissions

The measurement was performed according to KDB 987594

Final Result

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency, Subband				
WLAN ax 20 MHz, high, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, high, U-NII-8	S01_BC01	2025-10-20	Passed	Passed
WLAN ax 20 MHz, low, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, low, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-5	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-6	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-7	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, mid, U-NII-8	S01_BC01	2025-05-28	Passed	Passed
WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8	S01_BC01	2025-05-28	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	2025-11-13	--	valid
rev01	2025-12-17	Changed final result "performed" in Measurement Summary to Passed. Removed references to U-NII bands 1 to 4 related chapters. Added limit and margin to bandwidth test cases.	valid

COMMENT: According to the applicant, the variant MAYA-W381, which has already fully been tested, is identical in regards to the WLAN 5 GHz transmitter section. Due to this only spot checks have been performed. See report MDE_UBLOX_2408_FCC_08 for the results of variant W381.



(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-12140-01-00
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: 2025-02-28

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: 2025-12-17
Testing Period: 2025-05-28 to 2025-10-20

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	Host-based module with WLAN and Bluetooth technology																																																							
Product name	MAYA-W386																																																							
Type	MAYA-W386-00B																																																							
Declared EUT data by the supplier																																																								
Voltage Type	DC																																																							
Voltage Level	1.8 / 3.3 V																																																							
Tested Modulation Type	OFDM																																																							
Specific product description	The EUT is a Bluetooth and WLAN module. Supported technologies relevant for this report are WLAN ax 20 MHz bandwidth. For ax mode OFDMA MU is supported. Supported Class for 6 GHz band is Indoor Client (6XD)																																																							
Ports of the device	Enclosure Data DC Antenna The EUT is a module with solder pads for surface mounting, so no cables were connected to the EUT itself.																																																							
Antenna / Gain	External or integral / 3.4 dBi (gain of embedded antenna) in the bands 5 to 8. (For radiated tests antenna ports are terminated by 50 Ohm terminations)																																																							
Tested Datarates	WLAN a: 6 Mbps, n: MCS0, ac: MCS 0, ax: MSC 0																																																							
Special software used for testing	Scripts provided on a computer board by the applicant.																																																							
Used output power setting in test software	<table><tr><td colspan="14">6 GHz</td></tr><tr><td>Mode Ch.</td><td>1</td><td>5-89</td><td>93</td><td>97</td><td>101-109</td><td>113</td><td>117</td><td>121-177</td><td>181</td><td>185</td><td>189</td><td>193-229</td><td>233</td></tr><tr><td>Ax20 SISO</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>-7</td></tr></table>														6 GHz														Mode Ch.	1	5-89	93	97	101-109	113	117	121-177	181	185	189	193-229	233	Ax20 SISO	3	3	3	3	3	3	3	3	3	3	3	3	-7
6 GHz																																																								
Mode Ch.	1	5-89	93	97	101-109	113	117	121-177	181	185	189	193-229	233																																											
Ax20 SISO	3	3	3	3	3	3	3	3	3	3	3	3	-7																																											

4.2 EUT MAIN COMPONENTS

Sample Name	Sample Code	Description
EUT 386 bc01	DE1015193bc01	
Sample Parameter	Value	
Serial No.	CC9B8F44FA439340200	
HW Version	W3A	
SW Version	28.10.387.10	
Comment		

Sample Name	Sample Code	Description
EUT 386 bg03	DE1015193bg03	
Sample Parameter	Value	
Serial No.	CC9B8F44FA439640200	
HW Version	W3A	
SW Version	28.10.387.10	
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.

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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
Control board 1	Radxa, ROCK 5B, v1.46, -, 1	Mini host layer PC

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_BC01	EUT 386 bc01, Control board 1,	Conducted Setup
S02_BG03	EUT 386 bg03,	Radiated Setup

4.6 OPERATING MODES / TEST CHANNELS

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

U-NII-Subband 5 5925 - 6425 MHz				U-NII 5 / 6	U-NII-Subband 6 6425 - 6525 MHz				U-NII 6 / 7	U-NII-Subband 7 6525 - 6875 MHz			U-NII 7 / 8	U-NII-Subband 8 6875 - 7125 MHz		
20 MHz BW																
low	mid	high	straddle	low	mid	high	straddle	low	mid	high	straddle	low	mid	high		
1	45	93	-	97	105	113	-	117	149	181	185	189	209	233		
5955	6175	6415	-	6435	6475	6515	-	6535	6695	6855	6875	6895	6995	7115		

For Duty Cycle plots and worst case data rate considerations see Test Report
MDE_UBLOX_2408_FCC_02

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 26 DB BANDWIDTH

Standard **FCC Part 15 Subpart E**

The test was performed according to:
 ANSI C63.10, chapter 12.5.2

5.1.1 TEST DESCRIPTION

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

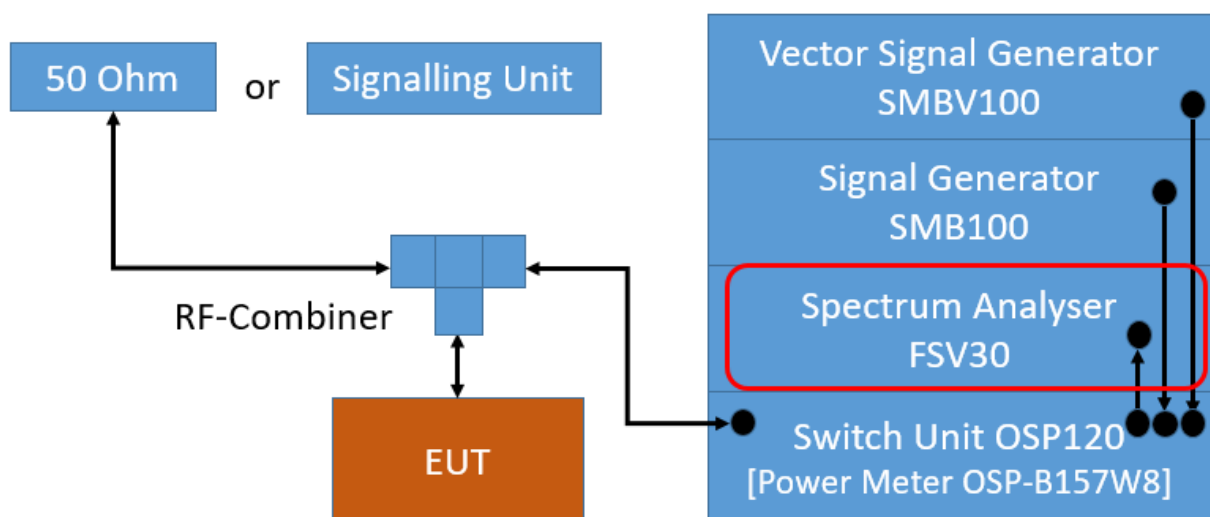
The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.

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

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

Analyzer settings:

- Resolution Bandwidth (RBW): 1% to 5% of the emission bandwidth
- Video Bandwidth (VBW): > RBW
- Span: see example plots
- Trace: Maxhold
- Sweeps: see plots
- Sweep time: Auto
- Detector: Peak



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

5.1.2 TEST REQUIREMENTS / LIMITS

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

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

5.1.3 TEST PROTOCOL

Ambient temperature: 21 - 23 °C
 Air Pressure: 45 - 56 hPa
 Humidity: 1005 - 1016 %

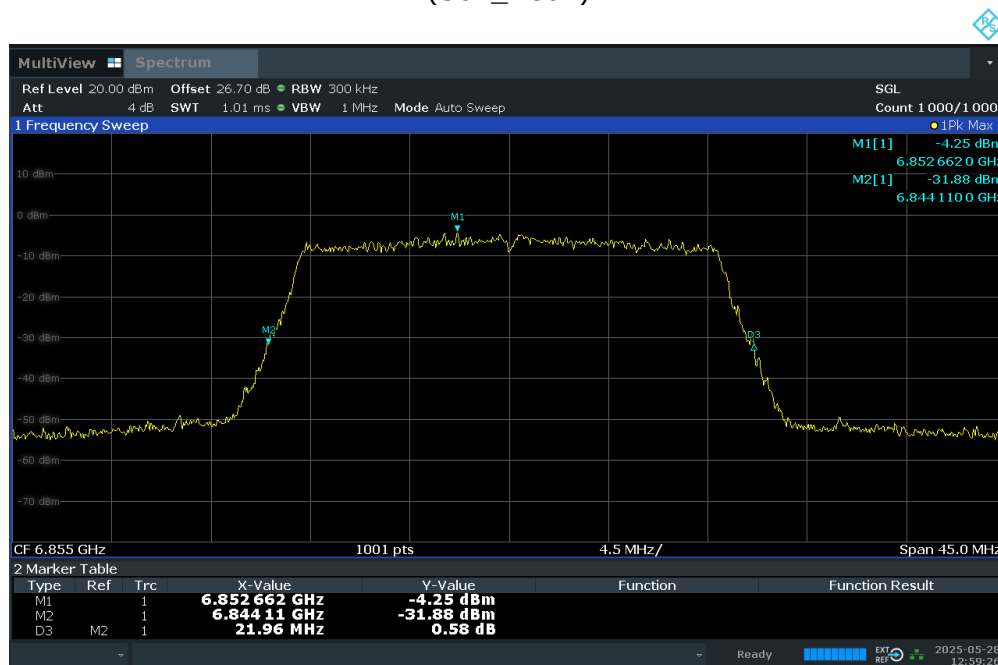
Radio Technology	Subband	Operating Frequency	26 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
WLAN ax 20 MHz	U-NII-5	low	21.6	320	298.4
WLAN ax 20 MHz	U-NII-5	mid	21.8	320	298.2
WLAN ax 20 MHz	U-NII-5	high	21.7	320	298.3
WLAN ax 20 MHz	U-NII-6	low	22.0	320	298.0
WLAN ax 20 MHz	U-NII-6	mid	21.7	320	298.3
WLAN ax 20 MHz	U-NII-6	high	21.8	320	298.2
WLAN ax 20 MHz	U-NII-7	low	21.9	320	298.1
WLAN ax 20 MHz	U-NII-7	mid	21.9	320	298.1
WLAN ax 20 MHz	U-NII-7	high	22.0	320	298.0
WLAN ax 20 MHz	U-NII-7/8	straddle	10.8/10.7	320	298.5
WLAN ax 20 MHz	U-NII-8	low	21.7	320	298.3
WLAN ax 20 MHz	U-NII-8	mid	21.7	320	298.3
WLAN ax 20 MHz	U-NII-8	high	21.5	320	298.5

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

For straddle channels the values given are partial 26 dB BW in lower/higher band.

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

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-7 (S01_BC01)



12:59:26 PM 05/28/2025

5.1.5 TEST EQUIPMENT USED

- R&S TS8997

5.2 99 % BANDWIDTH

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.5.3 (6.9.3)

5.2.1 TEST DESCRIPTION

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

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

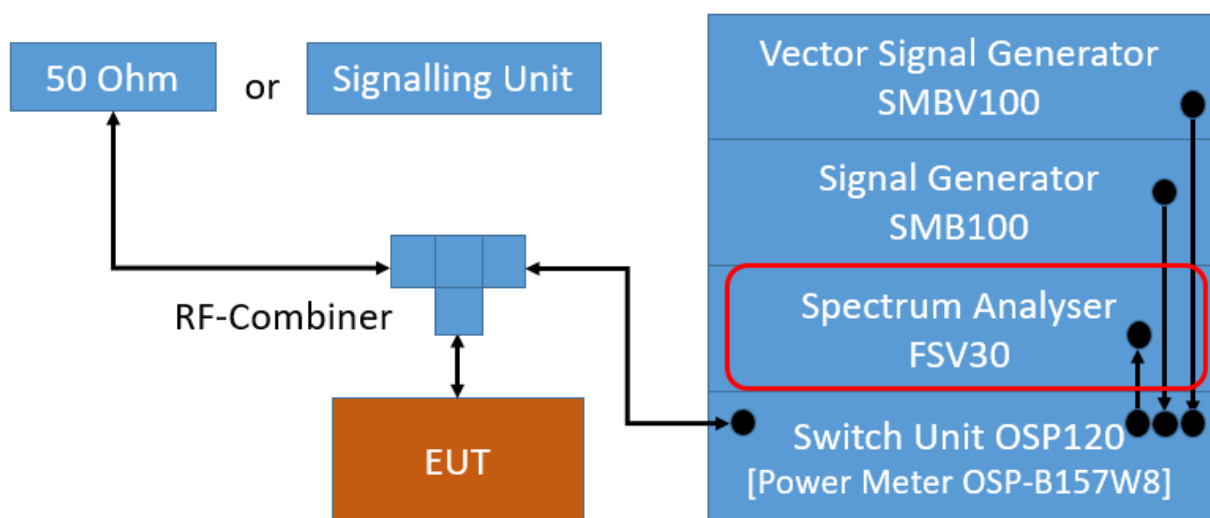
The results recorded were measured with the modulation which produce the worst-case (widest) emission bandwidth.

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

Analyzer settings:

- Resolution Bandwidth (RBW): 1% to 5% of the OBW
- Video Bandwidth (VBW): ≥ 3 times the RBW
- Span: 1.5 to 5 times OBW
- Trace: Maxhold
- Sweeps: see plots
- Sweep time: Auto
- Detector: Peak

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



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

5.2.2 TEST REQUIREMENTS / LIMITS

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

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

ISED, RSS-248, 4.4

The occupied bandwidth of an RLAN device shall not exceed 320 MHz.

5.2.3 TEST PROTOCOL

Ambient temperature: 21 - 23 °C
Air Pressure: 45 - 56 hPa
Humidity: 1005 - 1016 %

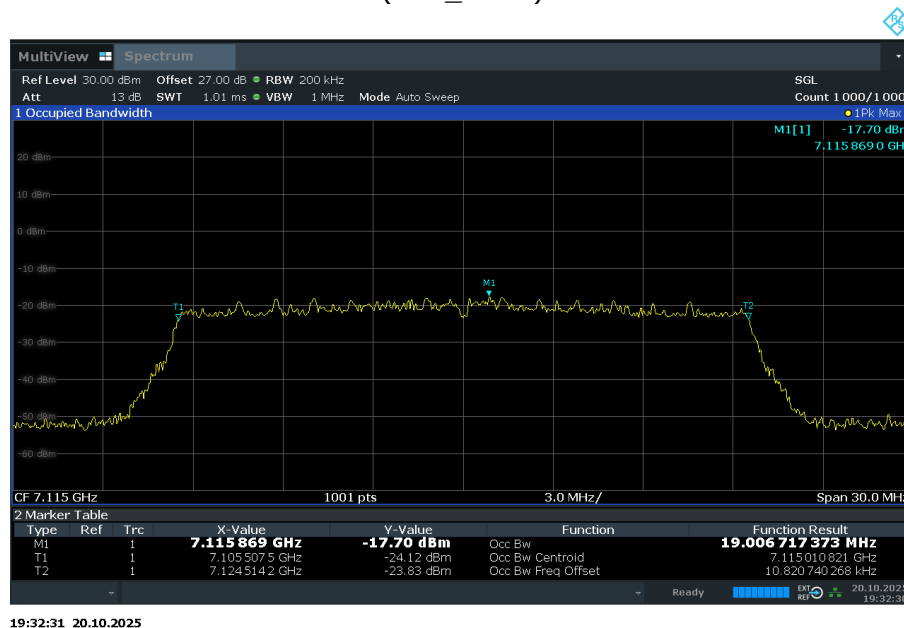
Radio Technology	Subband	Operating Frequency	99% Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
WLAN ax 20 MHz	U-NII-5	low	19.0	320	301.0
WLAN ax 20 MHz	U-NII-5	mid	19.0	320	301.0
WLAN ax 20 MHz	U-NII-5	high	19.0	320	301.0
WLAN ax 20 MHz	U-NII-6	low	19.0	320	301.0
WLAN ax 20 MHz	U-NII-6	mid	19.0	320	301.0
WLAN ax 20 MHz	U-NII-6	high	19.0	320	301.0
WLAN ax 20 MHz	U-NII-7	low	19.0	320	301.0
WLAN ax 20 MHz	U-NII-7	mid	19.0	320	301.0
WLAN ax 20 MHz	U-NII-7	high	19.0	320	301.0
WLAN ax 20 MHz	U-NII-7/8	straddle	9.5/9.5	320	301.0
WLAN ax 20 MHz	U-NII-8	low	19.0	320	301.0
WLAN ax 20 MHz	U-NII-8	mid	19.0	320	301.0
WLAN ax 20 MHz	U-NII-8	high	19.0	320	301.0

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

For straddle channels the values given are partial 99 % BW in lower/higher band.

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

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-8
(S01_BC01)



5.2.5 TEST EQUIPMENT USED

- R&S TS8997

5.3 MAXIMUM CONDUCTED OUTPUT POWER

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.4.3.2

5.3.1 TEST DESCRIPTION

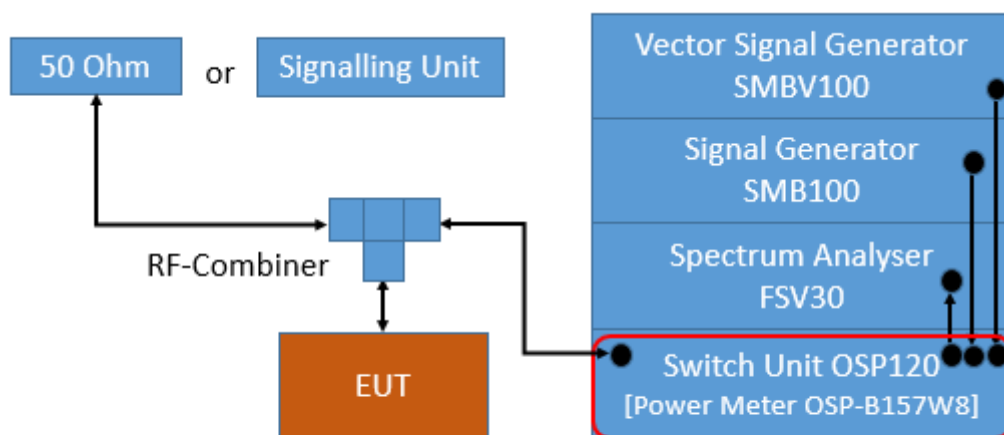
The Equipment Under Test (EUT) was set up to perform the output power measurements. The results recorded were measured with the modulation which produces the worst-case (highest) output power

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.

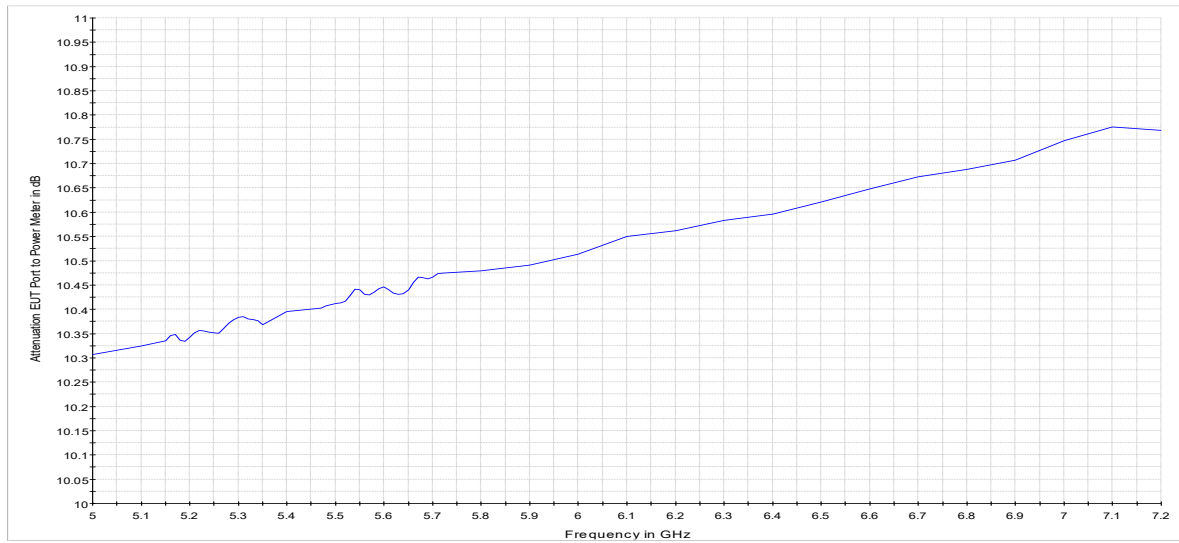
The OSP-B157W is a gated RF average power meter with a signal bandwidth > 300 MHz.

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

5.3.2 TEST REQUIREMENTS / LIMITS

A) FCC

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B) IC

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

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

RSS-248, 4.5.2, low power indoor access points and indoor subordinate devices:

Limits:

b. the maximum e.i.r.p. over the 5925-7125 MHz frequency band shall not exceed 30 dBm

RSS-248, 4.5.3, low-power client devices:

Limits:

b. the maximum e.i.r.p. over the 5925-7125 MHz frequency band shall not exceed 24 dBm

RSS-248, 4.5.4, standard-power access points and fixed client devices:

Limits:

- b. the maximum e.i.r.p. over the 5925-6875 MHz frequency band shall not exceed 36 dBm
- c. the maximum e.i.r.p. for a device not enclosed by walls and a ceiling, measured at any elevation angle greater than 30 degrees above the horizon, shall not exceed 21 dBm over the 5925-6875 MHz frequency band

A standard-power access point shall provide relevant information to an associated standard client device, such that the standard client device maintains its power level at least 6 dB lower than that of the standard-power access point.

RSS-248, 4.5.5, standard client devices:

Limits:

- b. the maximum e.i.r.p. over the 5925-6875 MHz frequency band shall not exceed 30 dBm
- c. the maximum power limits shall remain at least 6 dB below the power levels authorized for the associated standard-power access point

RSS-248, 4.5.6, very low-power devices:

Limits:

- b. the maximum e.i.r.p. shall not exceed 14 dBm

A very low-power device shall implement transmitter power control in order to have the capability to operate at least 6 dB lower than the maximum e.i.r.p. spectral density limit. These power levels shall be identified in the test report.

5.3.3 TEST PROTOCOL

Ambient temperature: 21 - 23 °C
 Air Pressure: 45 - 56 hPa
 Humidity: 1005 - 1016 %

WLAN ax-Mode; 20 MHz; MCS 0; SISO

U-NII-band	Ch. No.	TX Freq. [MHz]	Cond. Power [dBm]	EIRP [dBm]	FCC EIRP Limit [dBm]	Margin [dB]	ISED EIRP Limit [dBm]	Margin [dB]
5	1	5955	1.9	5.3	24.0	18.7	24.0	18.7
	45	6175	2.4	5.8	24.0	18.2	24.0	18.2
	93	6415	3.8	7.2	24.0	16.8	24.0	16.8
6	97	6435	3.5	7.0	24.0	17.0	24.0	17.0
	105	6475	3.6	7.0	24.0	17.0	24.0	17.0
	113	6515	3.7	7.1	24.0	16.9	24.0	16.9
7	117	6535	3.4	6.8	24.0	17.2	24.0	17.2
	149	6695	3.4	6.8	24.0	17.2	24.0	17.2
	181	6855	3.0	6.4	24.0	17.6	24.0	17.6
7+8	185	6875	2.8	6.2	24.0	17.8	24.0	17.8
8	189	6895	4.0	7.4	24.0	16.6	24.0	16.6
	209	6995	3.2	6.6	24.0	17.4	24.0	17.4
	233	7115	-7.6	-4.2	24.0	28.2	24.0	28.2

Remark: Power Meter Measurement, no measurement plots provided.

5.3.4 POWER COMPARISON

Mode	Band	Channel	Power Maya-W381	Power Maya-W386	Deviation [dB]
WLAN ax 20 MHz	U-NII-5	low	2.1	1.9	-0.2
WLAN ax 20 MHz	U-NII-5	mid	2.8	2.4	-0.4
WLAN ax 20 MHz	U-NII-5	high	4.4	3.8	-0.6
WLAN ax 20 MHz	U-NII-6	low	4.2	3.5	-0.7
WLAN ax 20 MHz	U-NII-6	mid	4.0	3.6	-0.3
WLAN ax 20 MHz	U-NII-6	high	3.9	3.7	-0.2
WLAN ax 20 MHz	U-NII-7	low	3.8	3.4	-0.4
WLAN ax 20 MHz	U-NII-7	mid	3.8	3.4	-0.4
WLAN ax 20 MHz	U-NII-7	high	3.2	3.0	-0.2
WLAN ax 20 MHz	U-NII-7/8	straddle	3.1	2.8	-0.3
WLAN ax 20 MHz	U-NII-8	low	4.5	4.0	-0.5
WLAN ax 20 MHz	U-NII-8	mid	3.6	3.2	-0.4
WLAN ax 20 MHz	U-NII-8	high	-7.7	-7.6	0.1

5.3.5 TEST EQUIPMENT USED

- R&S TS8997

5.4 PEAK POWER SPECTRAL DENSITY

Standard **FCC Part 15 Subpart E**

The test was performed according to:

ANSI C63.10, chapter 12.6 (SA-1)

5.4.1 TEST DESCRIPTION

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

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

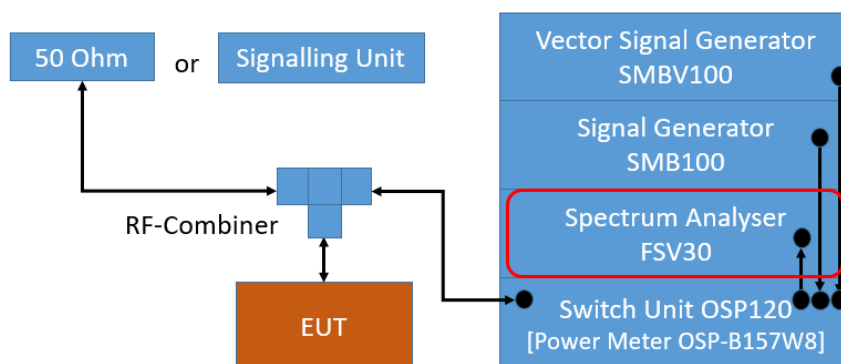
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

Analyzer settings:

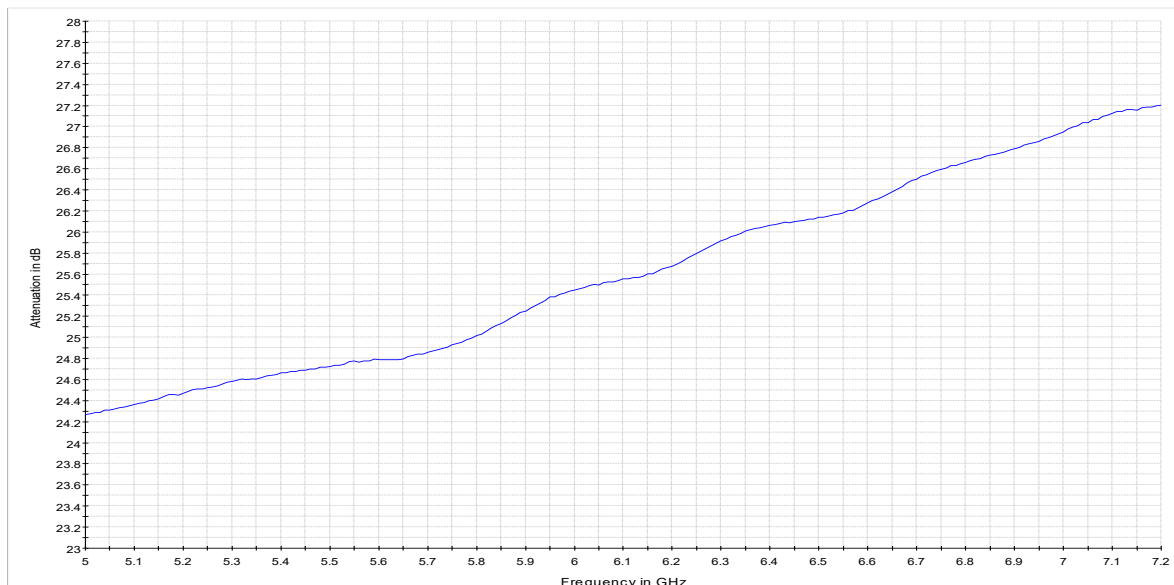
- Resolution Bandwidth (RBW): 1 MHz
- Video Bandwidth (VBW): 3 MHz
- Trace: Average (Power)
- Sweeps: see plots
- Sweptime: Auto
- Detector: RMS
- Trigger: free run

Note:

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



TS8997; Maximum Power Spectral Density



Attenuation of the measurement path

5.4.2 TEST REQUIREMENTS / LIMITS

A) FCC

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

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

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

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

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

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

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

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

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

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

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

Limit: 17 dBm/MHz e.i.r.p.

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

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

Limit: -1 dBm/MHz e.i.r.p.

B) IC

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

RSS-248, 4.5.2, low power indoor access points and indoor subordinate devices:

Limits:

- a. the maximum e.i.r.p. spectral density shall not exceed 5 dBm/MHz

RSS-248, 4.5.3, low-power client devices:

Limits:

- a. the maximum e.i.r.p. spectral density shall not exceed -1 dBm/MHz

RSS-248, 4.5.4, standard-power access points and fixed client devices:

Limits:

- a. the maximum e.i.r.p. spectral density shall not exceed 23 dBm/MHz

RSS-248, 4.5.5, standard client devices:

Limits:

- a. the maximum e.i.r.p. spectral density shall not exceed 17 dBm/MHz

RSS-248, 4.5.6, very low-power devices:

Limits:

- a. the maximum e.i.r.p. spectral density shall not exceed -5 dBm/MHz

5.4.3 TEST PROTOCOL

Ambient temperature: 21 - 23 °C
Air Pressure: 45 - 56 hPa
Humidity: 1005 - 1016 %

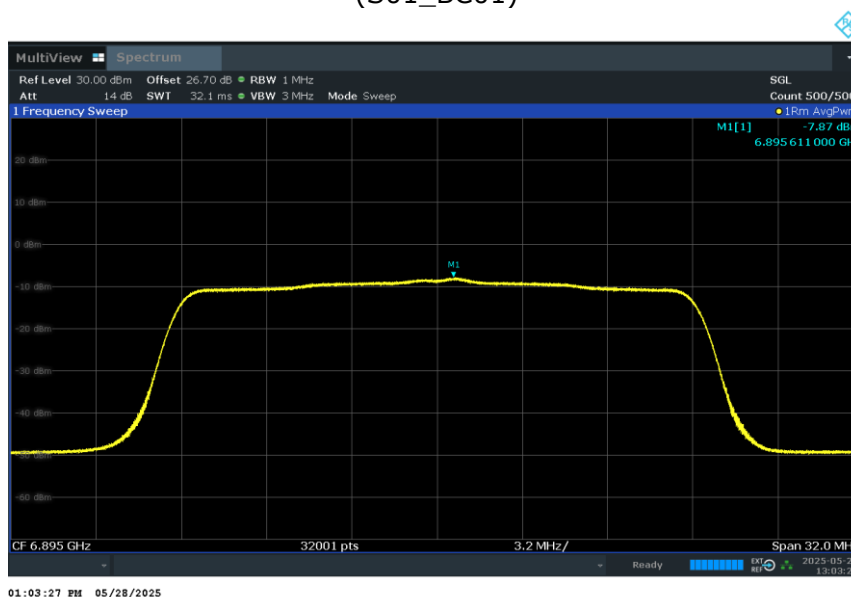
WLAN ax-Mode; 20 MHz; MCS 0; SISO

U-NII-band	Ch. No.	Freq. [MHz]	MPSD [dBm/MHz]	E.I.R.P MPSD [dBm/MHz]	FCC E.I.R.P Limit [dBm/MHz] or [dBm/500kHz] in U-NII-3	Margin [dB]	ISED E.I.R.P Limit [dBm/MHz] or [dBm/500kHz] in U-NII-3	Margin [dB]
5	1	5955	-9.5	-6.1	-1.0	5.1	-1.0	5.1
	45	6175	-9.0	-5.6	-1.0	4.6	-1.0	4.6
	93	6415	-8.4	-5.0	-1.0	4.0	-1.0	4.0
	97	6435	-8.8	-5.4	-1.0	4.4	-1.0	4.4
6	105	6475	-8.5	-5.1	-1.0	4.1	-1.0	4.1
	113	6515	-8.1	-4.7	-1.0	3.7	-1.0	3.7
7	117	6535	-8.4	-5.0	-1.0	4.0	-1.0	4.0
	149	6695	-8.3	-4.9	-1.0	3.9	-1.0	3.9
	181	6855	-8.5	-5.1	-1.0	4.1	-1.0	4.1
	185	6875	-8.8	-5.4	-1.0	4.4	-1.0	4.4
7+8	189	6895	-7.9	-4.5	-1.0	3.5	-1.0	3.5
8	209	6995	-8.6	-5.2	-1.0	4.2	-1.0	4.2
	233	7115	-20.1	-16.7	-1.0	15.7	-1.0	15.7

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

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

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-8 (S01_BC01)



5.4.5 TEST EQUIPMENT USED

- R&S TS8997

5.5 UNDESIRABLE EMISSIONS; GENERAL FIELD STRENGTH LIMITS

Standard **FCC Part 15 Subpart E**

Radiated Measurement Method:

The test was performed according to:

ANSI C63.10, chapter 6.4, 6.5, 6.6.5

Conducted Measurement Method:

The test was performed according to:

ANSI C63.10, chapter 12.7.5, 12.7.6, 12.7.7.2

5.5.1 TEST DESCRIPTION

Radiated Measurements with 50 Ohm termination at the antenna port:

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-chapters of ANSI C63.10:

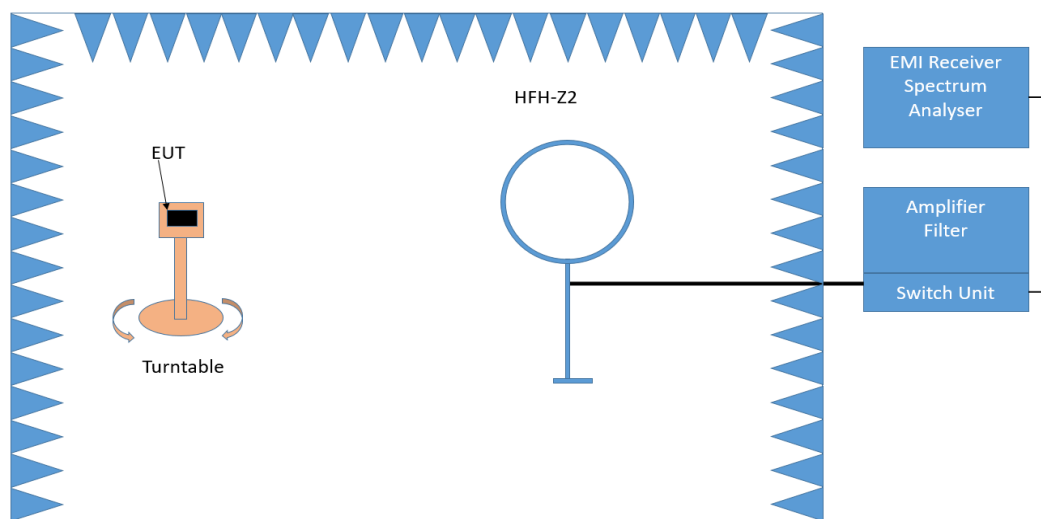
- < 30 MHz: Chapter 6.4
- 30 MHz – 1 GHz: Chapter 6.5
- > 1 GHz: Chapter 6.6 (procedure according 6.6.5 used)

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)

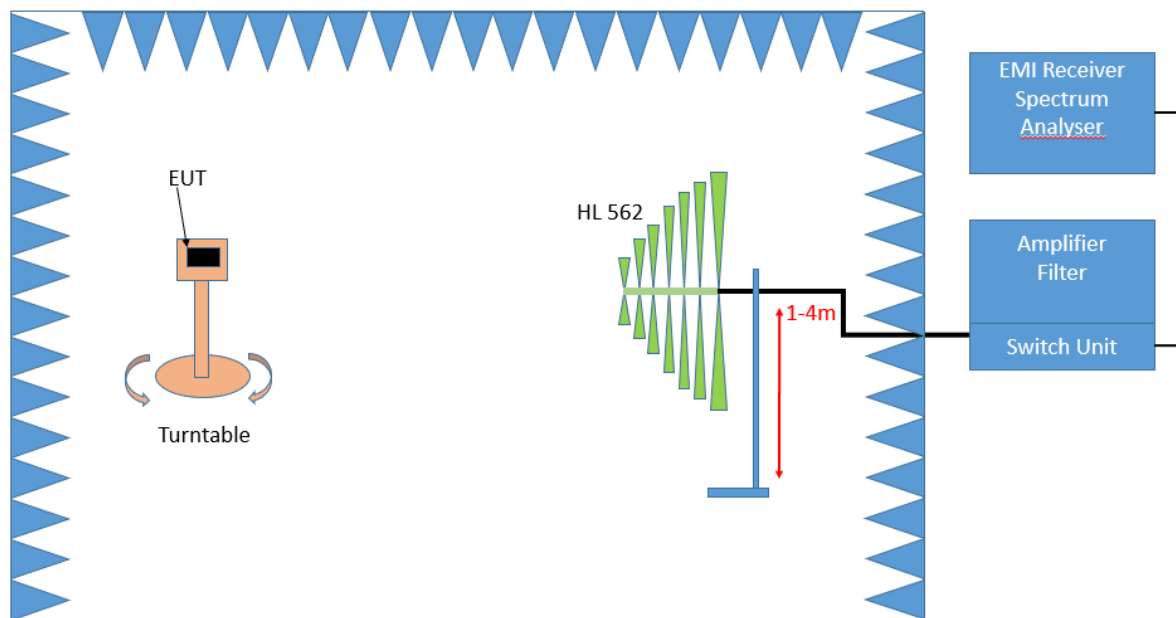
Intention of this step is, to determine the radiated EMI-profile of the EUT. Afterwards the relevant emissions for the final measurement are identified.

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 site
- 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

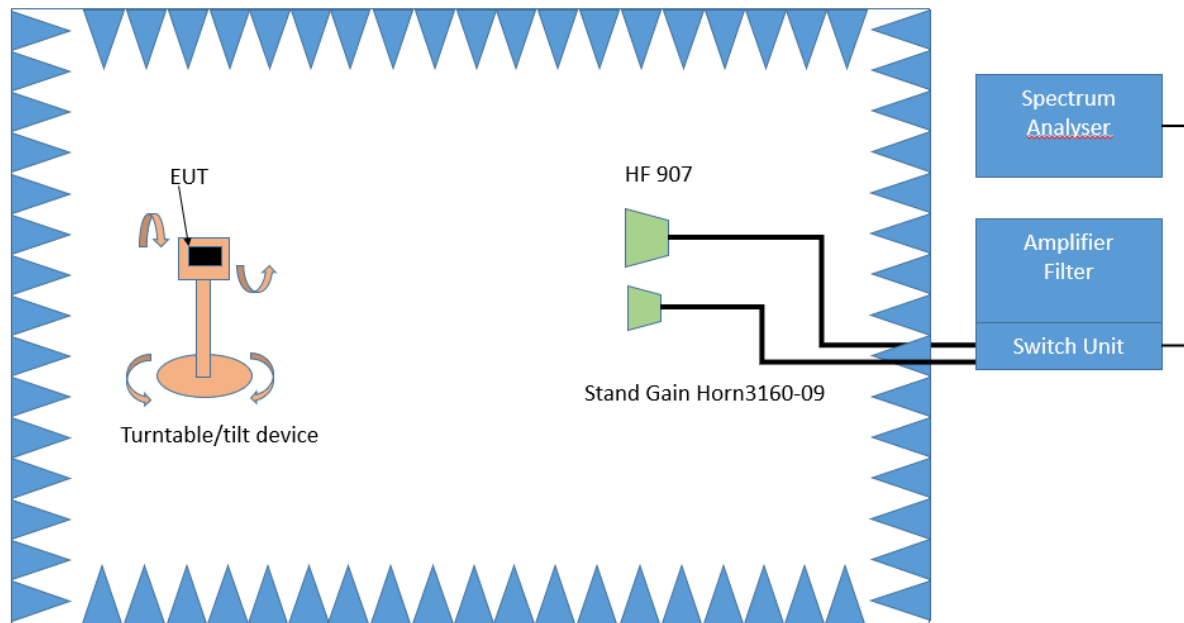
After the measurement a plot will be generated which contains a diagram with the results of the preliminary scan and a chart with the frequencies and values of the results of the final measurement.

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 in step 2 is omitted. Instead of this, a maximum search with a step size $\pm 45^\circ$ for the elevation axis is performed.

The turn table azimuth will slowly vary by $\pm 22.5^\circ$.

The elevation angle will slowly vary by $\pm 45^\circ$

EMI receiver settings (for all steps):

- Detector: Peak, Average
- IF Bandwidth = 1 MHz

Step 3:

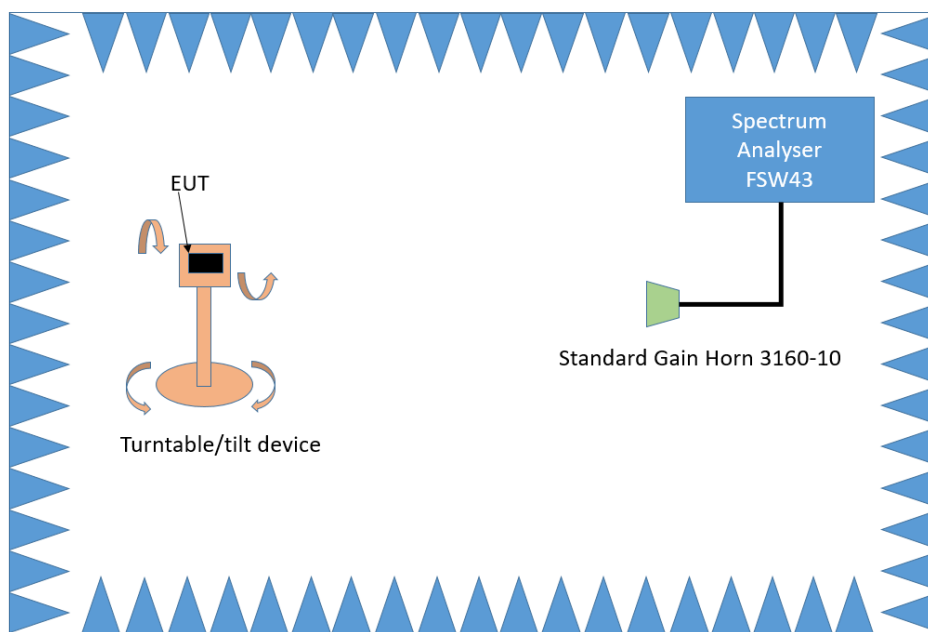
Spectrum analyser settings for step 3:

- 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

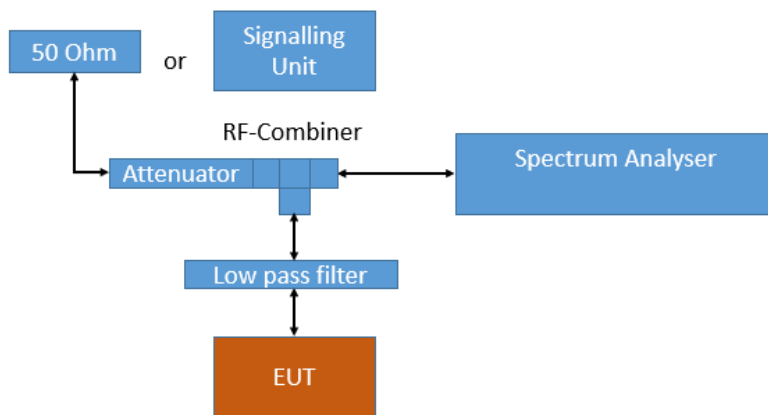


Test Setup; Spurious Emission Radiated (FAC), 26.5 – 40 GHz

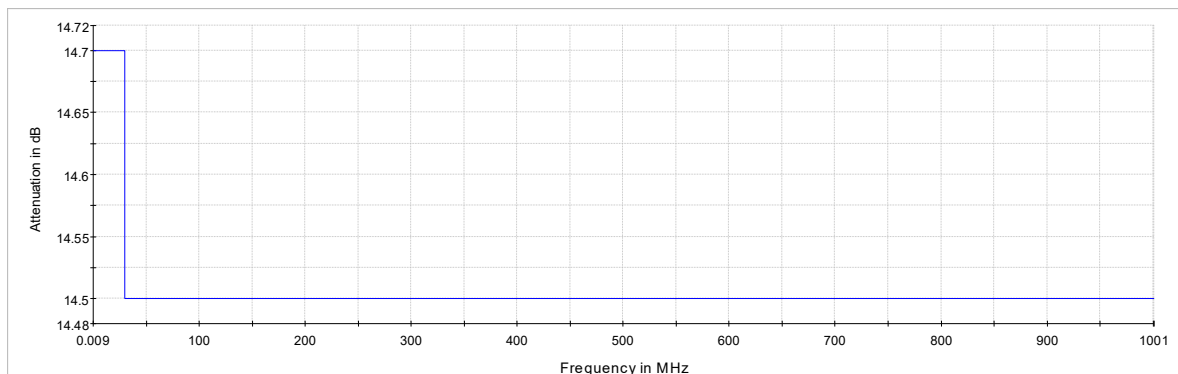
Conducted Measurements at antenna ports:

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

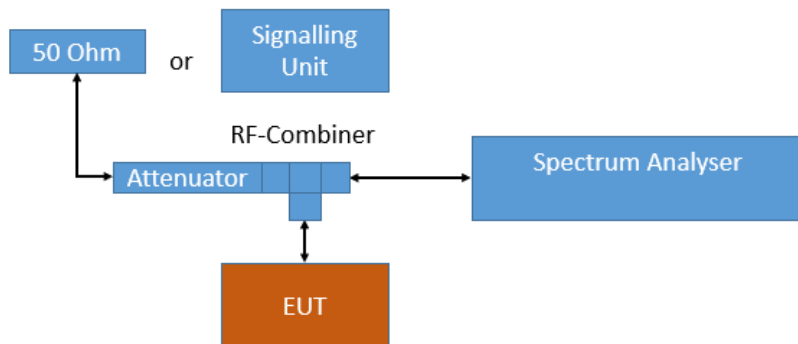
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.



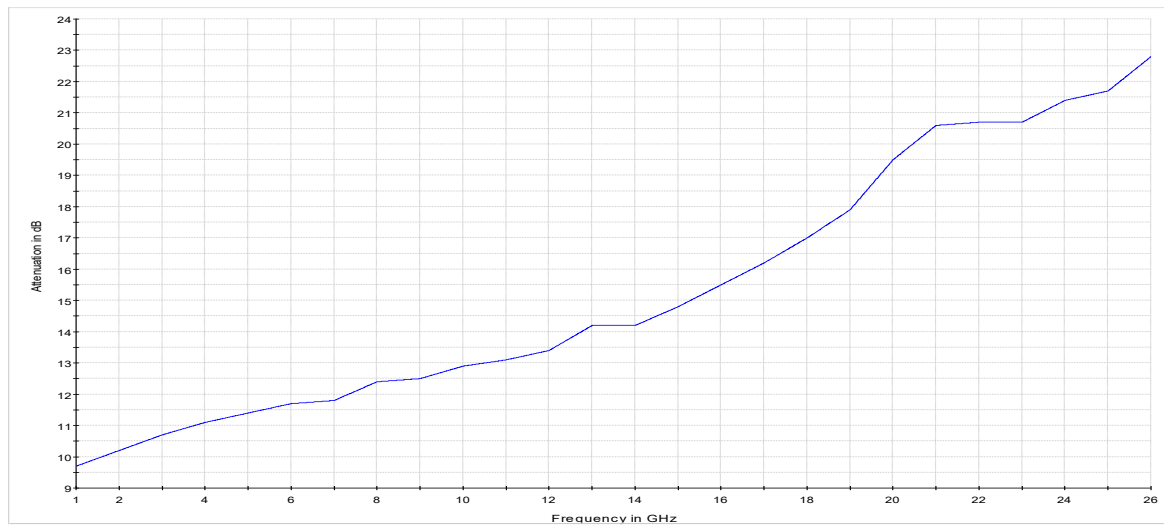
Measurement <1GHz: Path Attenuation Transducer DUT1_3dB_TP2000



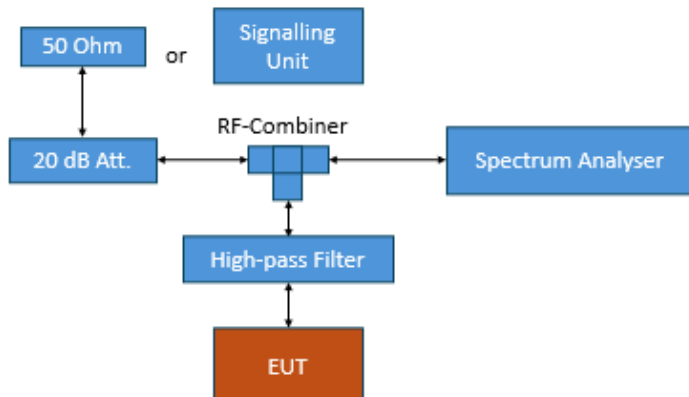
Transducer DUT1_3dB_TP2000



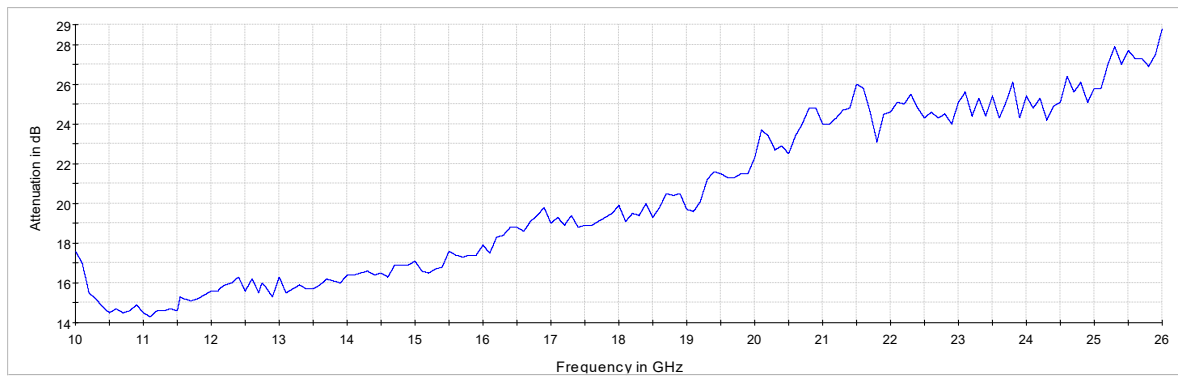
Measurement 1 – 13.5 GHz: Path Attenuation Transducer DUT1_3dB



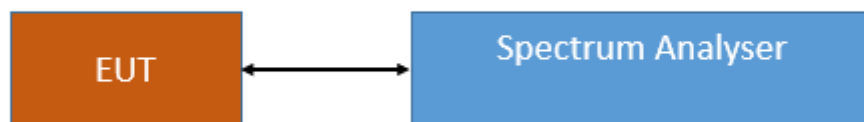
Transducer DUT1_3dB



Measurement 13.5 - 26 GHz: Path Attenuation Transducer DUT1_3dB_HP11G



Transducer DUT1_3dB_HP11G



Measurement 26 GHz - 40 GHz

Offset for Cable (5.5 dB) + Ant. Gain (2.4 dBi) = 7.9 dB (5 GHz)
 (3.4 dBi) = 8.9 dB (6GHz)

Analyser settings:

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

- Frequency range: 30 – 1000 MHz
- Resolution Bandwidth (RBW): 100 kHz
- Video Bandwidth (VBW): 300 kHz
- Trace: Maxhold
- Sweeps: see plots
- 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: see plots
- 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:
 - $E = \text{EIRP} - 20 \log D + 104.8$
 - 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

5.5.2 TEST REQUIREMENTS / LIMITS

A) FCC

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-248, 4.6.2:

- a. any emissions outside of the 5925-7125 MHz frequency band shall not exceed -27 dBm/MHz e.i.r.p. spectral density

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 (dB μ V/m) = 20 log (Limit (μ V/m)/1 μ V/m)
- Limit (dB μ V/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.

5.5.3 TEST PROTOCOL

Ambient temperature: 21 - 24 °C
 Air Pressure: 45 - 56 hPa
 Humidity: 1005 - 1016 %

WLAN ax-Mode; 20 MHz; MCS 0; SISO
 Applied duty cycle correction (AV): 0.1 dB

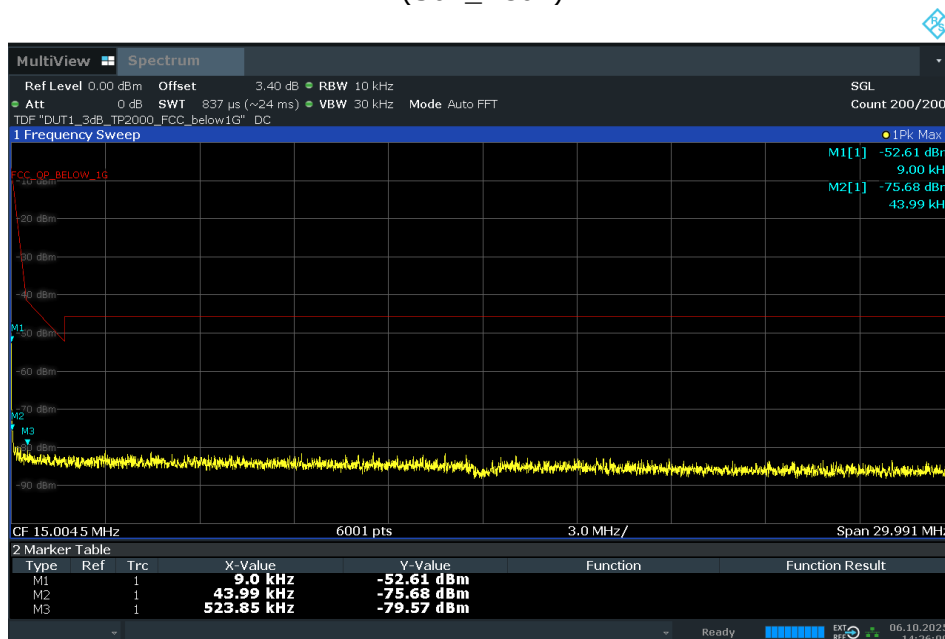
Measurement Method	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBμV/m]	Detector	RBW [kHz]	Limit [dBμV/m]	Margin [dB]	Limit Type
Conducted	5955	3969.9	52.7	PEAK	1000	74.0	21.3	RB
Conducted	5955	3969.9	50.0	AV	1000	54.0	4.0	RB
Radiated	5955	23820.0	58.3	PEAK	1000	74.0	15.7	RB
Radiated	5955	23820.0	53.0	AV	1000	54.0	1.0	RB
Conducted	6175	4116.8	53.1	PEAK	1000	74.0	20.9	RB
Conducted	6175	4116.8	50.7	AV	1000	54.0	3.3	RB
Conducted	6415	4276.6	53.6	PEAK	1000	74.0	20.4	RB
Conducted	6415	4276.6	51.0	AV	1000	54.0	3.0	RB
Conducted	6435	4289.8	54.4	PEAK	1000	74.0	19.6	RB
Conducted	6435	4289.8	52.0	AV	1000	54.0	2.0	RB
Conducted	6475	4316.8	54.6	PEAK	1000	74.0	19.4	RB
Conducted	6475	4316.8	52.1	AV	1000	54.0	1.9	RB
Radiated	6475	32374.5	54.7	PEAK	1000	88.2	33.5	UE
Radiated	6475	32374.5	47.7	AV	1000	68.2	20.5	UE
Conducted	6515	4343.4	54.6	PEAK	1000	74.0	19.4	RB
Conducted	6515	4343.4	52.3	AV	1000	54.0	1.7	RB
Conducted	6535	4356.6	53.8	PEAK	1000	74.0	20.2	RB
Conducted	6535	4356.6	51.2	AV	1000	54.0	2.8	RB
Conducted	6695	4463.3	53.5	PEAK	1000	74.0	20.5	UE
Conducted	6695	4463.3	51.1	AV	1000	54.0	2.9	UE
Conducted	6855	4569.9	53.7	PEAK	1000	74.0	20.3	RB
Conducted	6855	4569.9	51.6	AV	1000	54.0	2.5	RB
Conducted	6895	4596.5	54.2	PEAK	1000	74.0	19.8	RB
Conducted	6895	4596.5	51.2	AV	1000	54.0	2.8	RB
Conducted	6995	4663.3	53.6	PEAK	1000	74.0	20.4	RB
Conducted	6995	4663.3	51.5	AV	1000	54.0	2.5	RB
Radiated	6995	27979.5	56.8	PEAK	1000	88.2	31.4	UE
Radiated	6995	27979.5	53.3	AV	1000	68.2	14.9	UE
Conducted	7115	4743.4	53.9	PEAK	1000	74.0	20.1	RB
Conducted	7115	4743.4	49.0	AV	1000	54.0	5.0	RB

Remark: Radiated Measurements were performed with 50 Oh termination at the antenna ports.
 For details, please see the plots in next sub-clause.

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

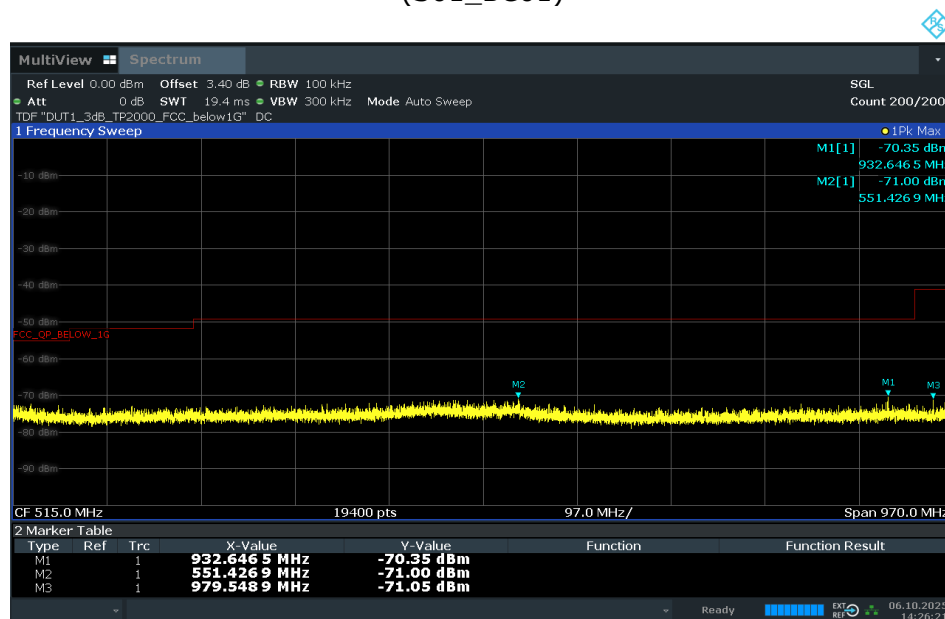
Conducted Measurements

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 9kHz - 30MHz, Subband = U-NII-5 (S01_BC01)



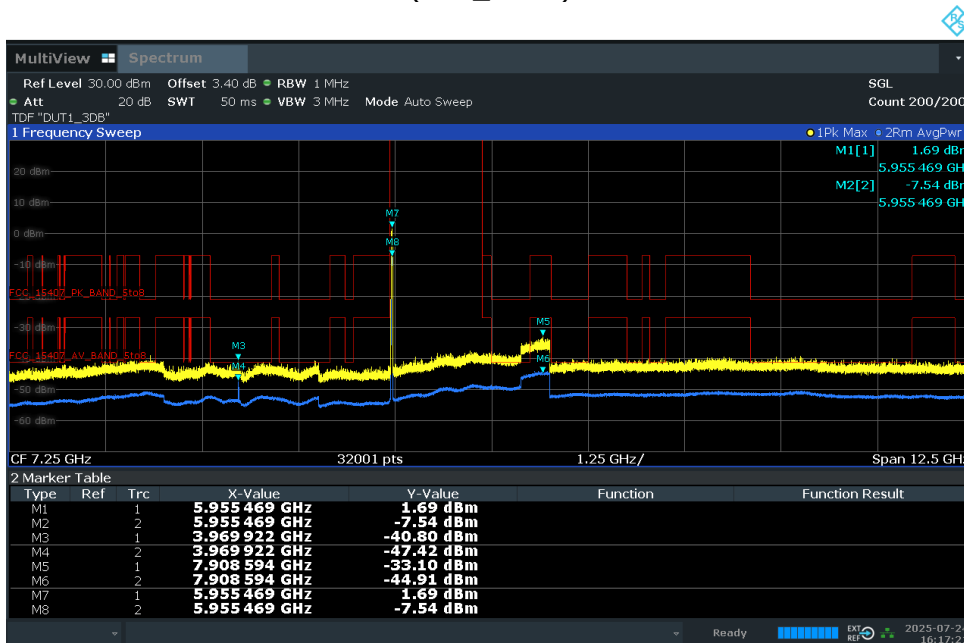
14:26:10 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 30MHz - 1GHz, Subband = U-NII-5 (S01_BC01)

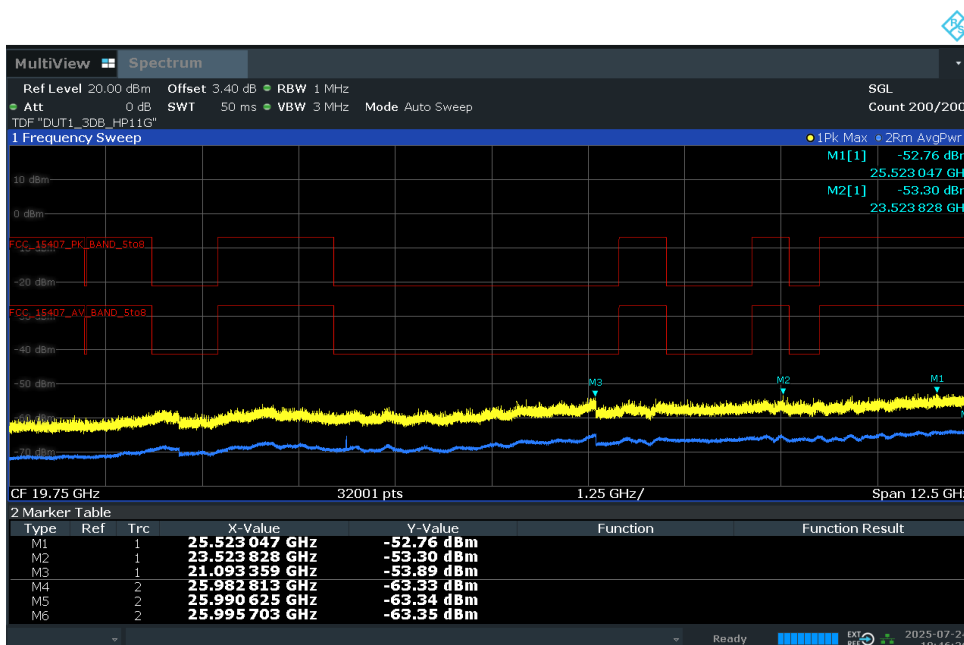


14:26:22 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-5 (S01_BC01)

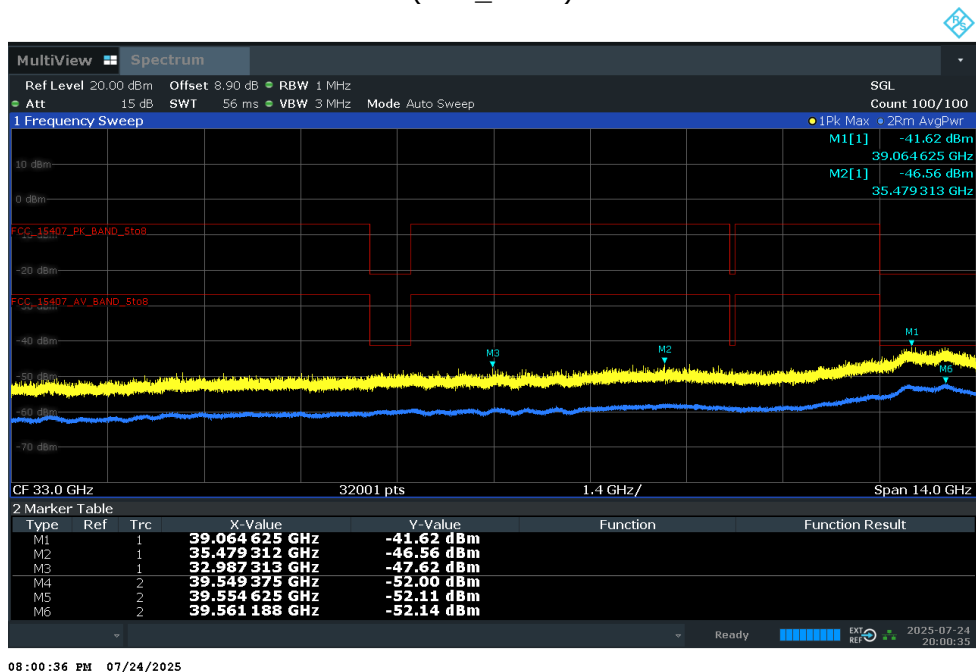


04:17:22 PM 07/24/2025



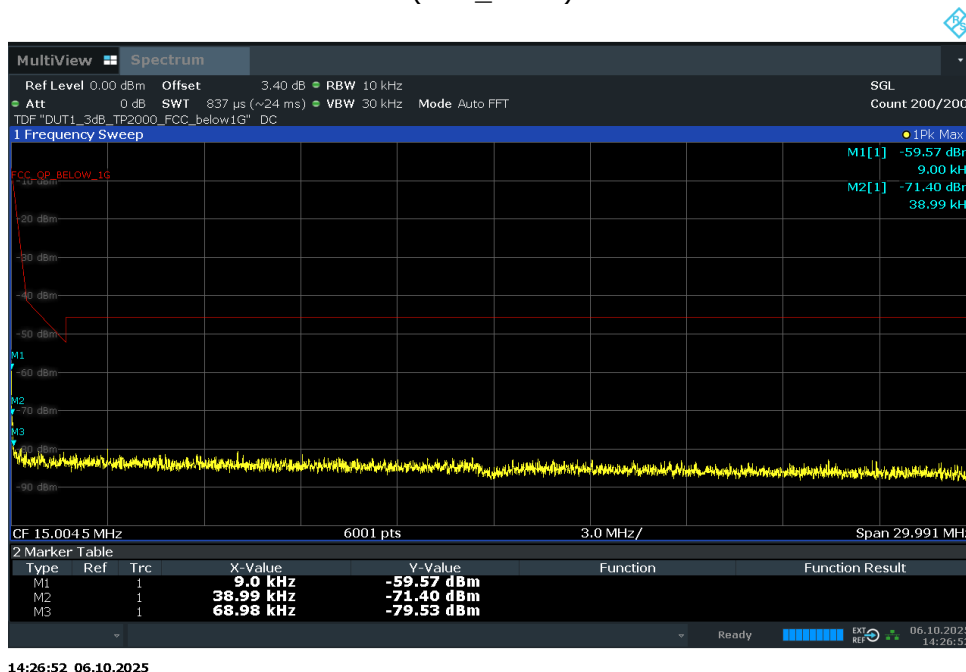
06:46:27 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
26GHz - 40GHz, Subband = U-NII-5
(S01_BC01)

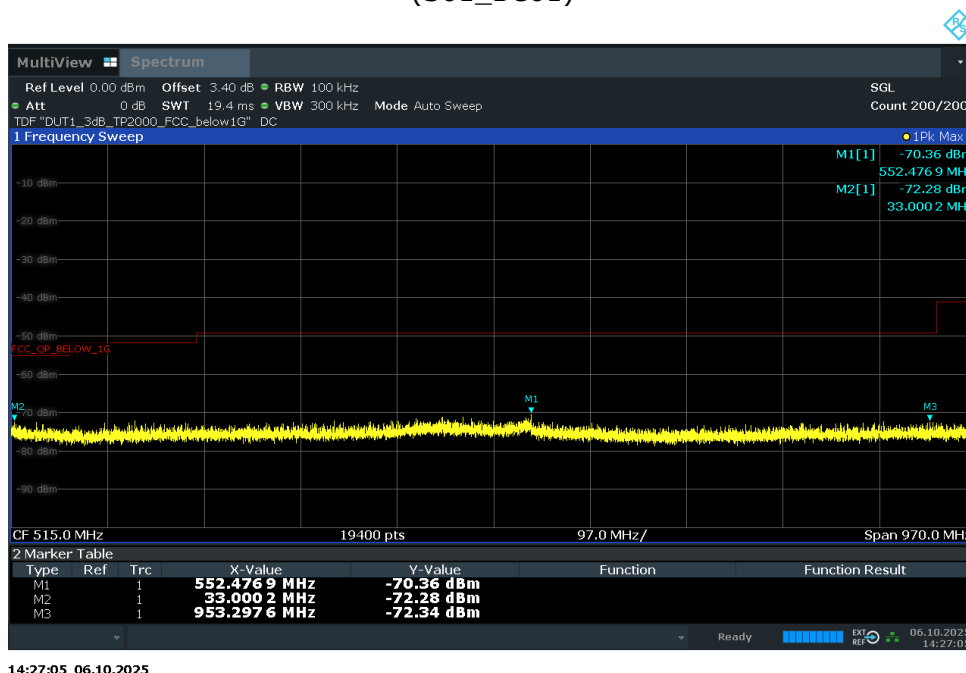


08:00:36 PM 07/24/2025

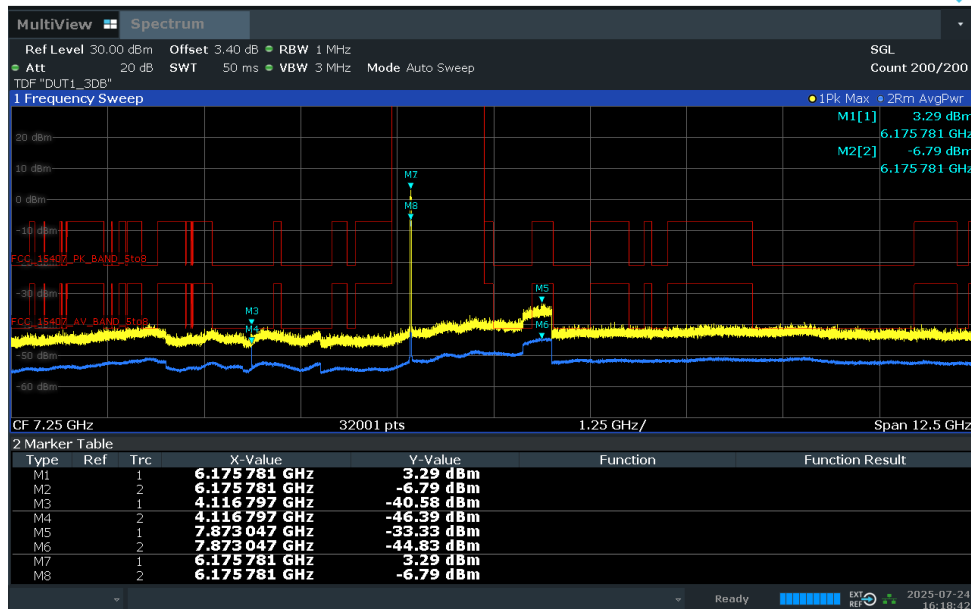
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-5 (S01_BC01)



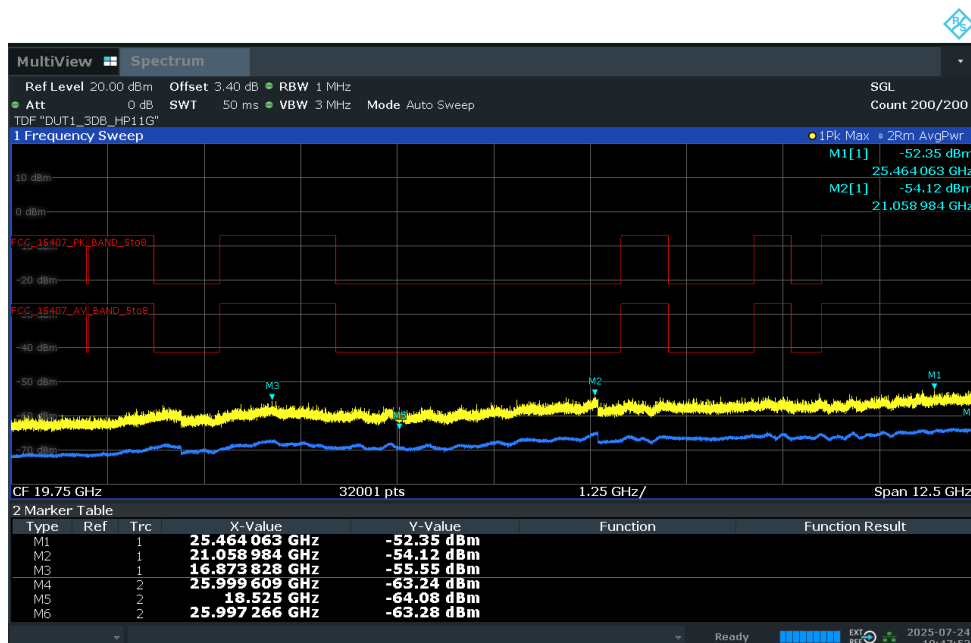
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-5 (S01_BC01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-5 (S01_BC01)

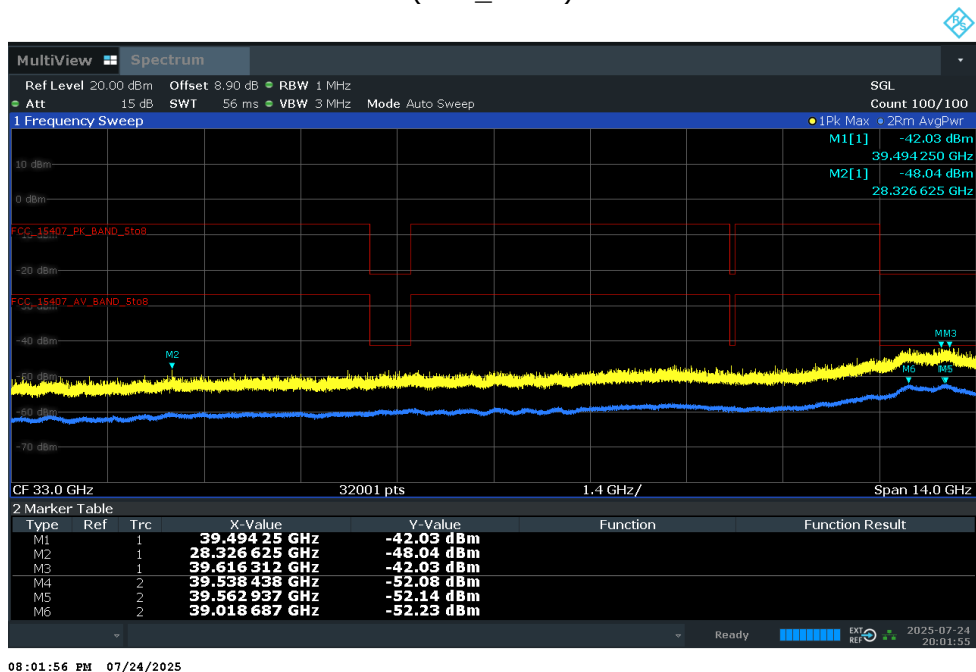


04:18:43 PM 07/24/2025



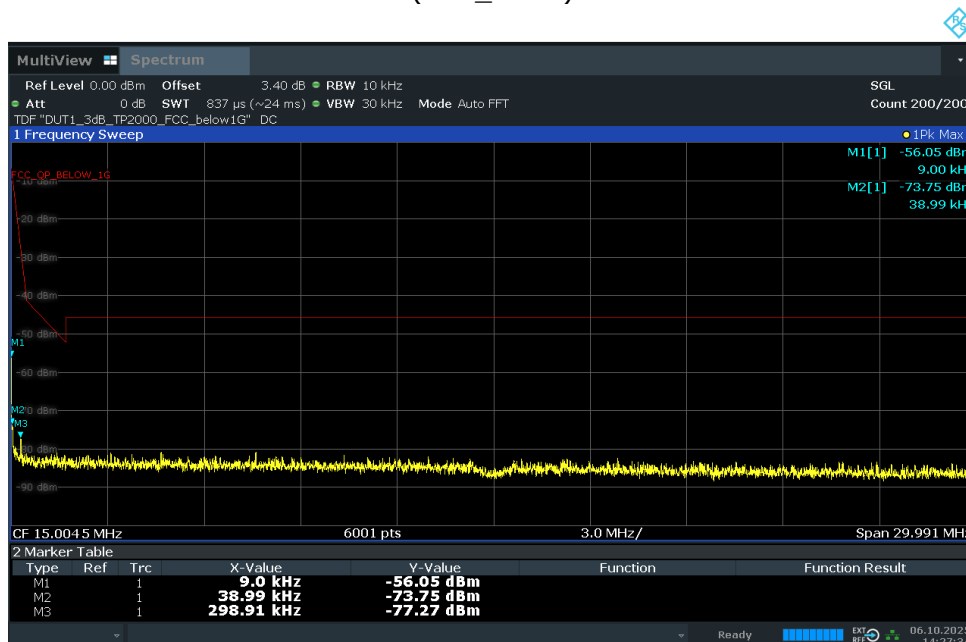
06:47:53 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-5
(S01_BC01)



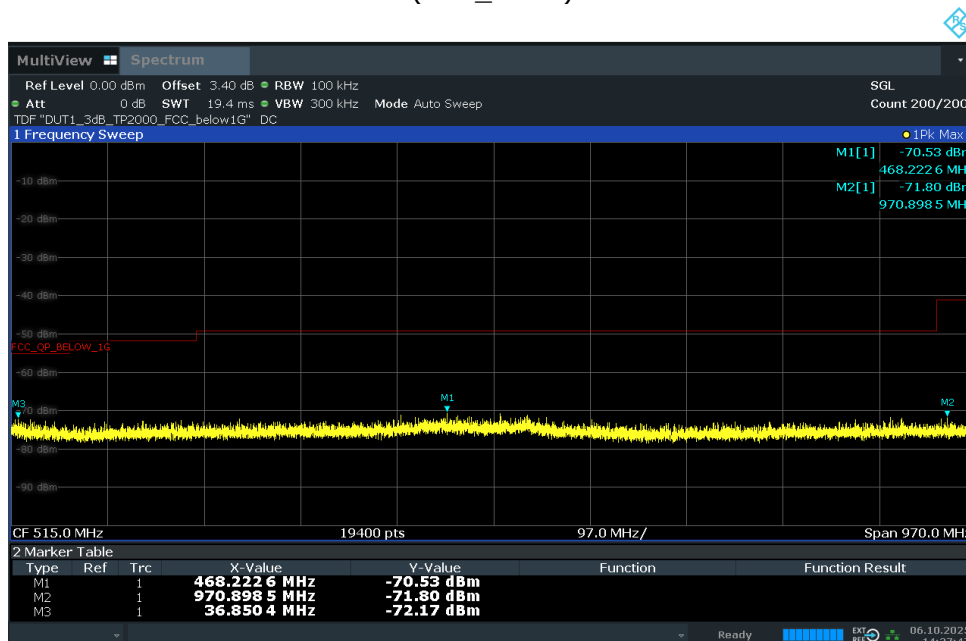
08:01:56 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
9kHz - 30MHz, Subband = U-NII-5
(S01_BC01)



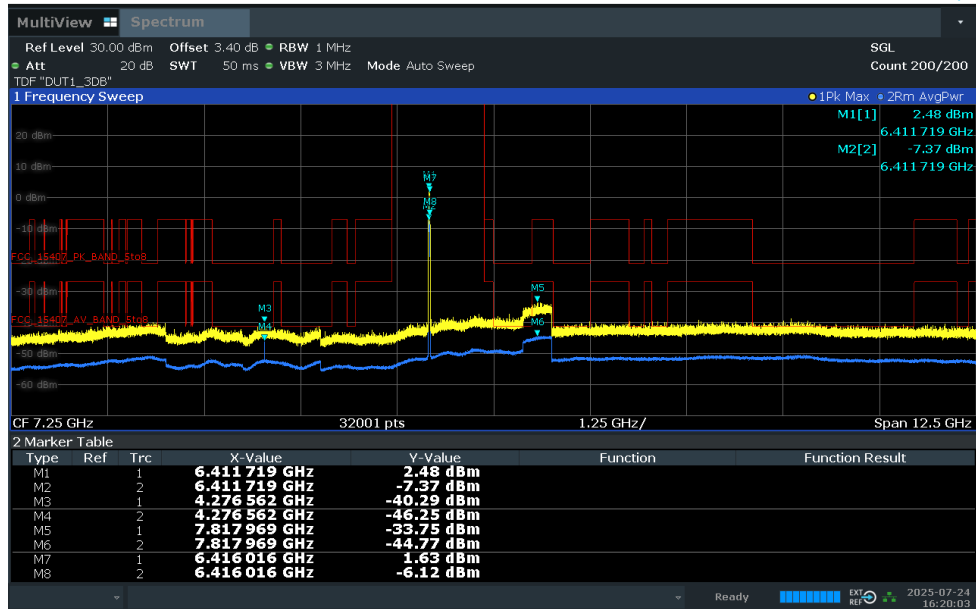
14:27:35 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
30MHz - 1GHz, Subband = U-NII-5
(S01_BC01)

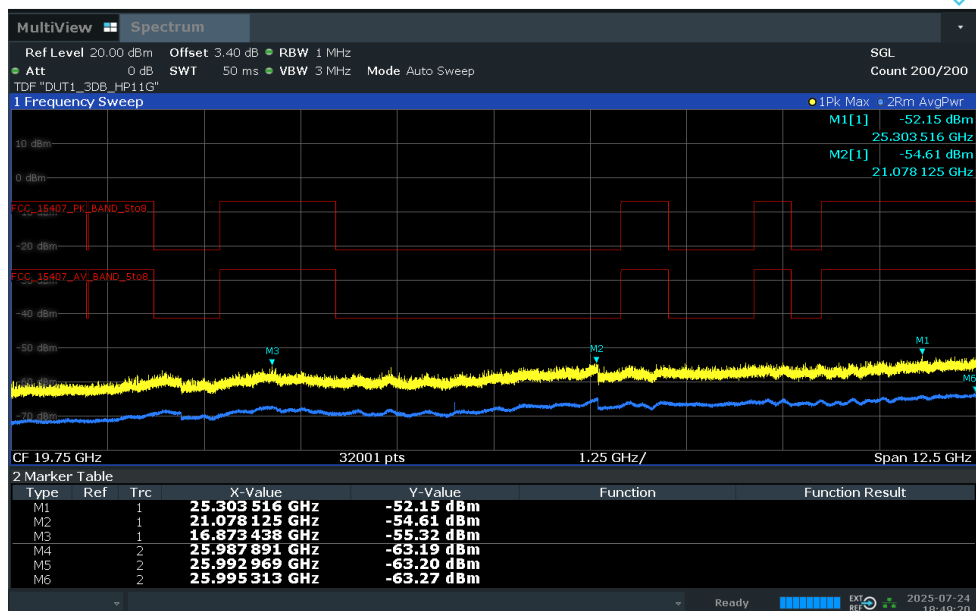


14:27:48 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
1GHz - 26GHz, Subband = U-NII-5
(S01_BC01)

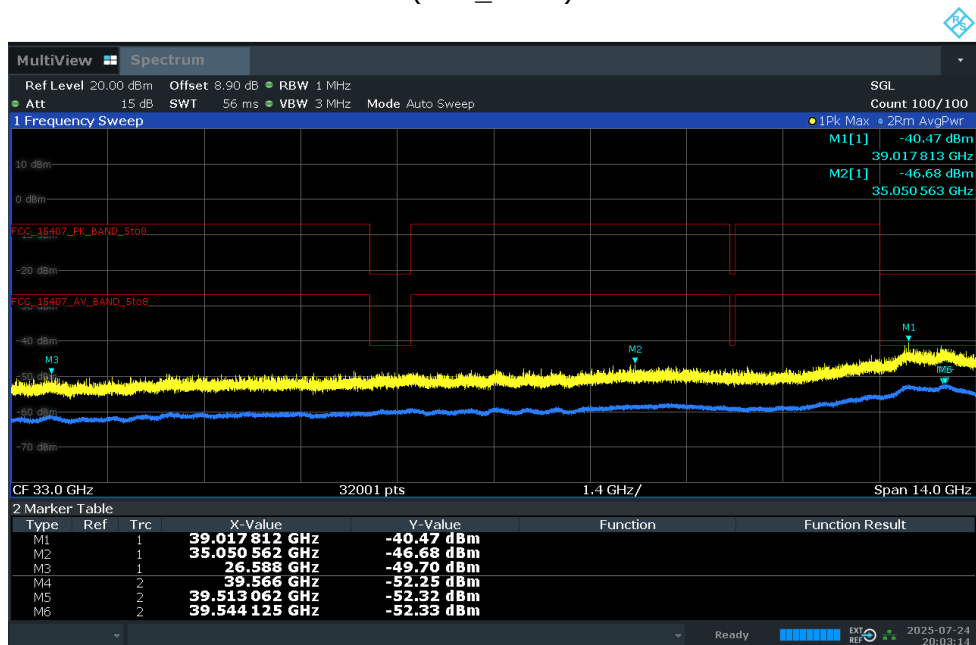


04:20:04 PM 07/24/2025



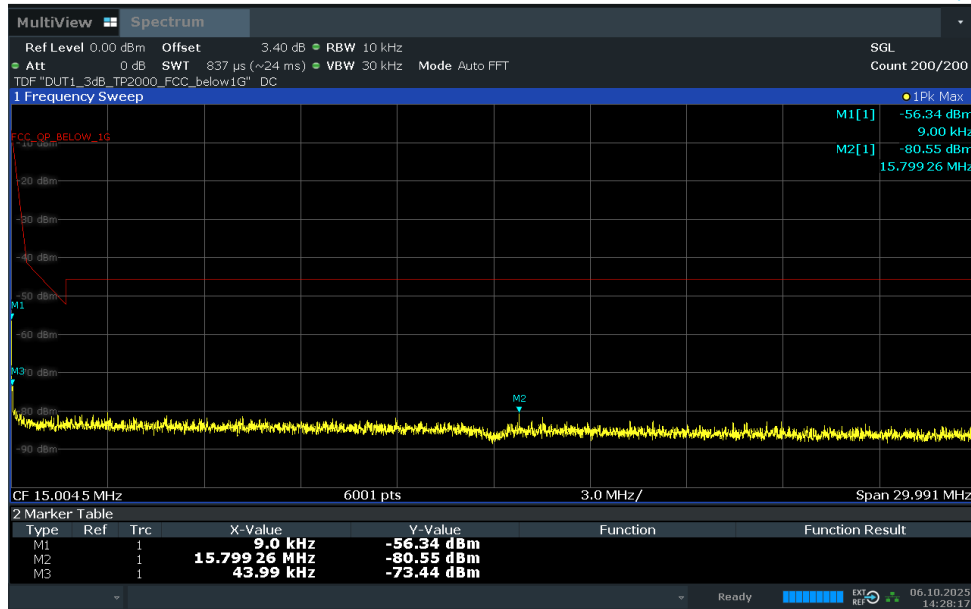
06:49:20 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
26GHz - 40GHz, Subband = U-NII-5
(S01_BC01)

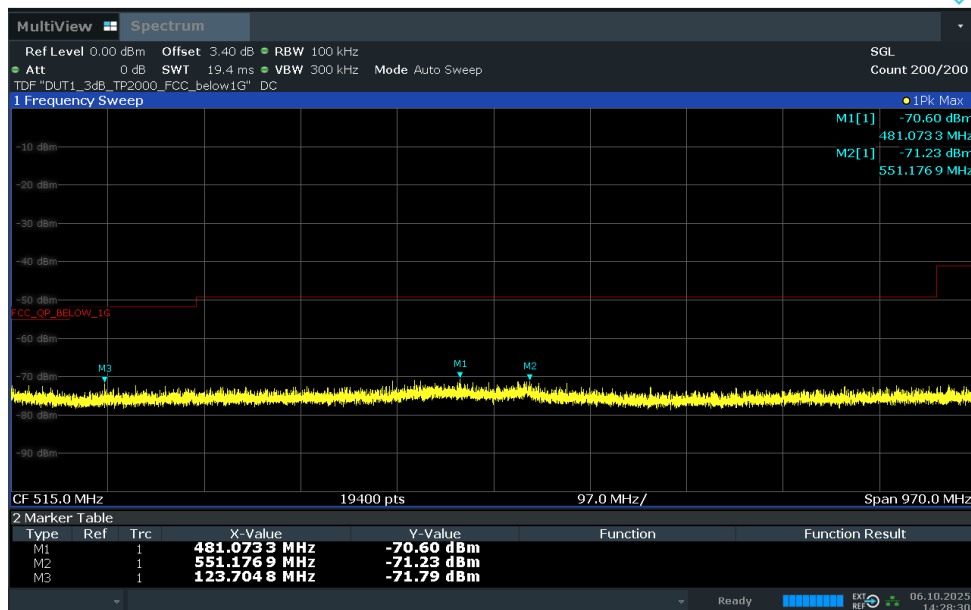


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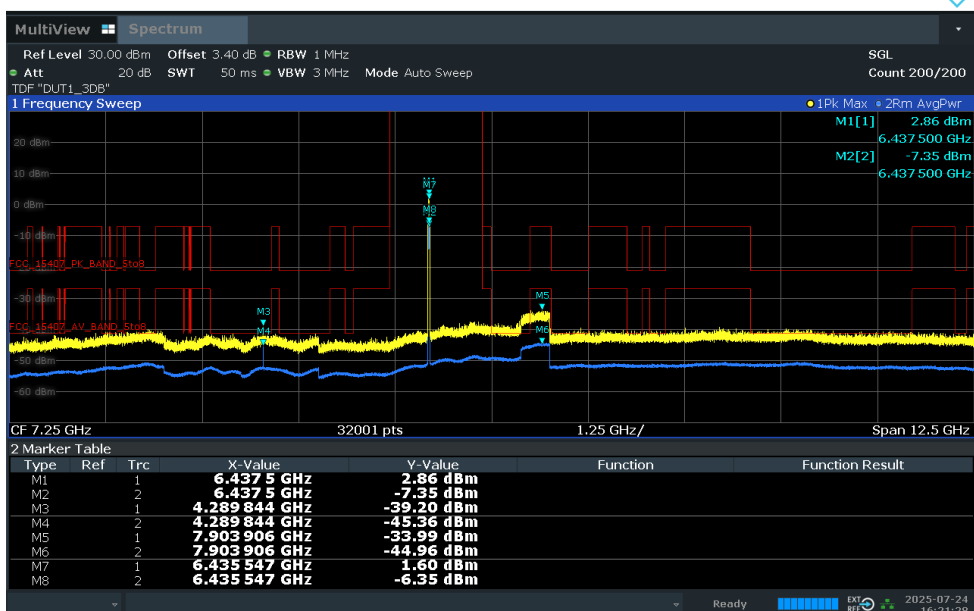
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
9kHz - 30MHz, Subband = U-NII-6
(S01_BC01)



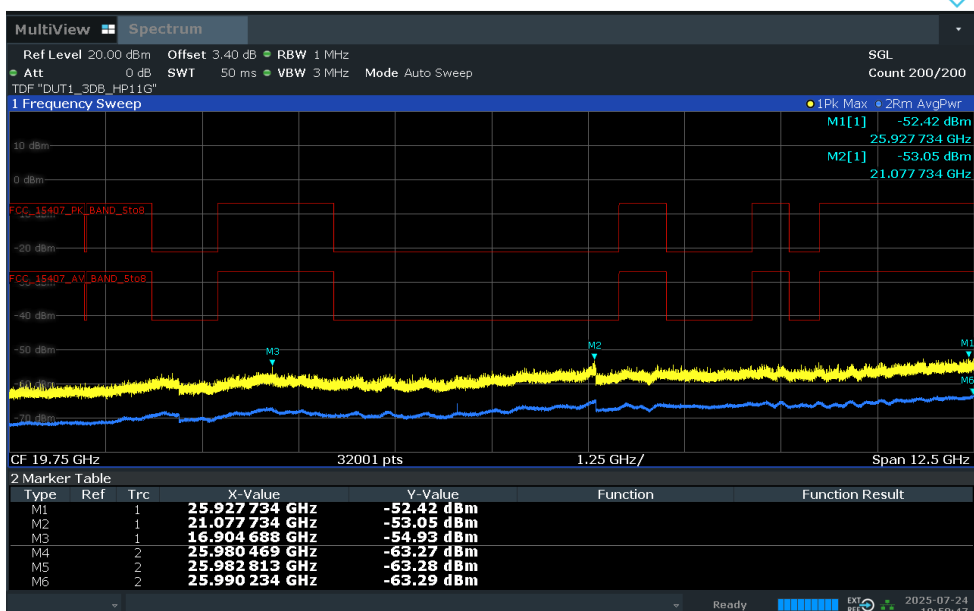
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
30MHz - 1GHz, Subband = U-NII-6
(S01_BC01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
1GHz - 26GHz, Subband = U-NII-6
(S01_BC01)

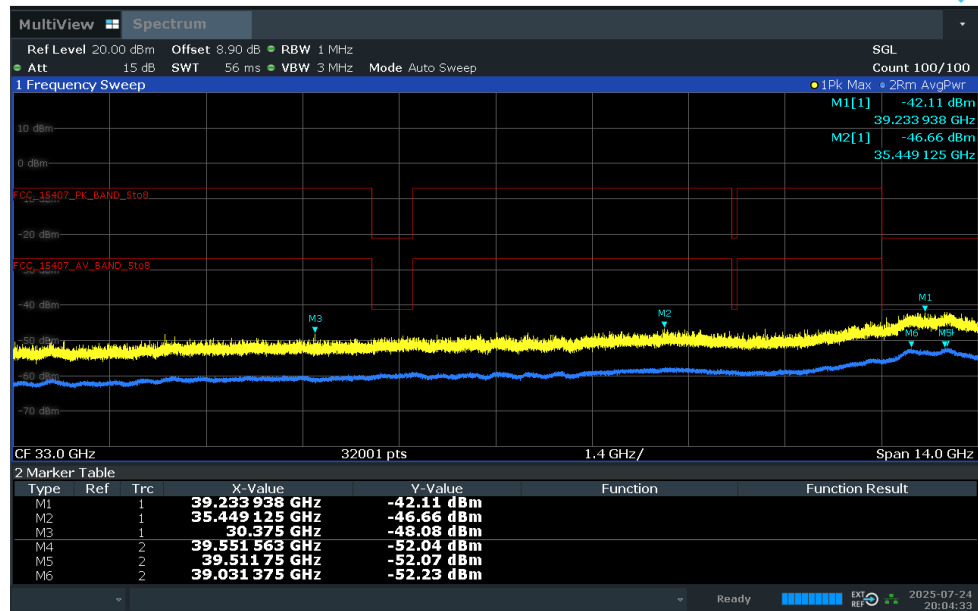


04:21:29 PM 07/24/2025



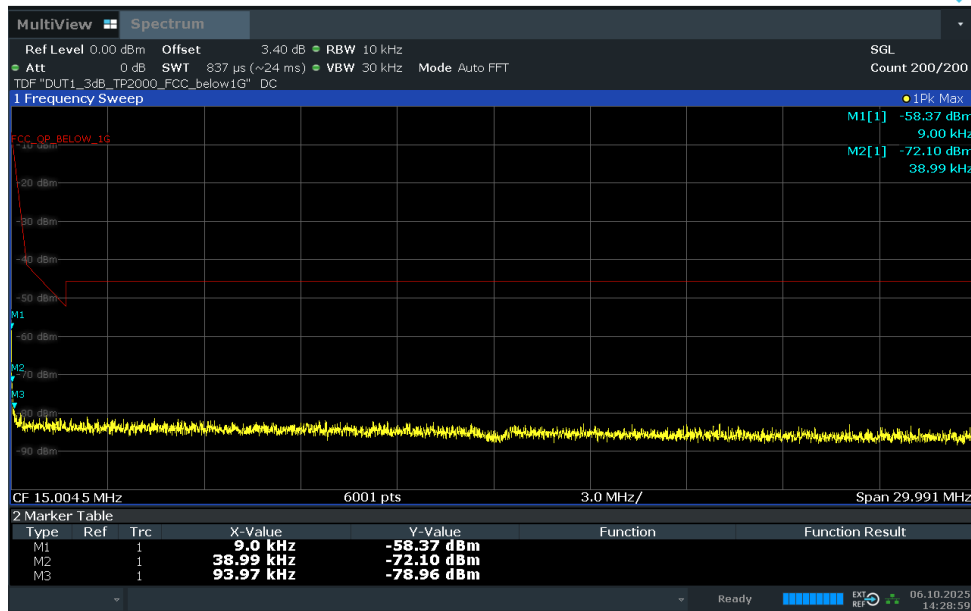
06:50:47 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
26GHz - 40GHz, Subband = U-NII-6
(S01_BC01)



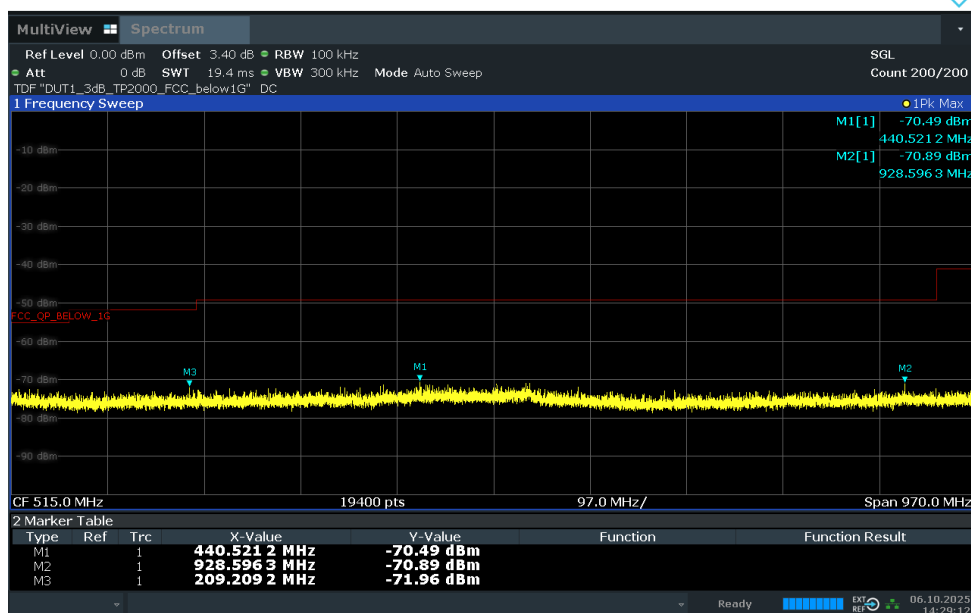
08:04:33 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
9kHz - 30MHz, Subband = U-NII-6
(S01_BC01)



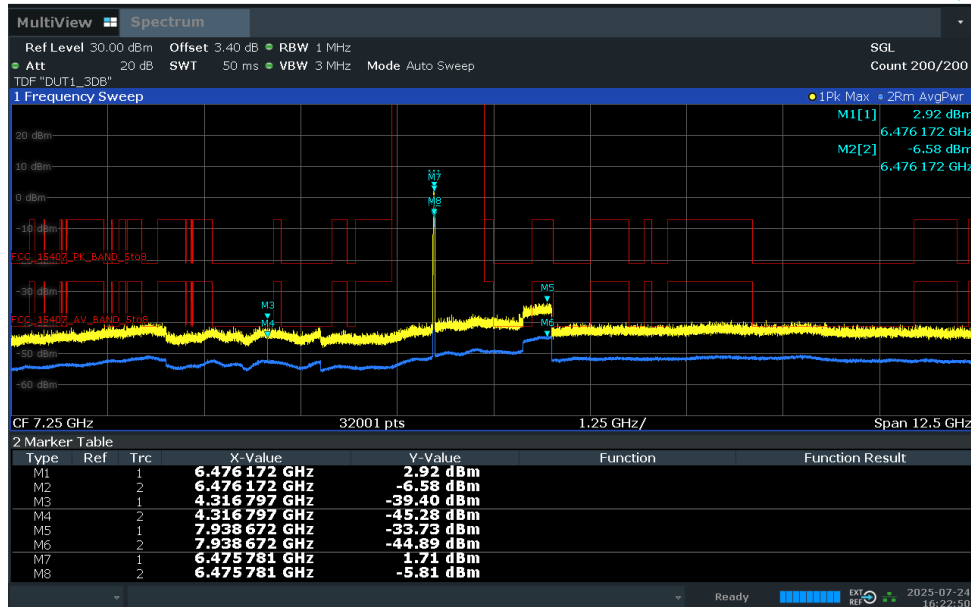
14:29:00 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
30MHz - 1GHz, Subband = U-NII-6
(S01_BC01)

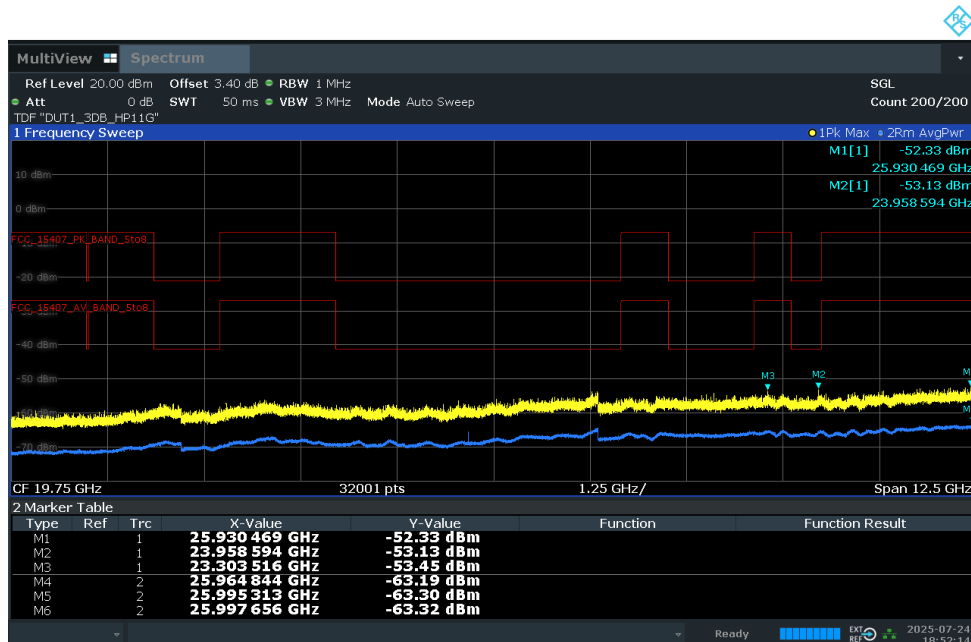


14:29:13 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-6 (S01_BC01)

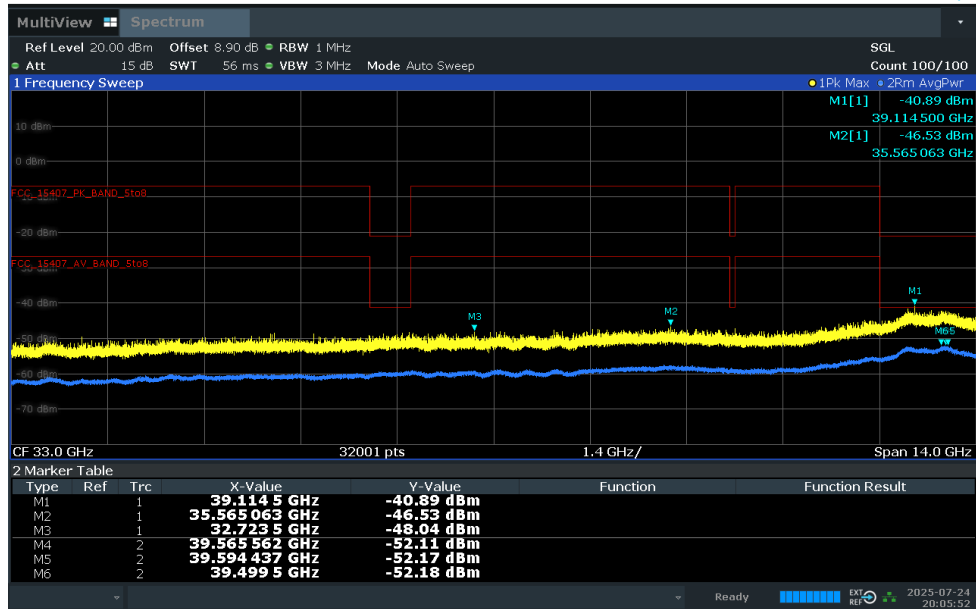


04:22:51 PM 07/24/2025



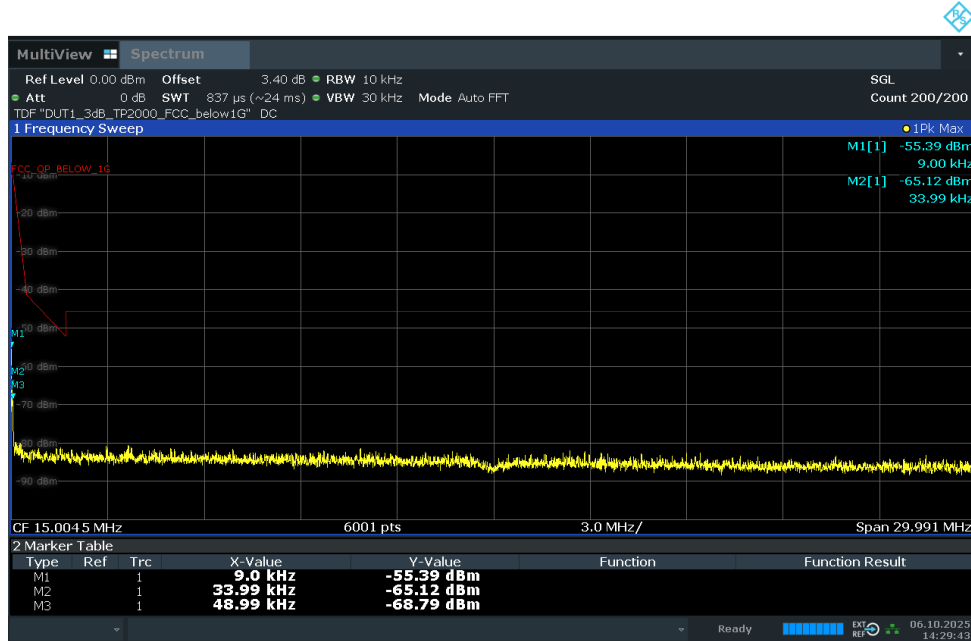
06:52:14 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-6
(S01_BC01)



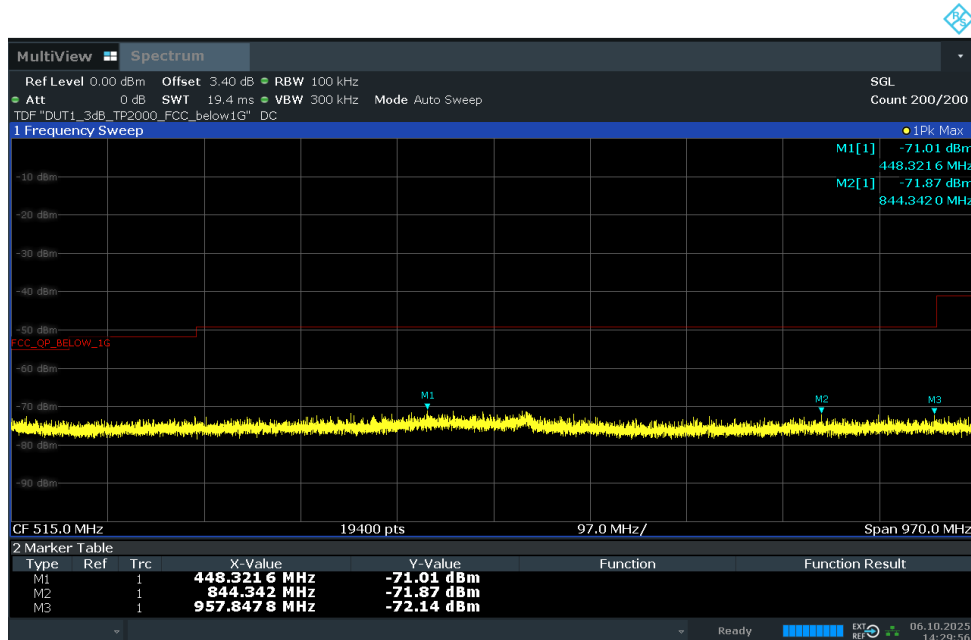
08:05:53 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
9kHz - 30MHz, Subband = U-NII-6
(S01_BC01)



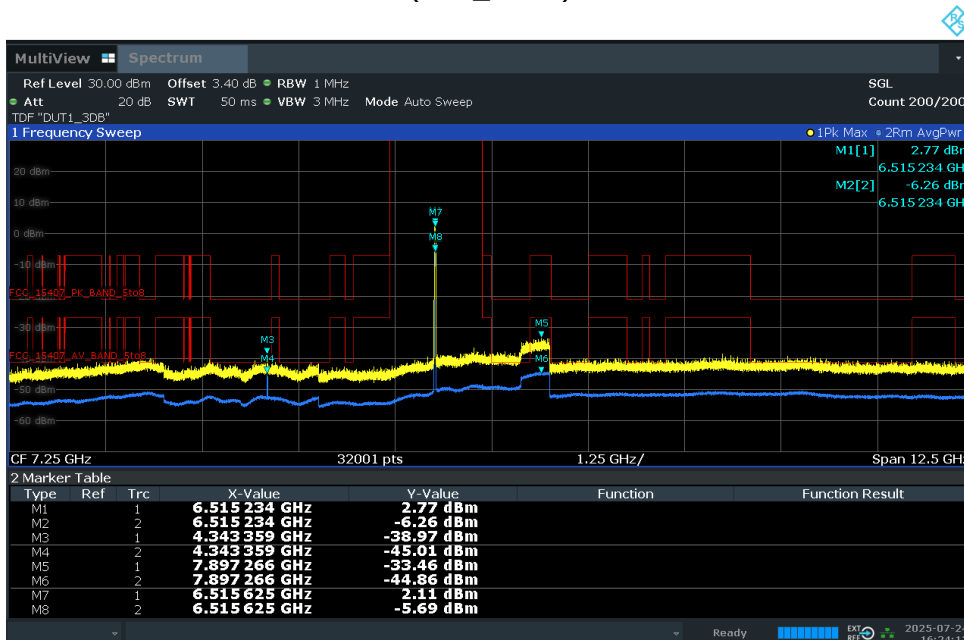
14:29:43 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
30MHz - 1GHz, Subband = U-NII-6
(S01_BC01)

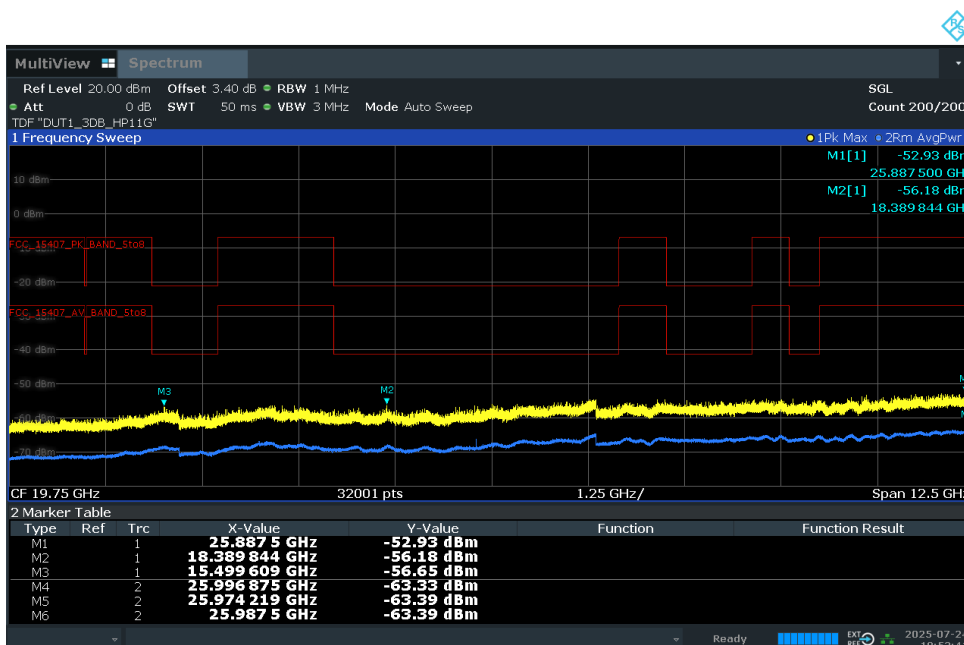


14:29:56 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 1GHz - 26GHz, Subband = U-NII-6 (S01_BC01)

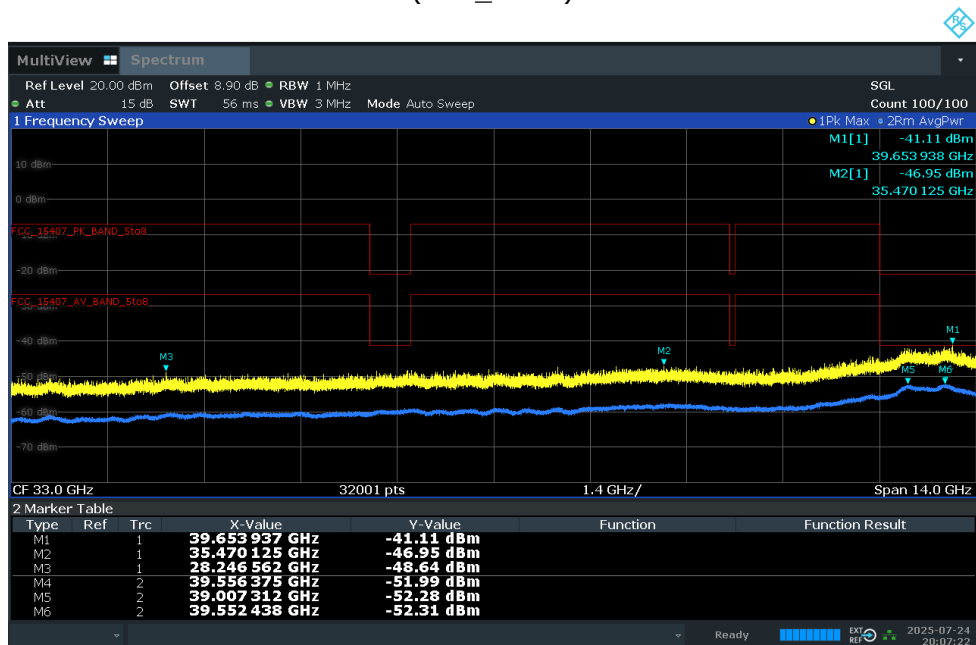


04:24:13 PM 07/24/2025



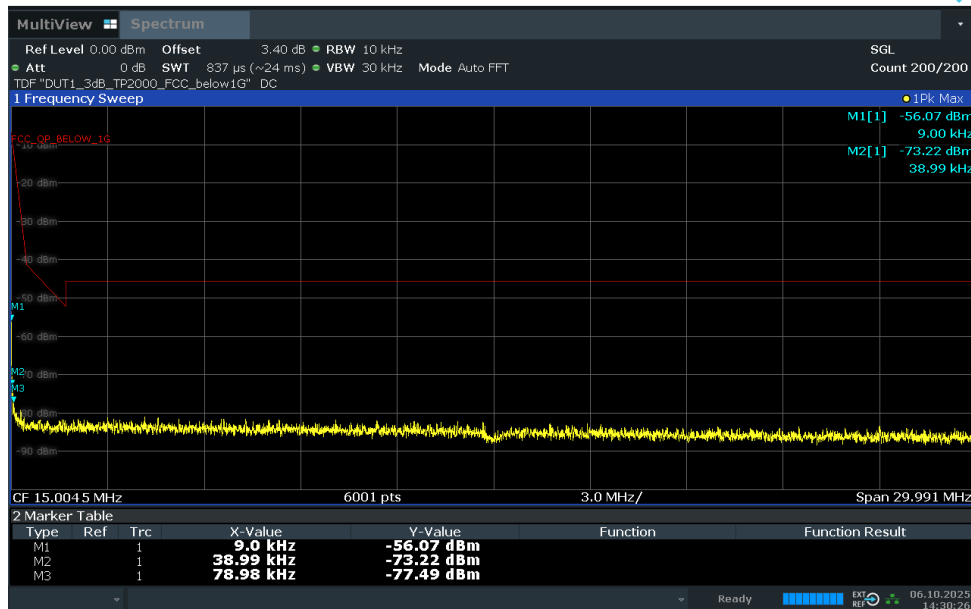
06:53:42 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
26GHz - 40GHz, Subband = U-NII-6
(S01_BC01)



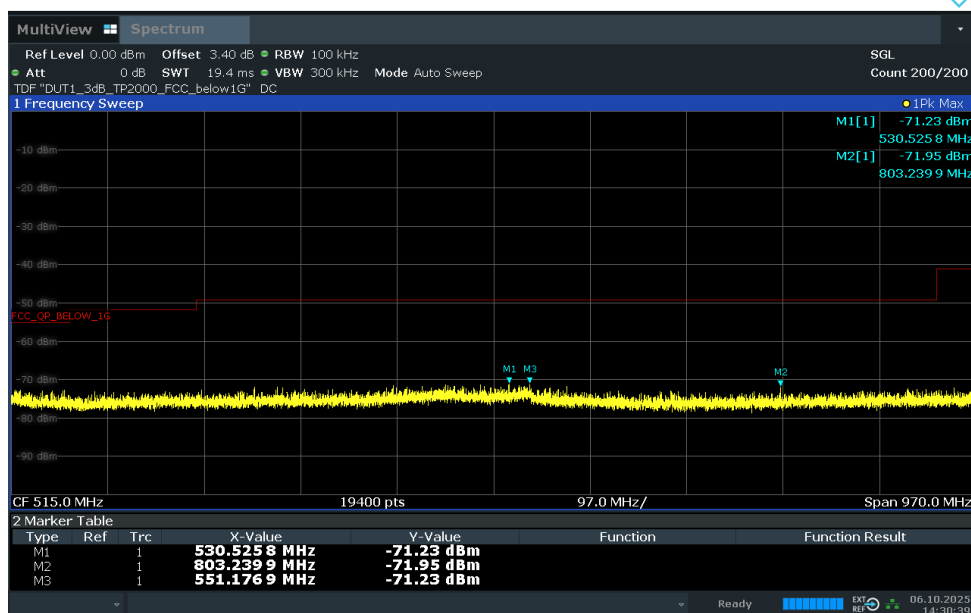
08:07:23 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 9kHz - 30MHz, Subband = U-NII-7 (S01_BC01)



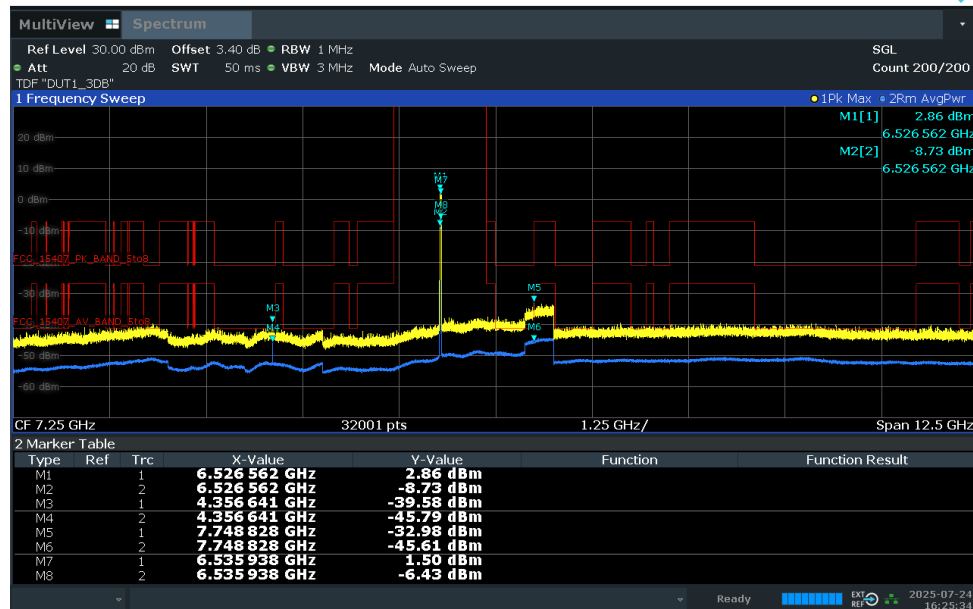
14:30:26 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 30MHz - 1GHz, Subband = U-NII-7 (S01_BC01)

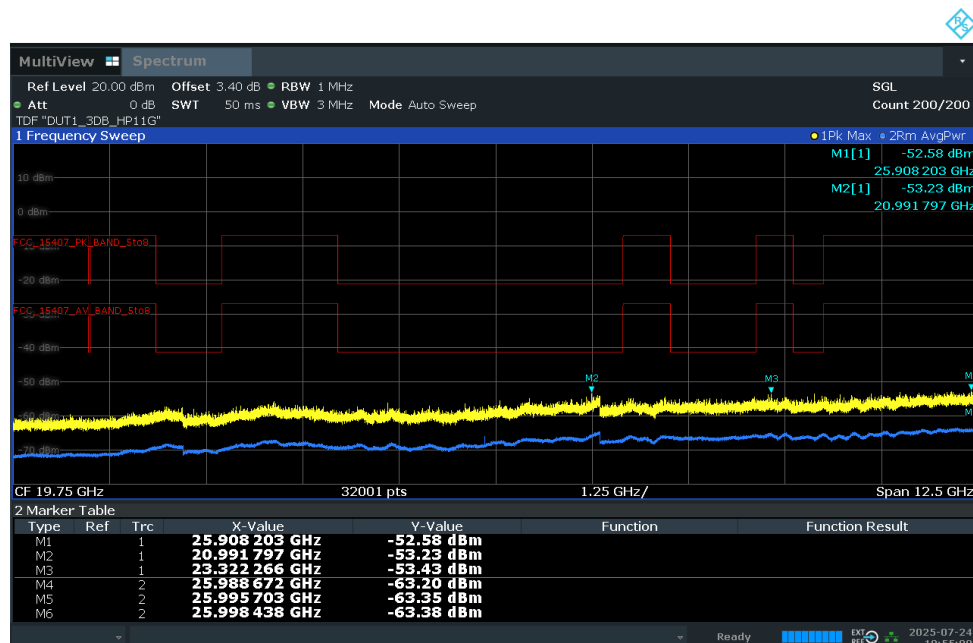


14:30:39 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-7 (S01_BC01)

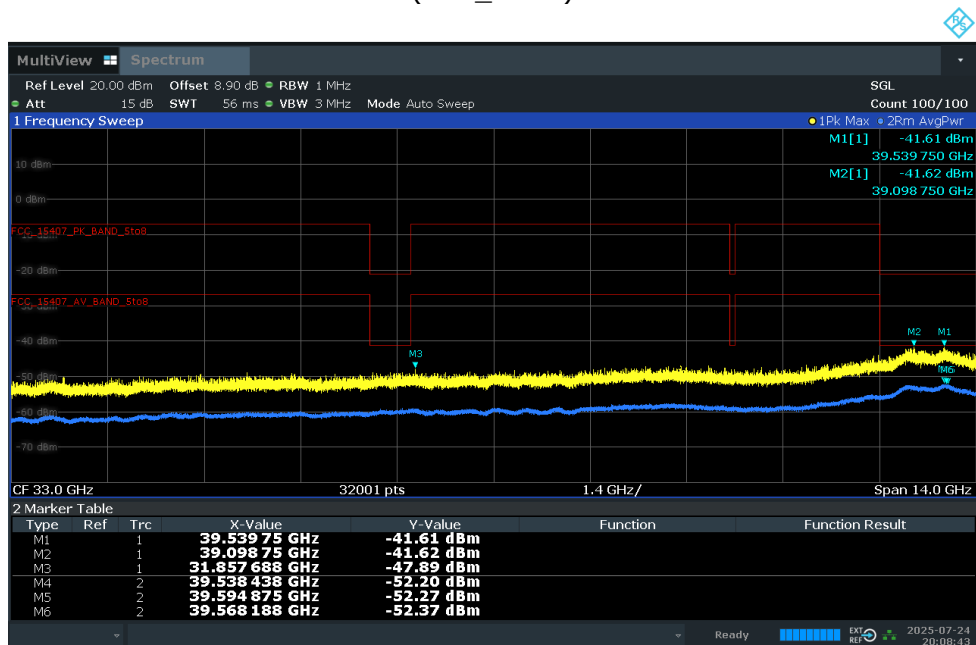


04:25:35 PM 07/24/2025



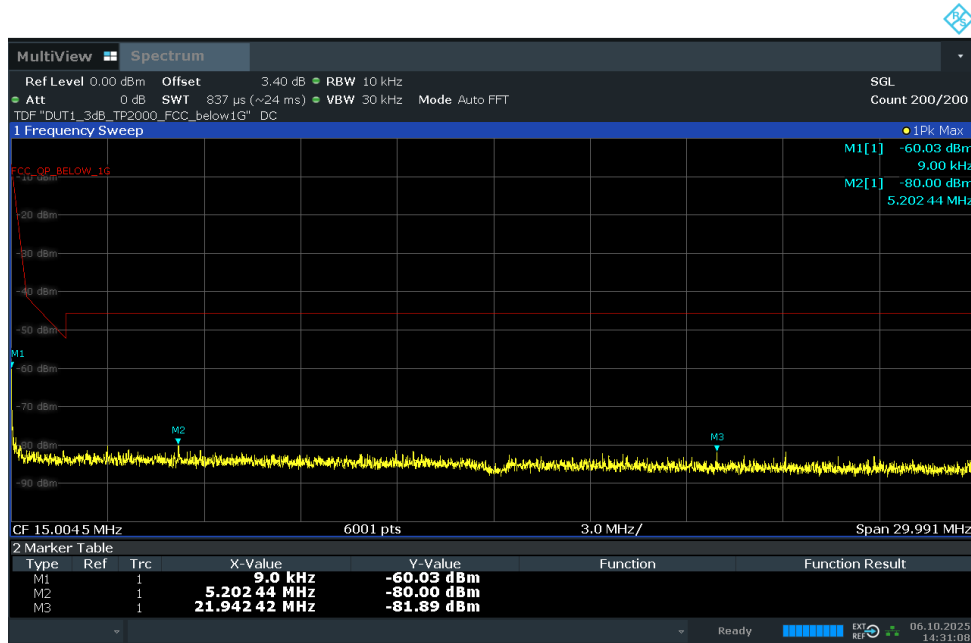
06:55:09 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
26GHz - 40GHz, Subband = U-NII-7
(S01_BC01)



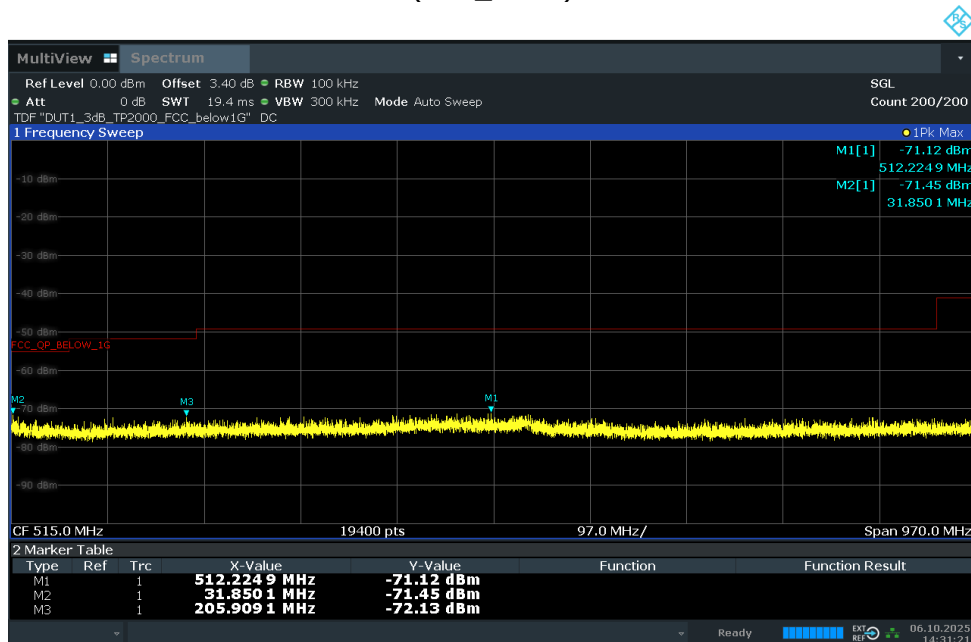
08:08:44 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-7 (S01_BC01)



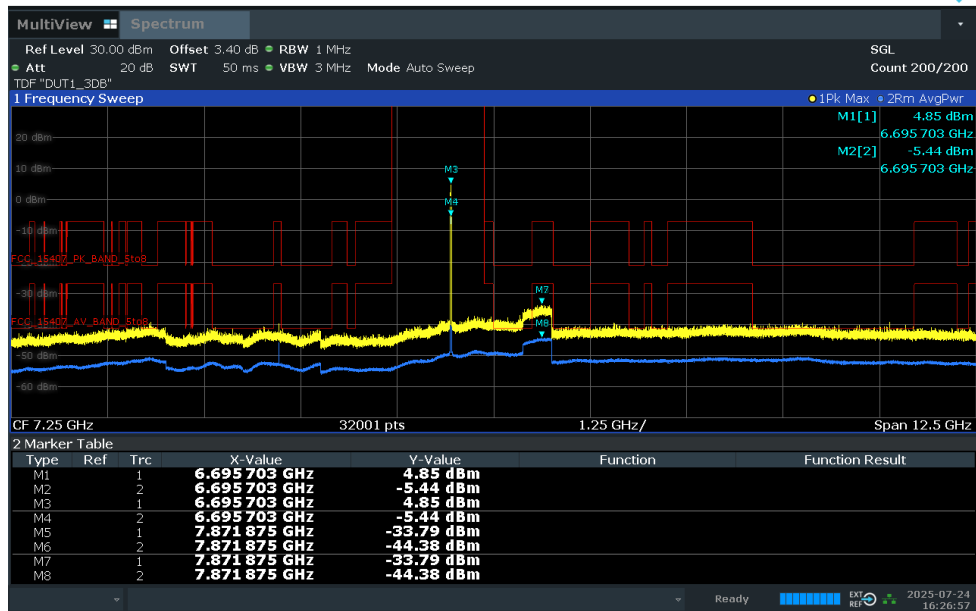
14:31:09 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-7 (S01_BC01)

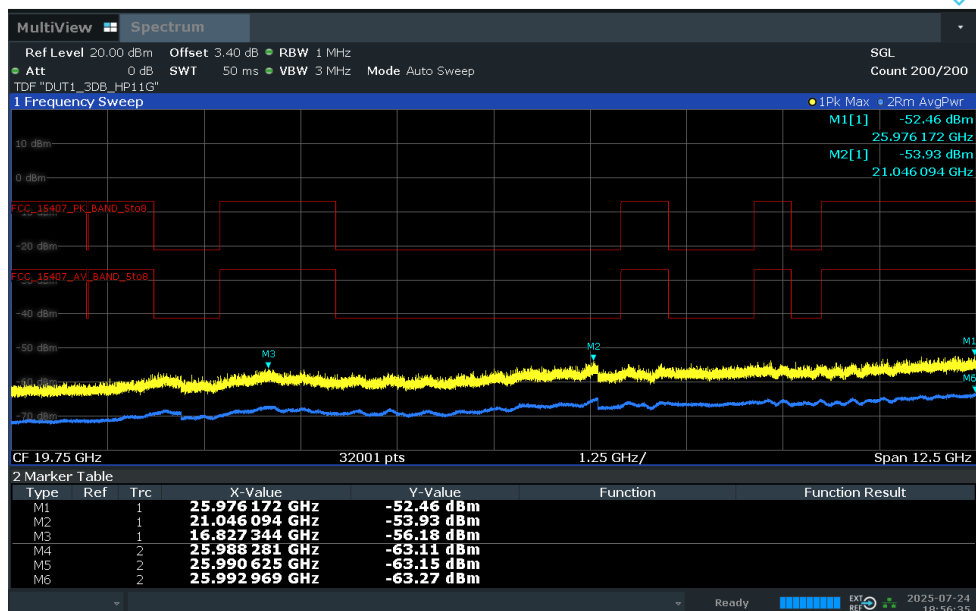


14:31:22 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
1GHz - 26GHz, Subband = U-NII-7
(S01_BC01)

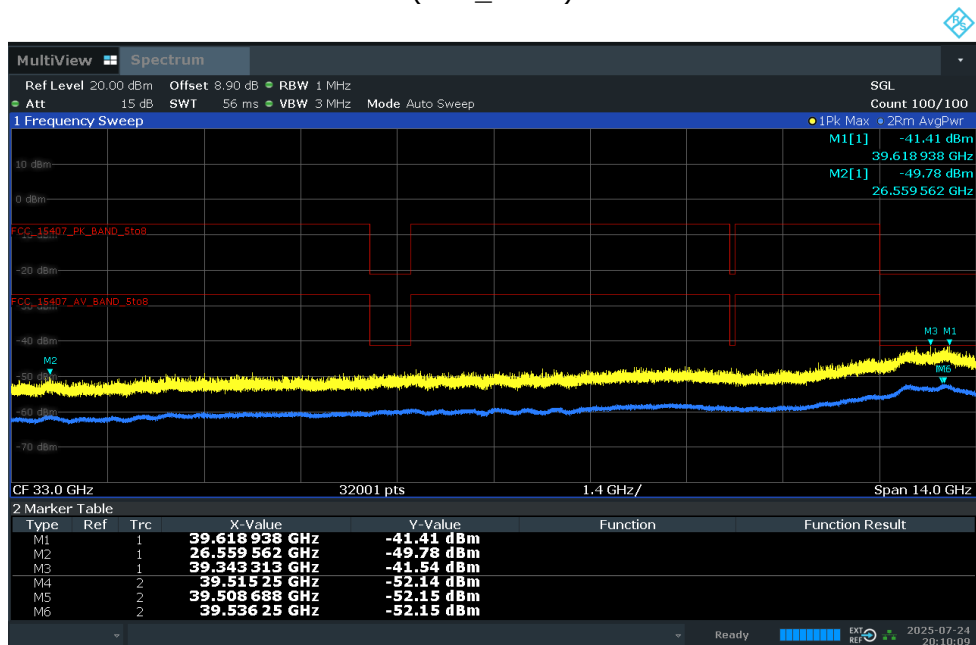


04:26:58 PM 07/24/2025



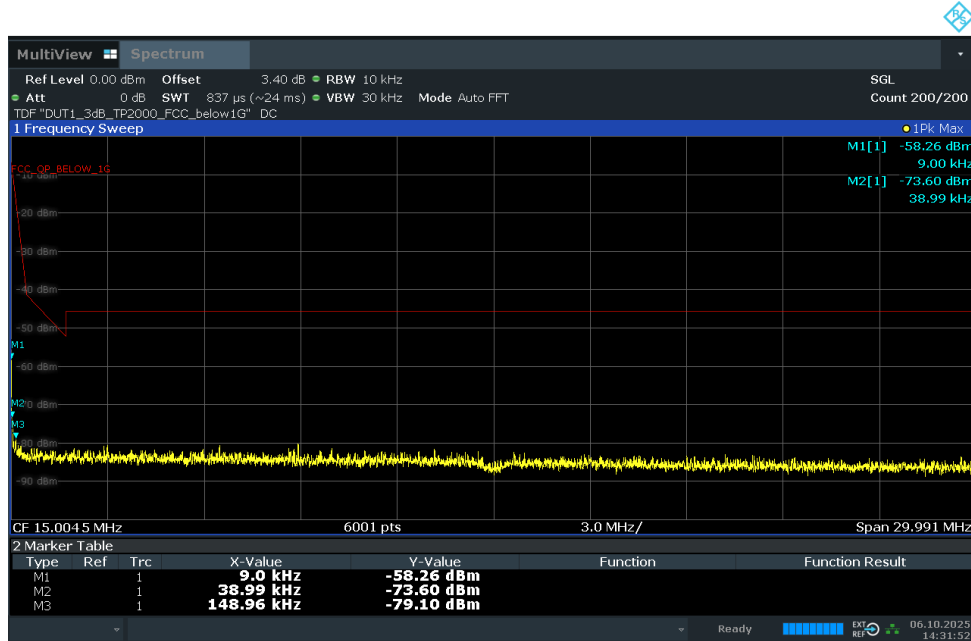
06:56:36 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-7
(S01_BC01)



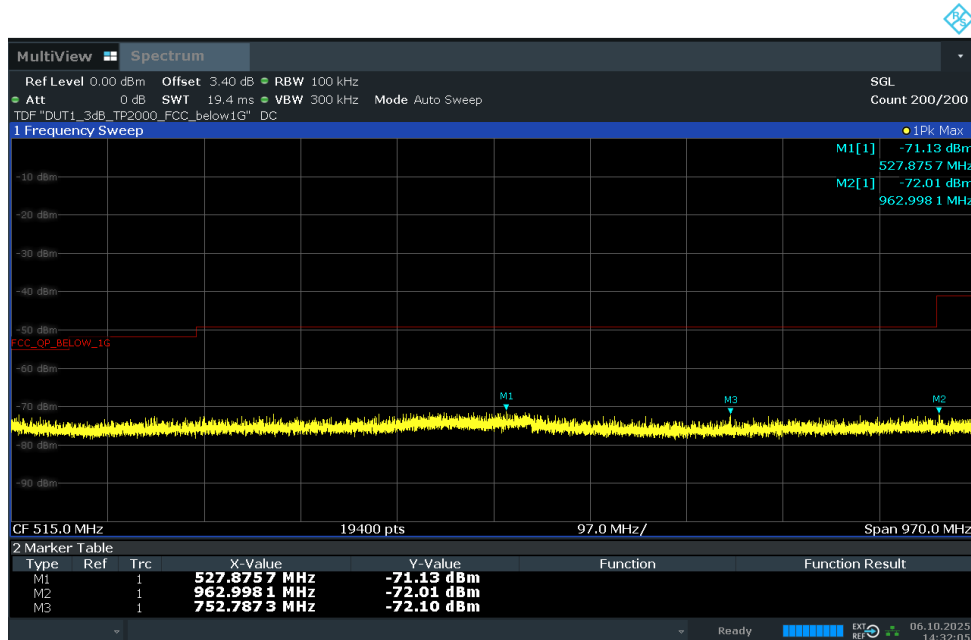
08:10:10 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
9kHz - 30MHz, Subband = U-NII-7
(S01_BC01)



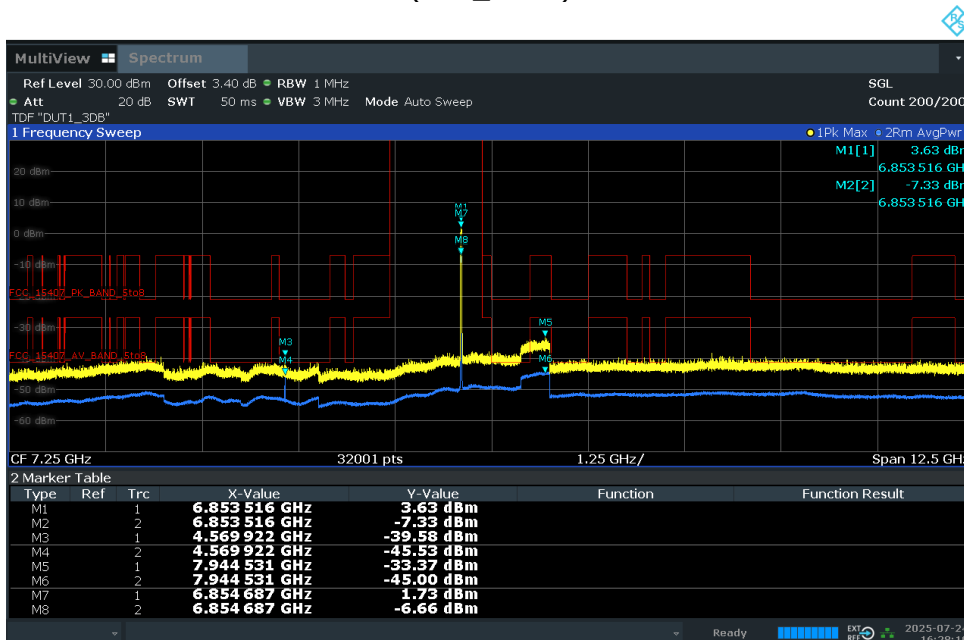
14:31:52 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
30MHz - 1GHz, Subband = U-NII-7
(S01_BC01)

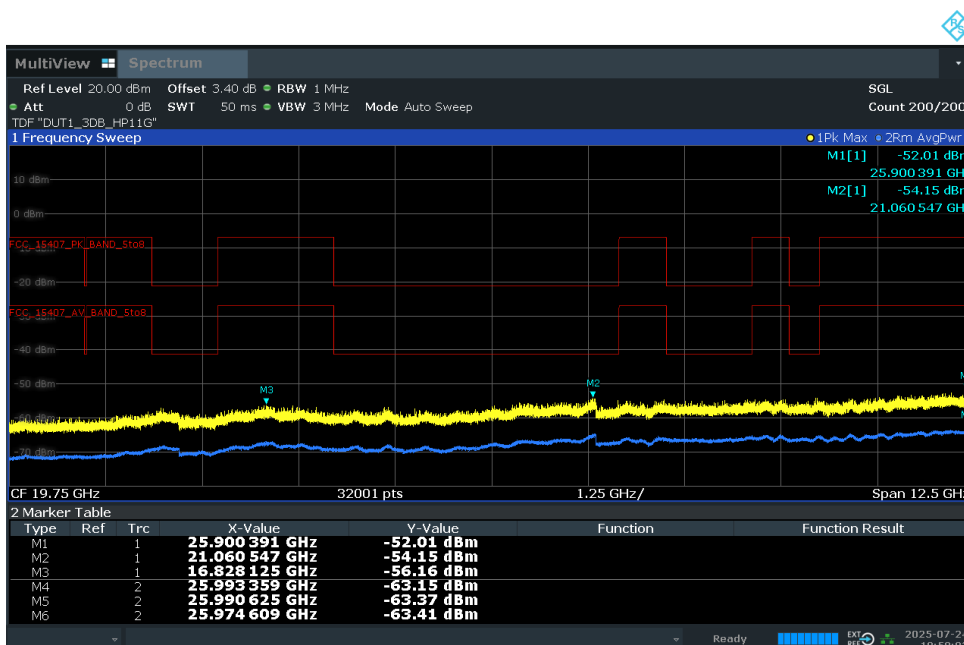


14:32:05 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 1GHz - 26GHz, Subband = U-NII-7 (S01_BC01)

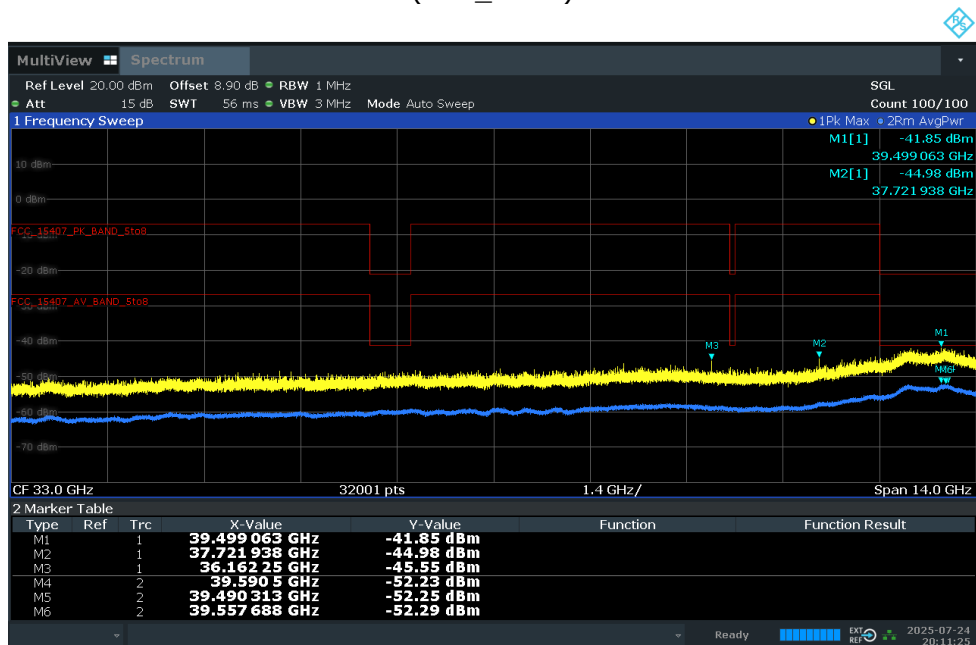


04:28:20 PM 07/24/2025



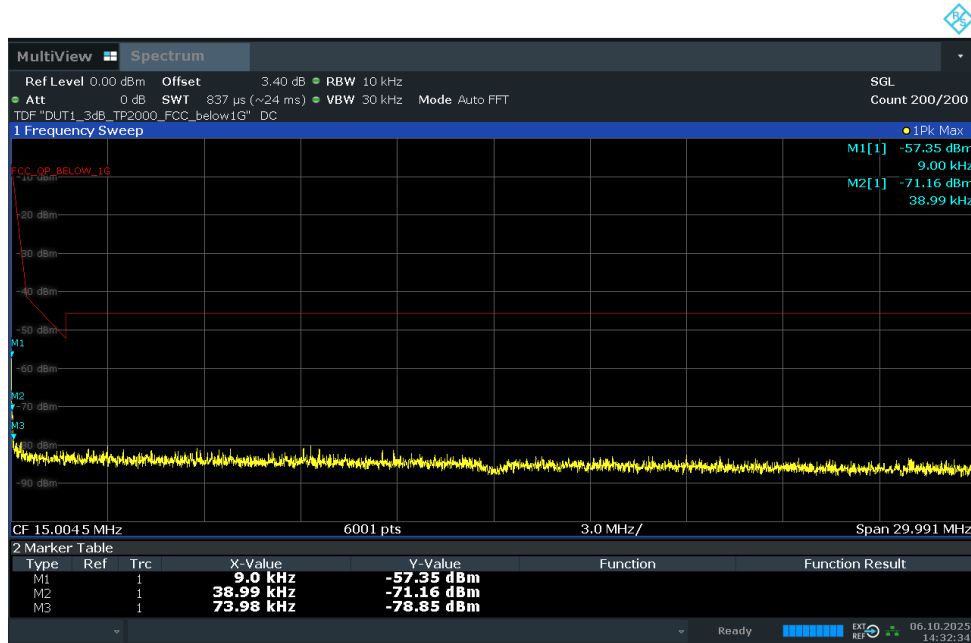
06:58:03 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
26GHz - 40GHz, Subband = U-NII-7
(S01_BC01)



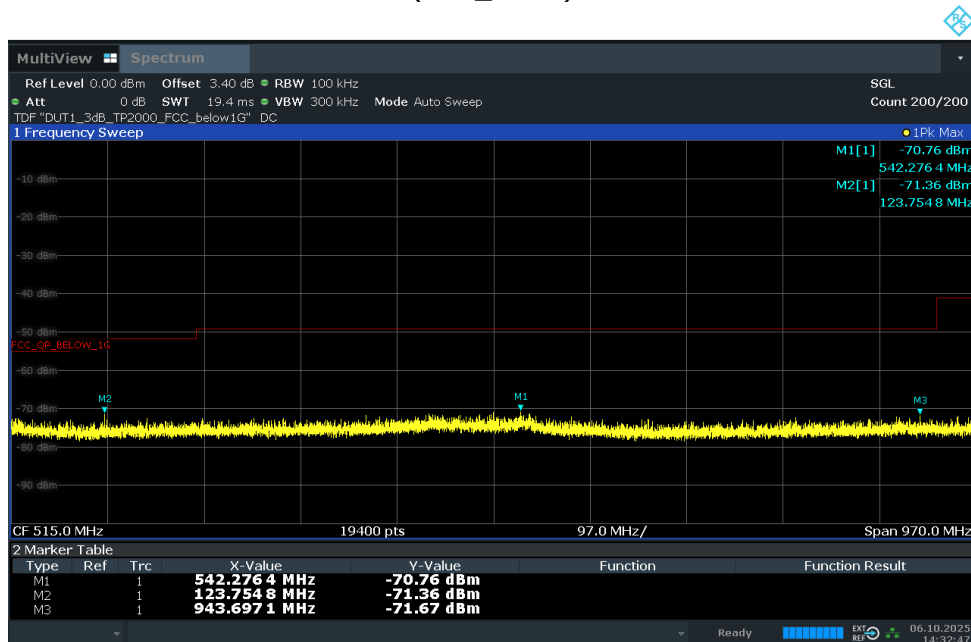
08:11:25 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 9kHz - 30MHz, Subband = U-NII-8 (S01_BC01)



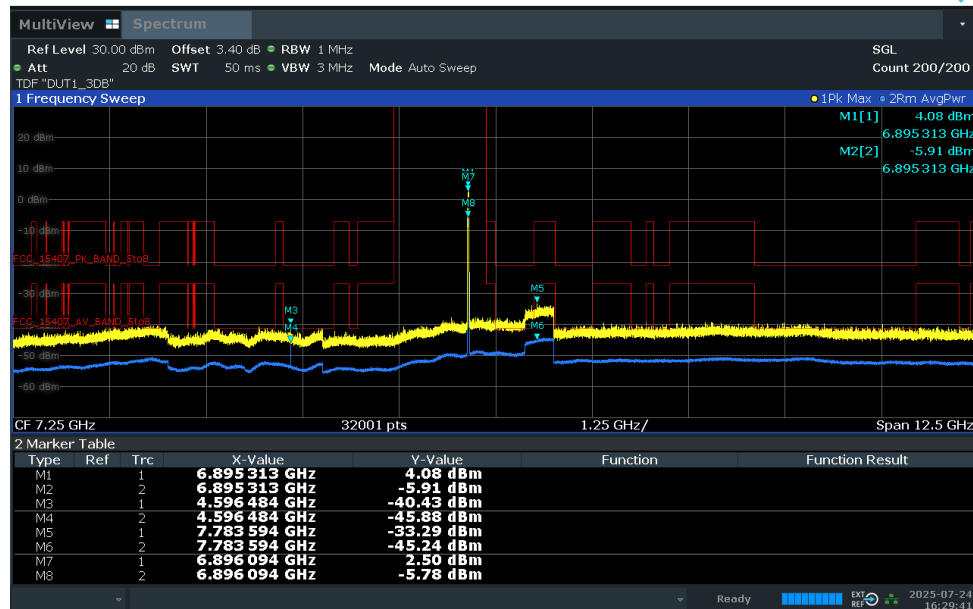
14:32:35 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 30MHz - 1GHz, Subband = U-NII-8 (S01_BC01)

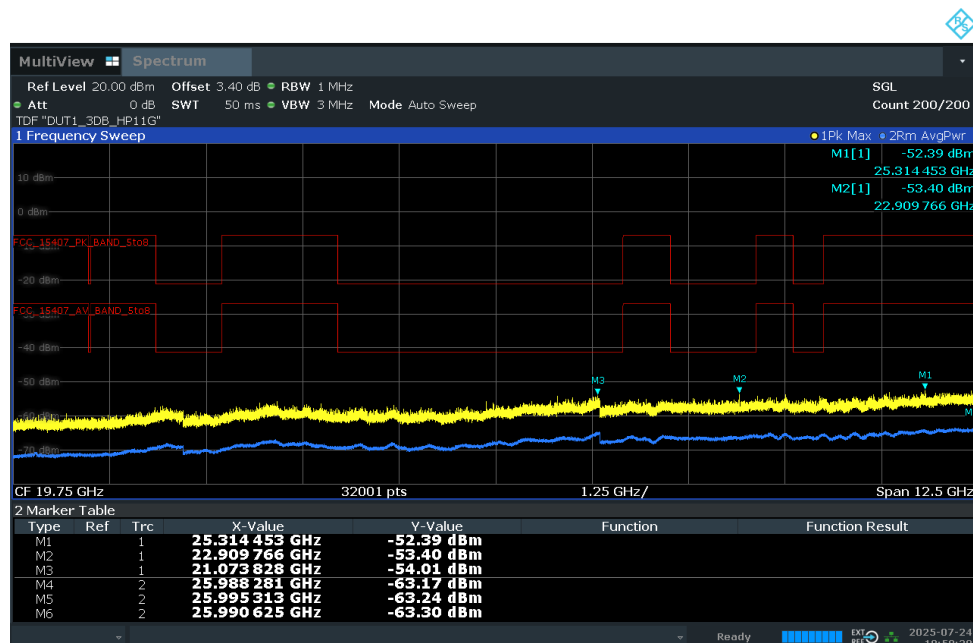


14:32:48 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-8 (S01_BC01)

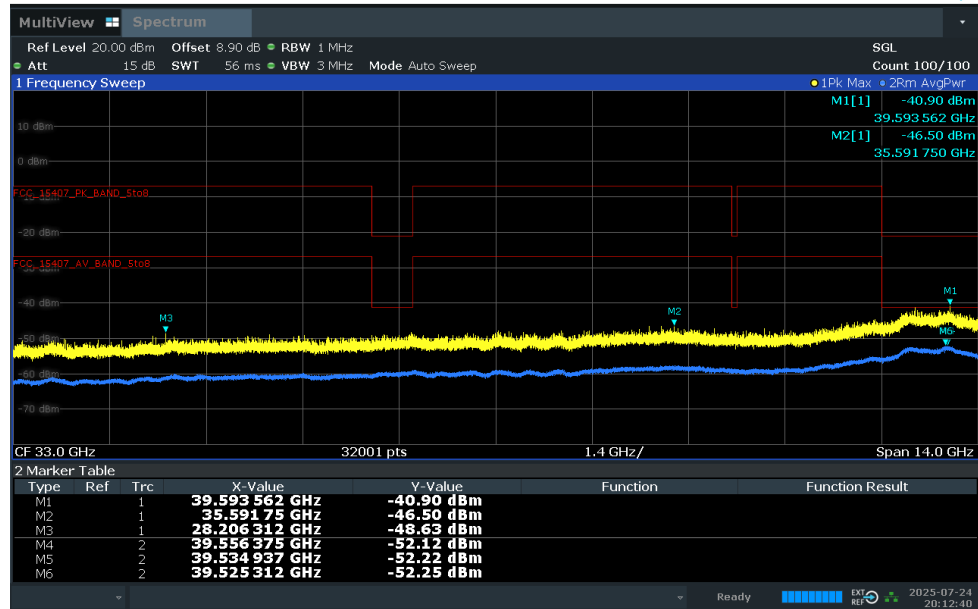


04:29:42 PM 07/24/2025



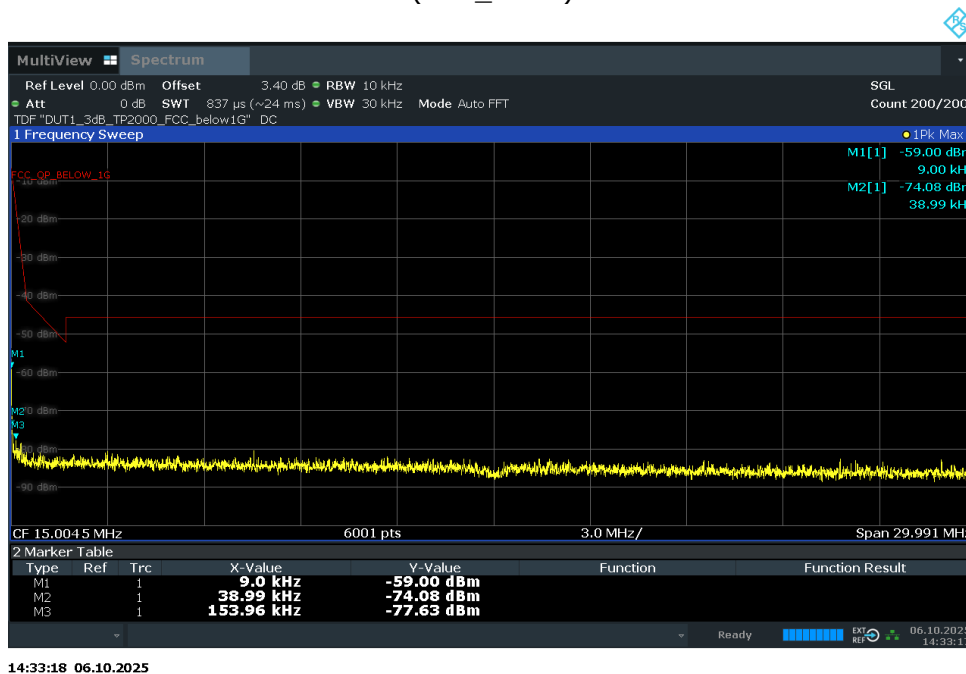
06:59:31 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =
26GHz - 40GHz, Subband = U-NII-8
(S01_BC01)



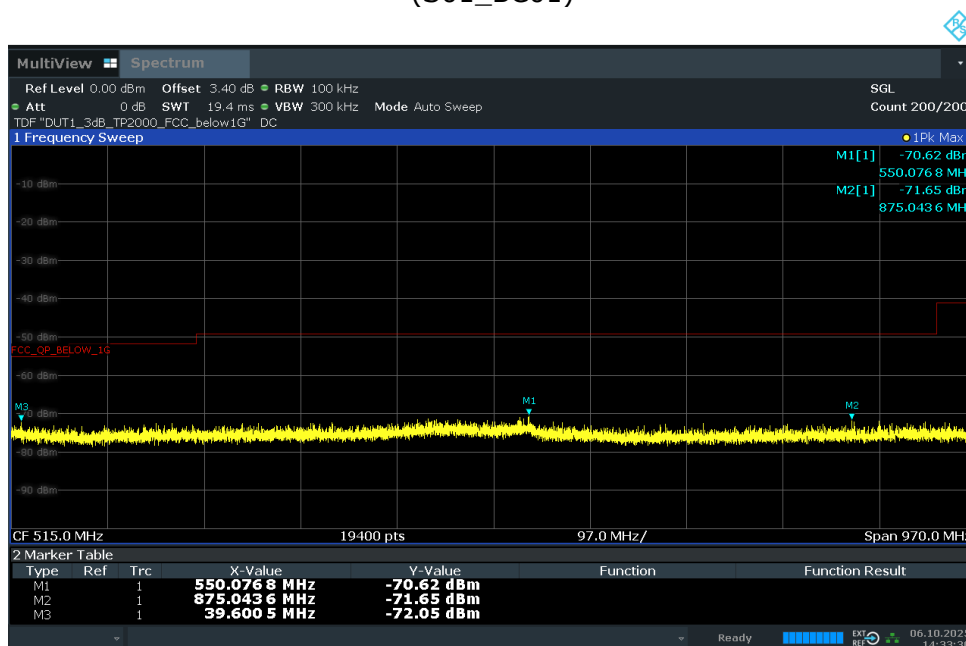
08:12:41 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-8 (S01_BC01)



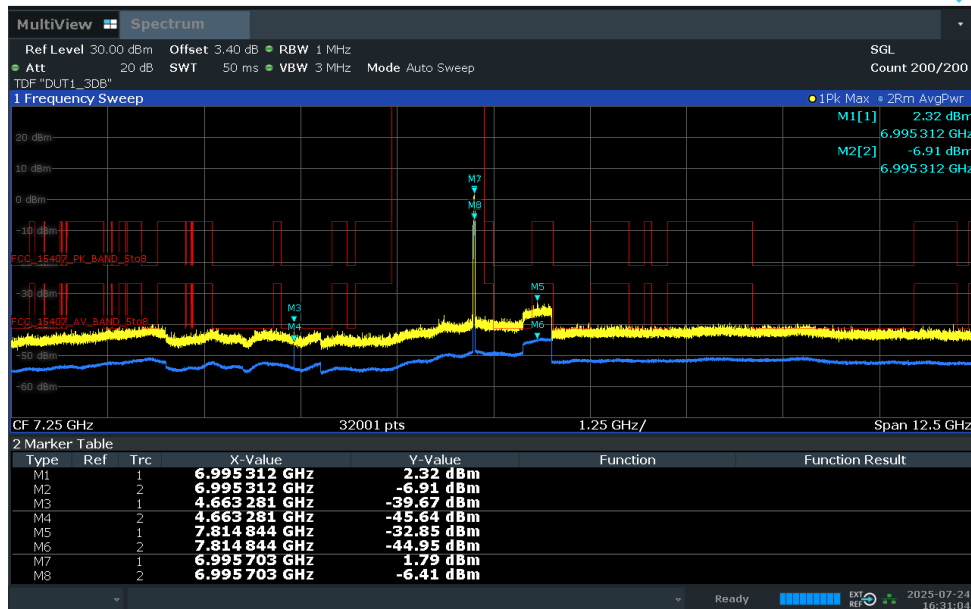
14:33:18 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-8 (S01_BC01)

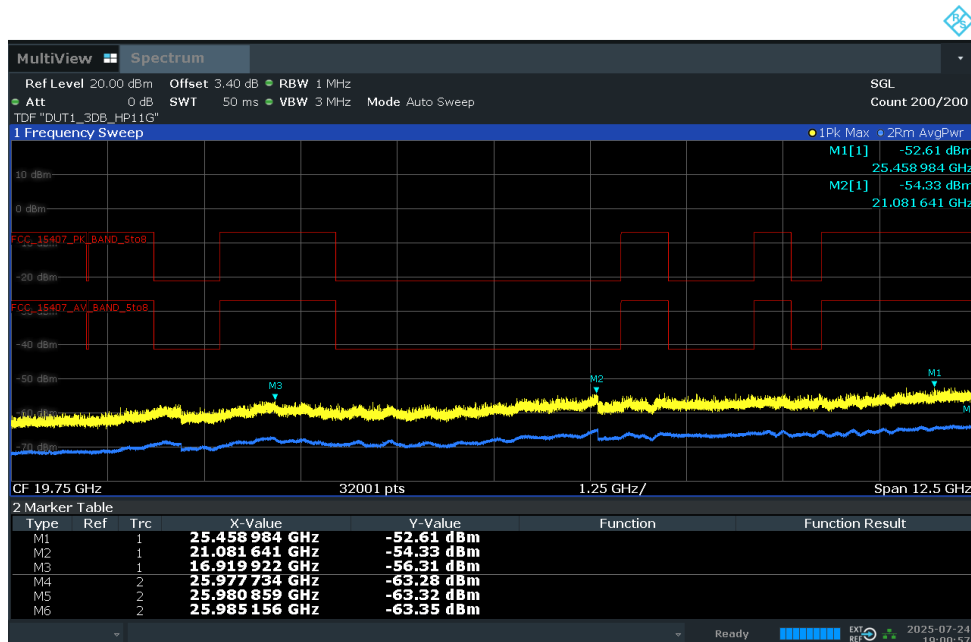


14:33:31 06.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-8 (S01_BC01)

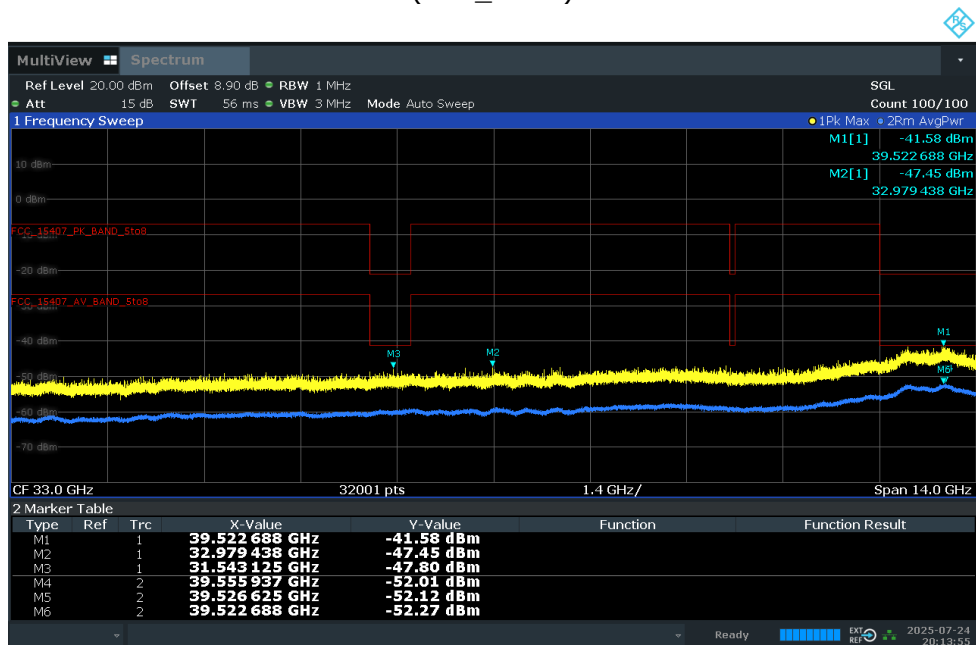


04:31:05 PM 07/24/2025



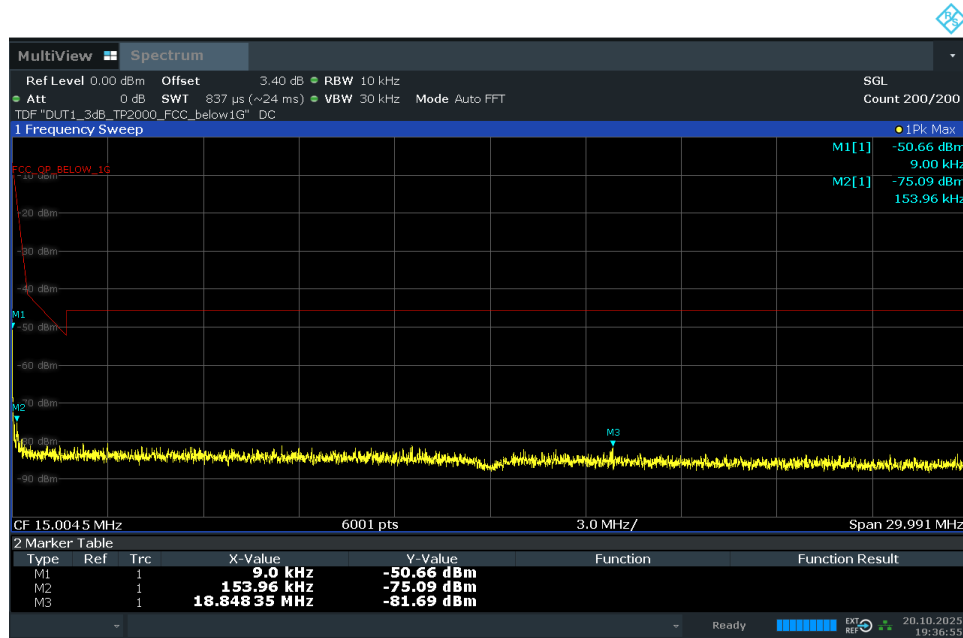
07:00:58 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-8
(S01_BC01)



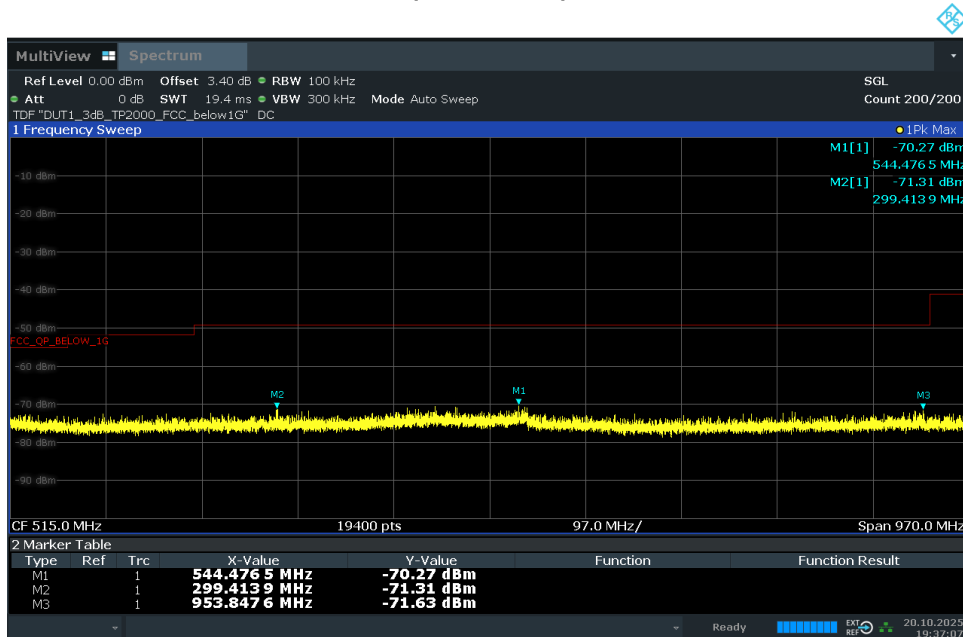
08:13:56 PM 07/24/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 9kHz - 30MHz, Subband = U-NII-8 (S01_BC01)



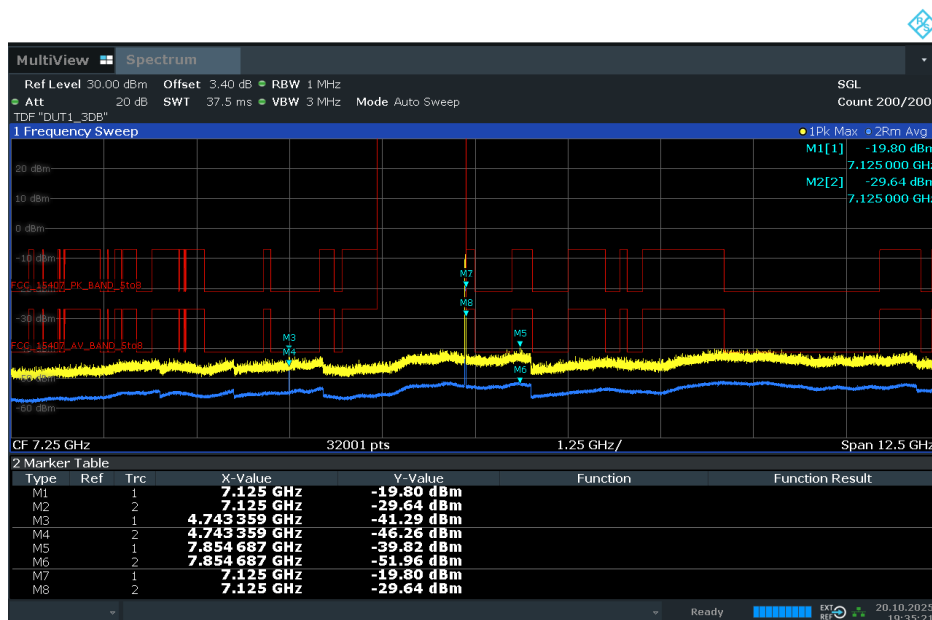
19:36:55 20.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 30MHz - 1GHz, Subband = U-NII-8 (S01_BC01)

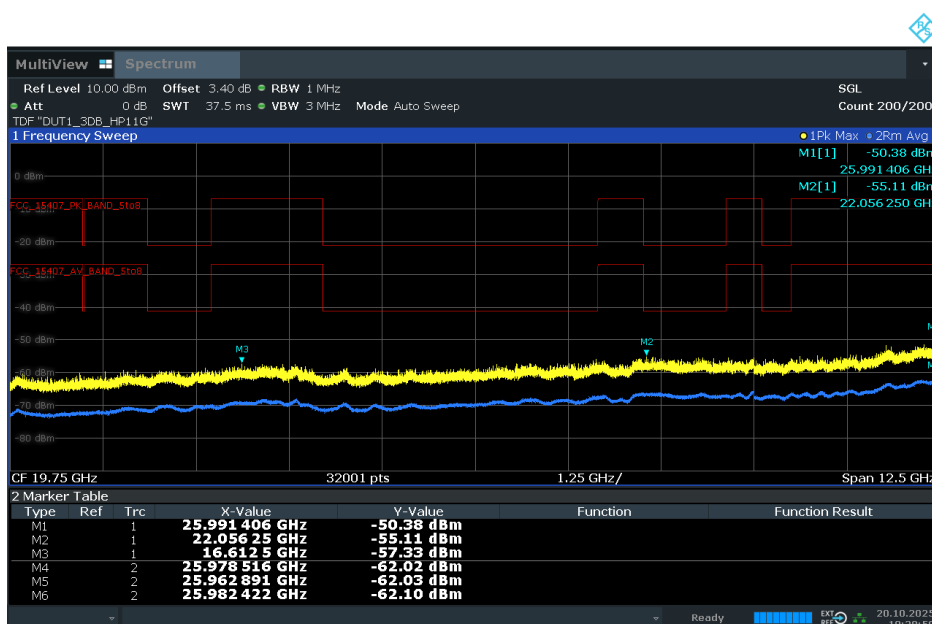


19:37:07 20.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
1GHz - 26GHz, Subband = U-NII-8
(S01_BC01)

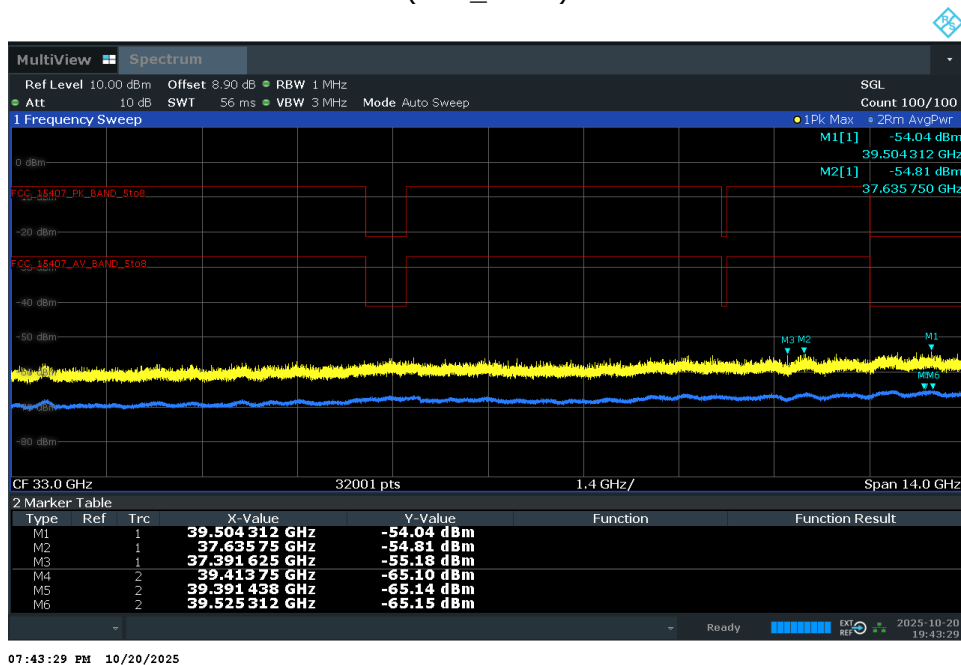


19:35:22 20.10.2025



19:38:50 20.10.2025

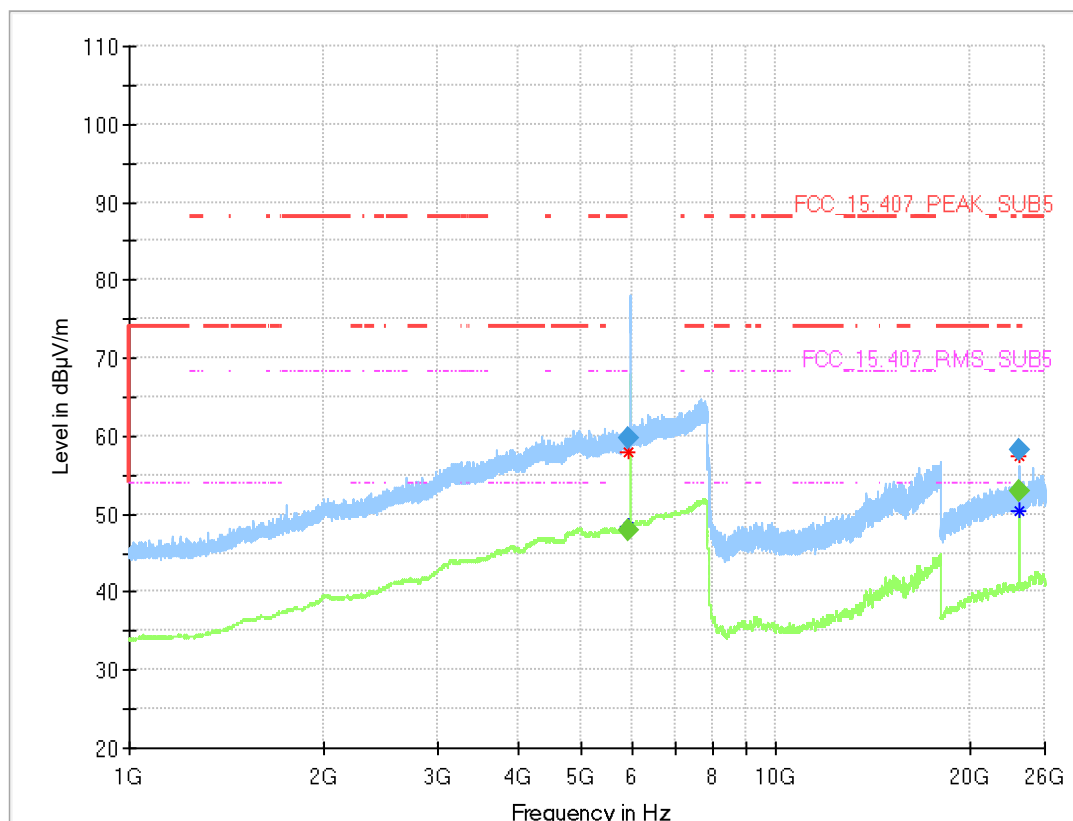
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =
26GHz - 40GHz, Subband = U-NII-8
(S01_BC01)



07:43:29 PM 10/20/2025

Radiated Measurements

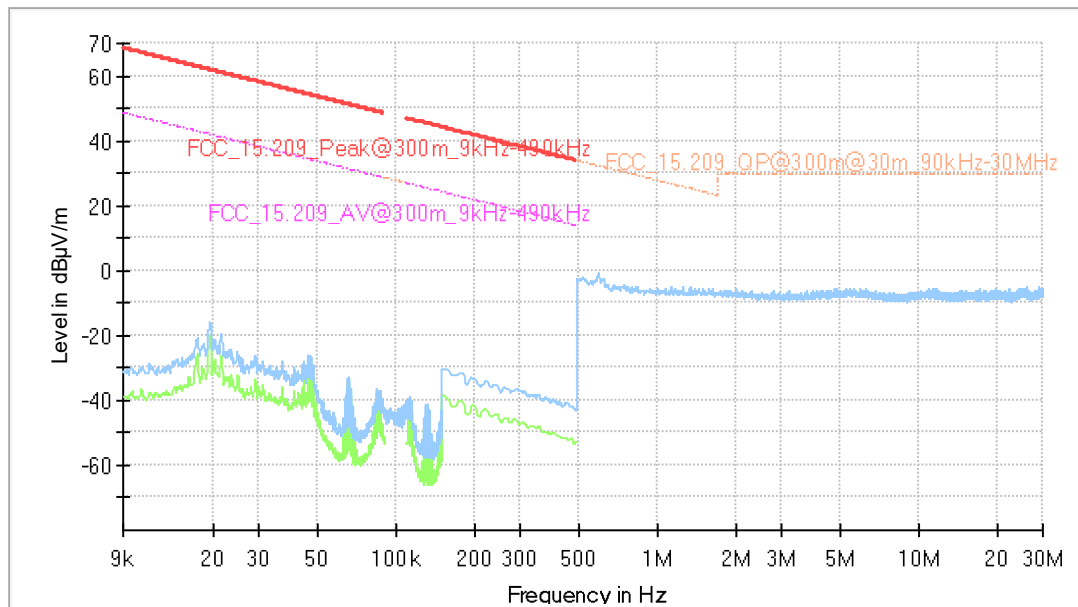
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-5 (S02_BG03)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
5924.787	---	47.9	68.20	20.27	1000.0	1000.000	150.0	H	-94.0	86.0	17.0
5924.787	59.7	---	88.20	28.50	1000.0	1000.000	150.0	H	-94.0	86.0	17.0
23820.000	---	52.9	54.00	1.06	1000.0	1000.000	150.0	H	-34.0	105.0	19.3
23820.000	58.3	---	74.00	15.70	1000.0	1000.000	150.0	H	-34.0	105.0	19.3

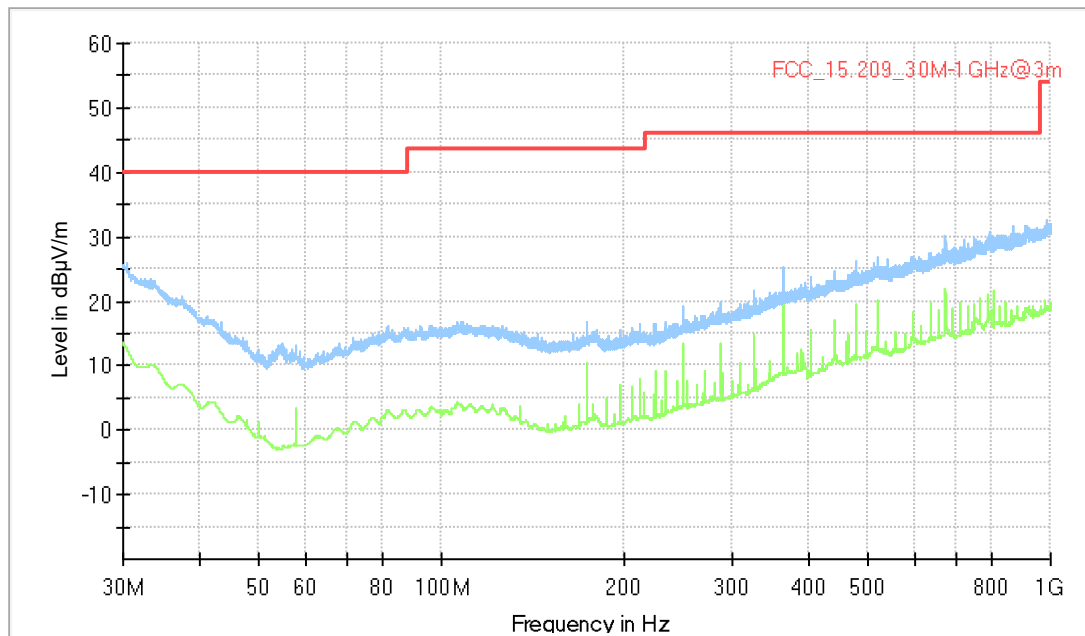
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-5 (S02_BG03)



Final_Result

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---	---	---

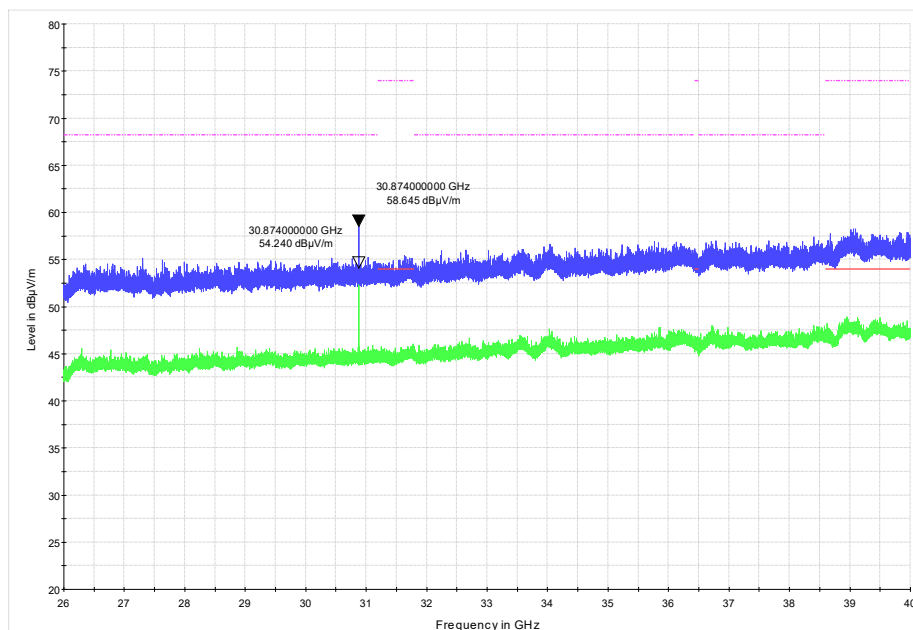
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
30MHz - 1GHz, Subband = U-NII-5
(S02_BG03)



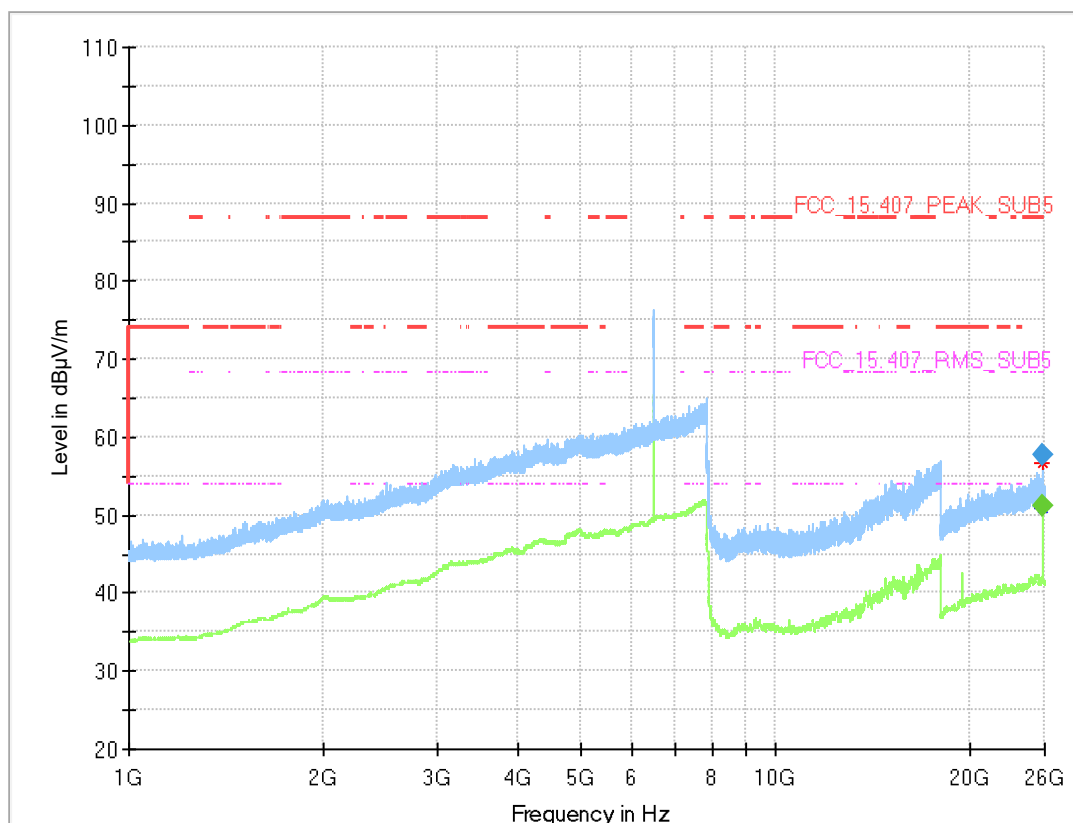
Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---	---	---

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-5
(S02_BG03)



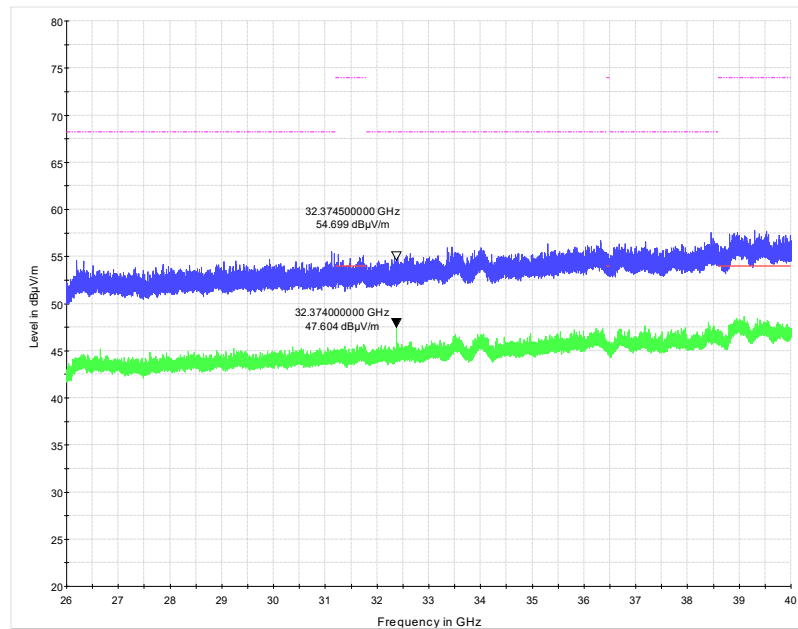
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-6 (S02_BG03)



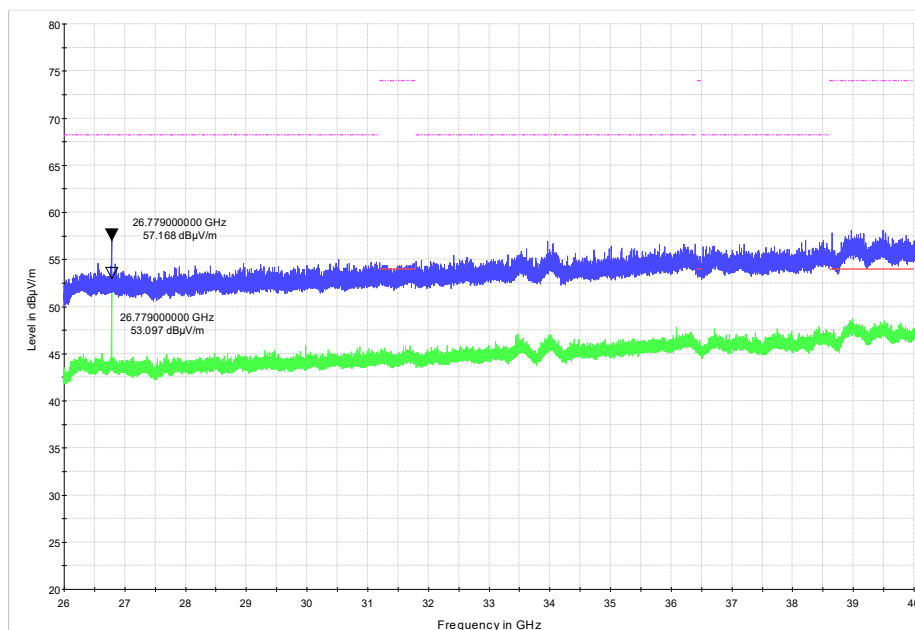
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
25900.000	---	51.3	68.20	16.92	1000.0	1000.000	150.0	H	-45.0	96.0	18.7
25900.000	57.8	---	88.20	30.37	1000.0	1000.000	150.0	H	-45.0	96.0	18.7

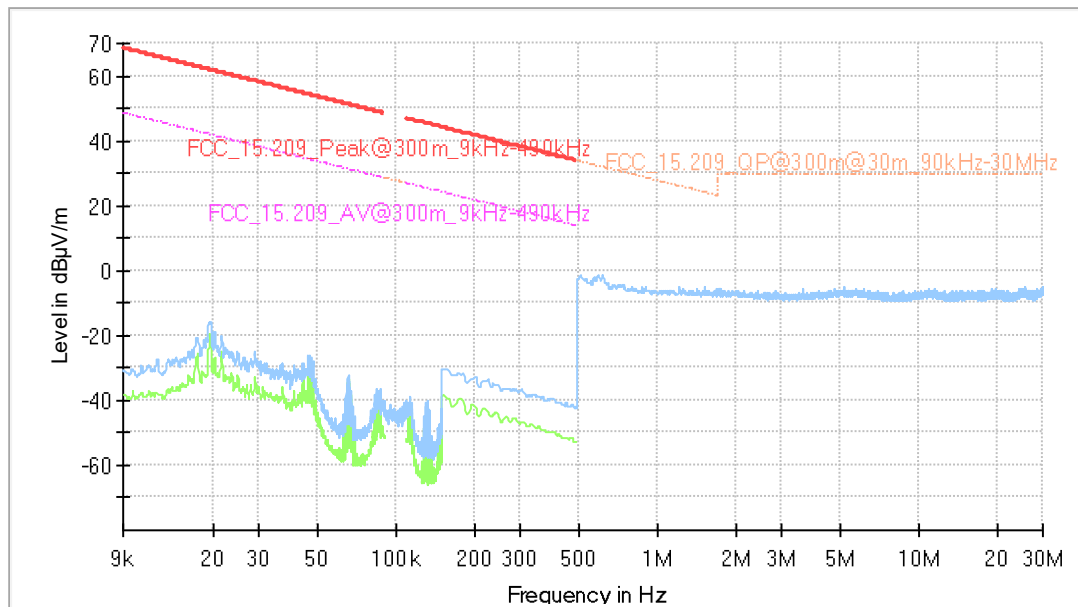
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-6
(S02_BG03)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-7
(S02_BG03)



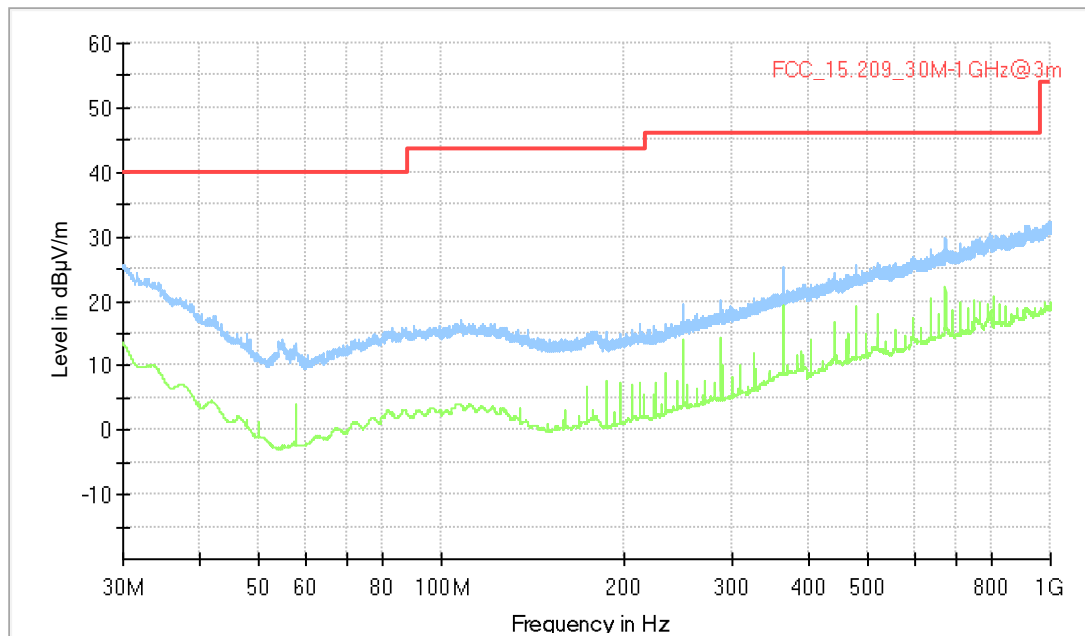
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
9kHz - 30MHz, Subband = U-NII-8
(S02_BG03)



Final_Result

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Azimuth h (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---	---	---

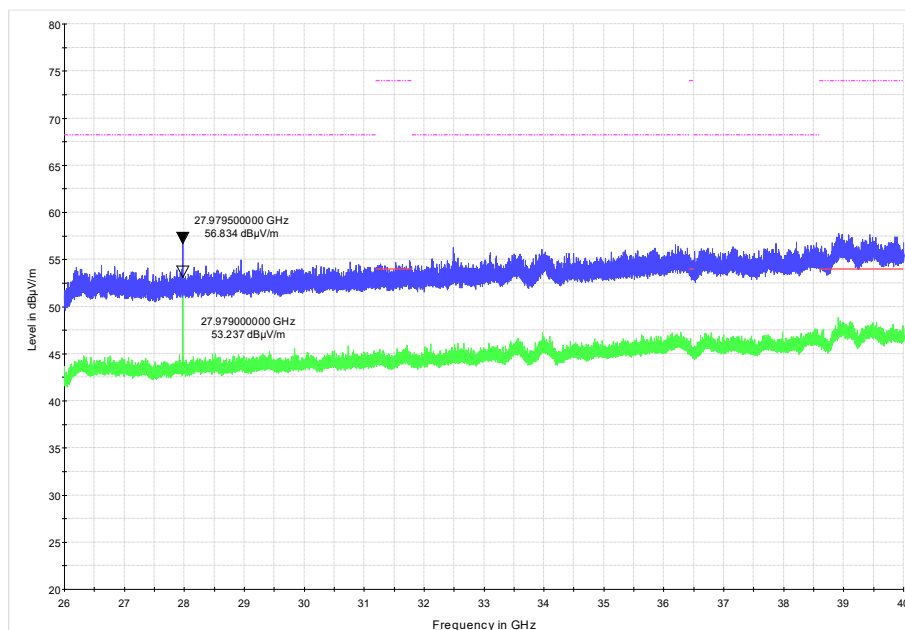
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
30MHz - 1GHz, Subband = U-NII-8
(S02_BG03)



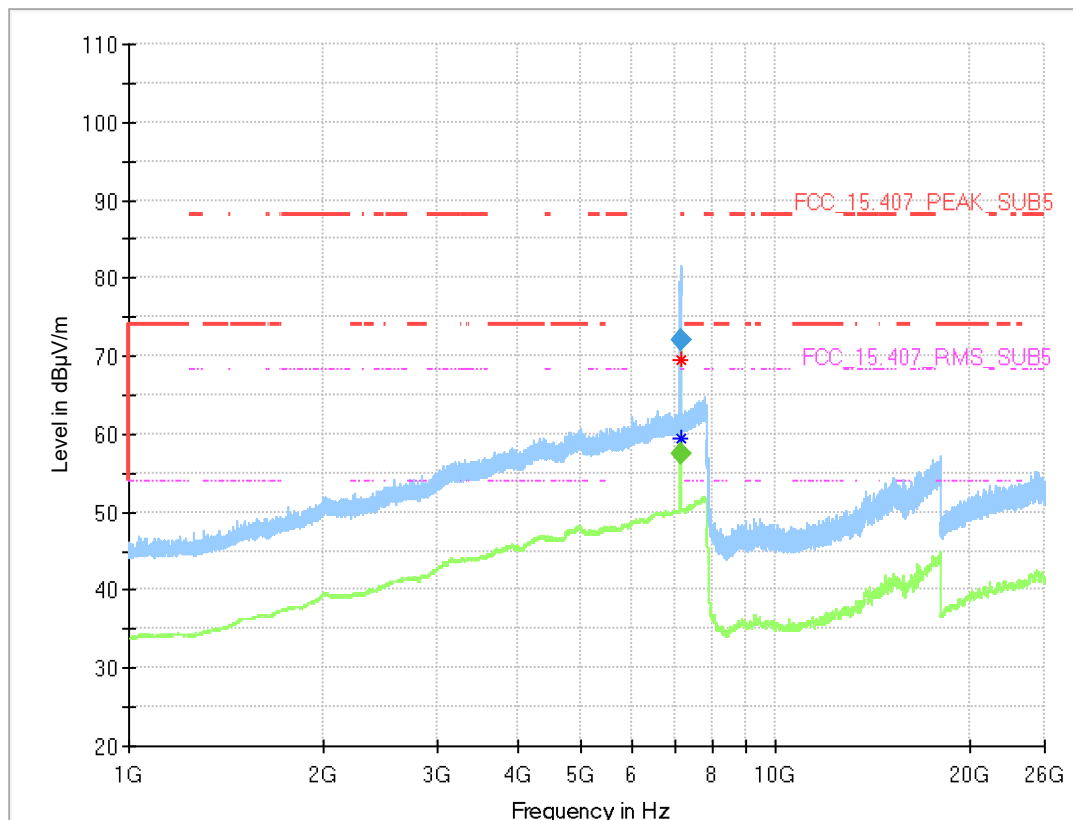
Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---	---	---

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =
26GHz - 40GHz, Subband = U-NII-8
(S02_BG03)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 1GHz - 26GHz, Subband = U-NII-8 (S02_BG03)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
7125.213	---	57.5	68.20	10.68	1000.0	1000.000	150.0	H	-46.0	86.0	19.7
7125.213	72.0	---	88.20	16.23	1000.0	1000.000	150.0	H	-46.0	86.0	19.7

5.5.5 TEST EQUIPMENT USED

- Radiated Emissions SAC H-Field
- Radiated Emissions FAR 5 GHz FCC
- Radiated Emissions SAC up to 1 GHz

5.6 BAND EDGE

Standard **FCC Part 15 Subpart E**

The test was performed according to:

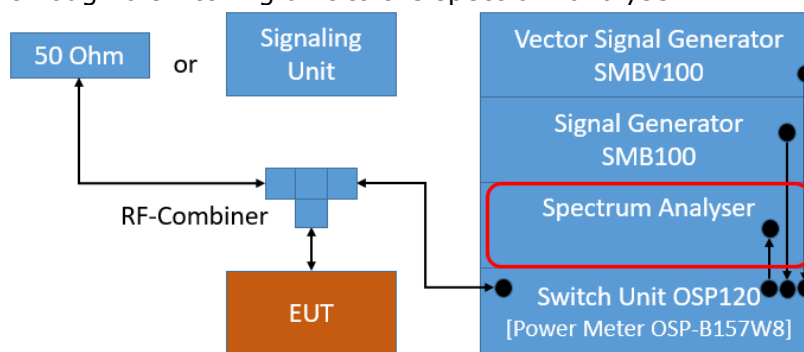
ANSI C63.10, chapter 6.6.5 (radiated measurement), 12.7.6, 12.7.7.2 (conducted measurement)

5.6.1 TEST DESCRIPTION

See test case 5.6 UNDESIRABLE EMISSIONS; GENERAL FIELD STRENGTH LIMITS.

Deviation for conducted measurements:

EUT is connected through a switching unit to the spectrum analyser:



TS8997

Path attenuation is not considered in form of transducer factor but is part of the reference level offset.

Reference Level offset is calculated as follows:

	Meas. Cable Att. Path A [dB]	OSP Att. [dB]	Path Att. OSP – Analyser [dB]	Ant. Gain [dBi]	Resulting Offset [dB]
Bd. 5:	11.6	13.3 - 14.0	0.5	3.4	28.8 – 29.5
Bd. 6:	11.6	14.0 - 14.0	0.5	3.4	29.5 – 29.5
Bd. 7:	11.7	14.0 - 14.5	0.5	3.4	29.6 – 30.1
Bd. 8:	11.8	14.5 - 14.8	0.6	3.4	30.3 – 30.6

Where a range is given, the values represent the attenuation at low band edge or high band edge. Where only a single value is given, it represents the highest attenuation value in a band.

5.6.2 TEST REQUIREMENTS / LIMITS

A) FCC

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.

B) IC

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

RSS-248, 4.6.2:

- a. any emissions outside of the 5925-7125 MHz frequency band shall not exceed
-27 dBm/MHz e.i.r.p. spectral density

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: $\text{Limit (dB}\mu\text{V/m)} = 20 \log (\text{Limit } (\mu\text{V/m})/1\mu\text{V/m})$

5.6.3 TEST PROTOCOL

Ambient temperature: 21 - 23 °C
 Air Pressure: 45 - 56 hPa
 Humidity: 1005 - 1016 %

WLAN ax-Mode; 20 MHz; MCS 0; SISO
 Applied duty cycle correction (AV): 0.1 dB

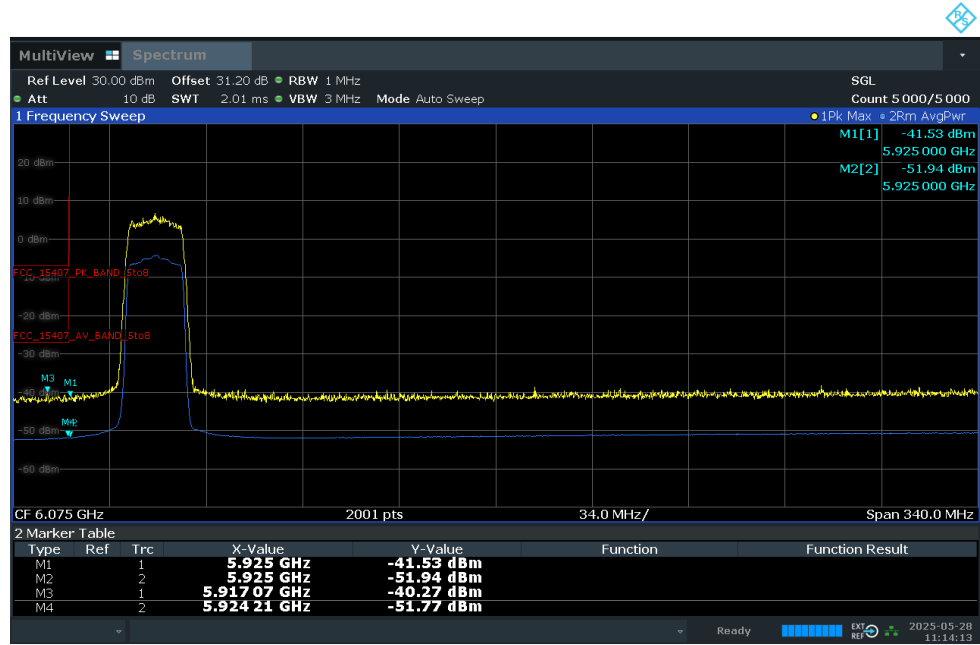
U- NII- Band	Measurement Method	Ch. Center Freq. [MHz]	Band Edge Freq. [MHz]	Spurious Level [dBμV/m]	Detec- tor	RBW [kHz]	Limit [dBμV/ m]	Margin [dB]	Limit Type
5	Radiated	5955	5925.0	59.7	PEAK	1000	88.2	28.5	BE-UE
5	Radiated	5955	5925.0	48.0	AV	1000	68.2	20.2	BE-UE
5	Conducted	5955	5925.0	54.9	PEAK	1000	88.2	33.3	BE-UE
5	Conducted	5955	5925.0	43.4	PEAK	1000	68.2	24.8	BE-UE
8	Conducted	7095	7125.0	59.1	PEAK	1000	88.2	29.1	BE-UE
8	Conducted	7095	7125.0	47.6	PEAK	1000	68.2	20.6	BE-UE
8	Conducted	7115	7125.0	77.2	PEAK	1000	88.2	11.0	BE-UE
8	Conducted	7115	7125.0	67.4	PEAK	1000	68.2	0.8	BE-UE
8	Radiated	7115	7125.0	78.6	PEAK	1000	88.2	9.6	BE-UE
8	Radiated	7115	7125.0	67.0	PEAK	1000	68.2	1.2	BE-UE

Remark: Radiated measurements were performed with 50 Ohm termination at the antenna port.
 Please see next sub-clause for the measurement plot.

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

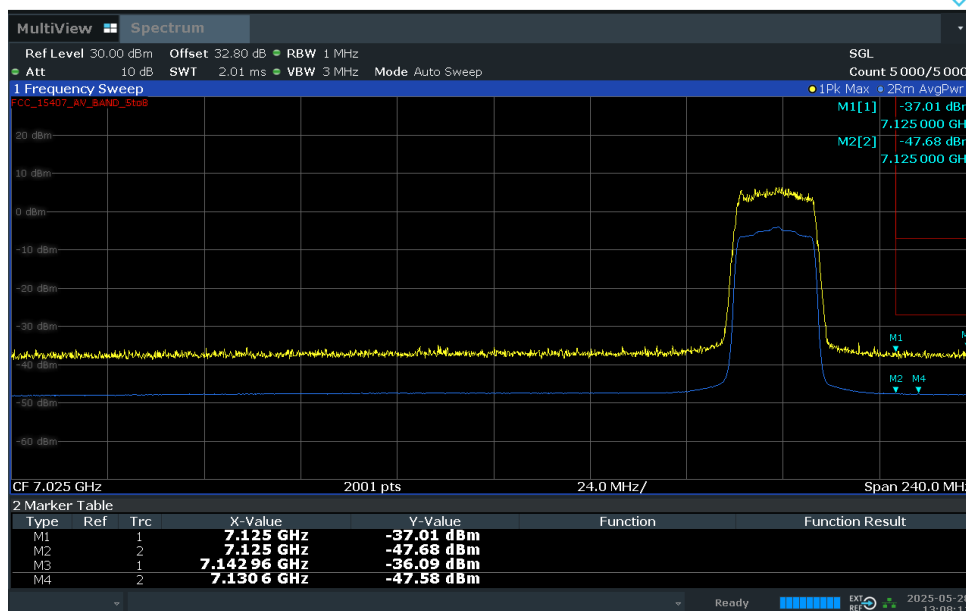
Conducted Measurements

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-5 (S01_BC01)



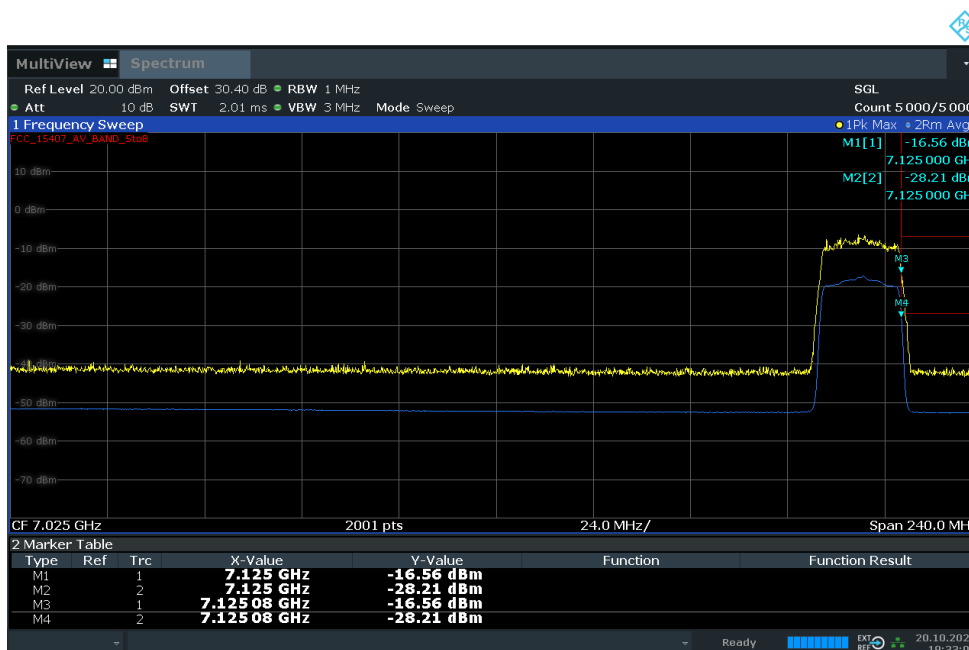
11:14:14 AM 05/28/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-8
(S01_BC01)



01:08:11 PM 05/28/2025

TX on 7095 MHz

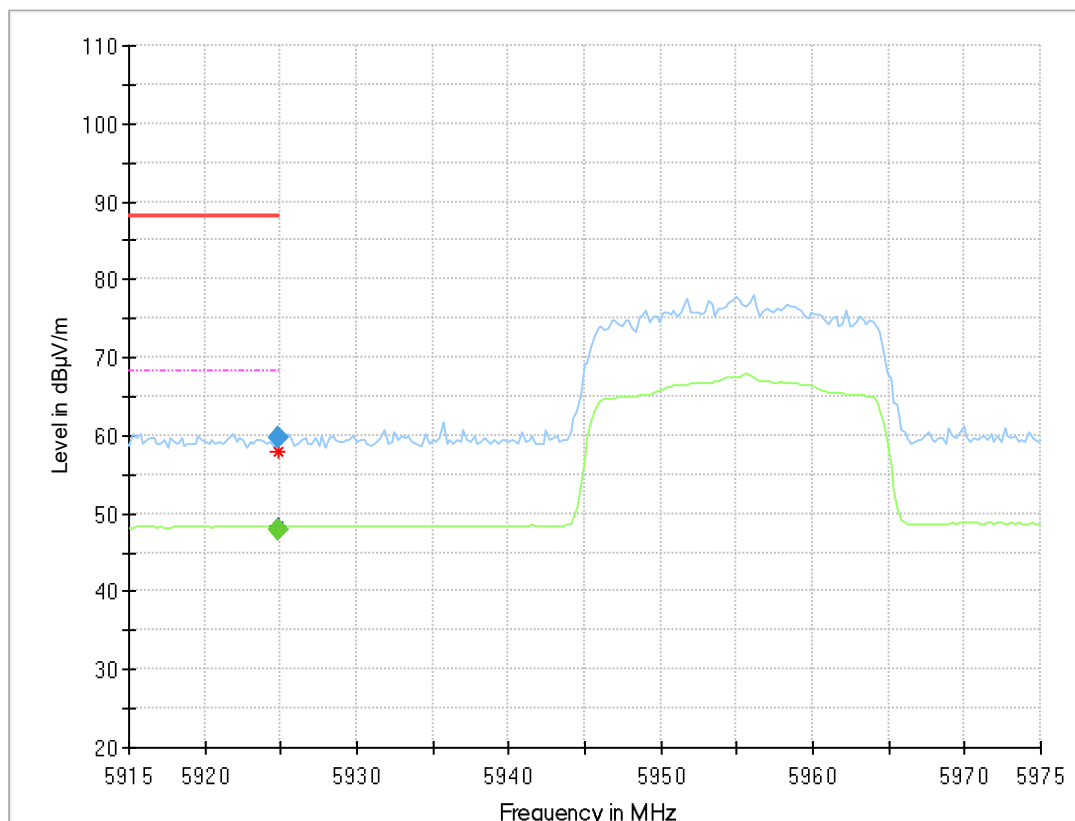


19:33:01 20.10.2025

TX on 7115 MHz

Radiated Measurements

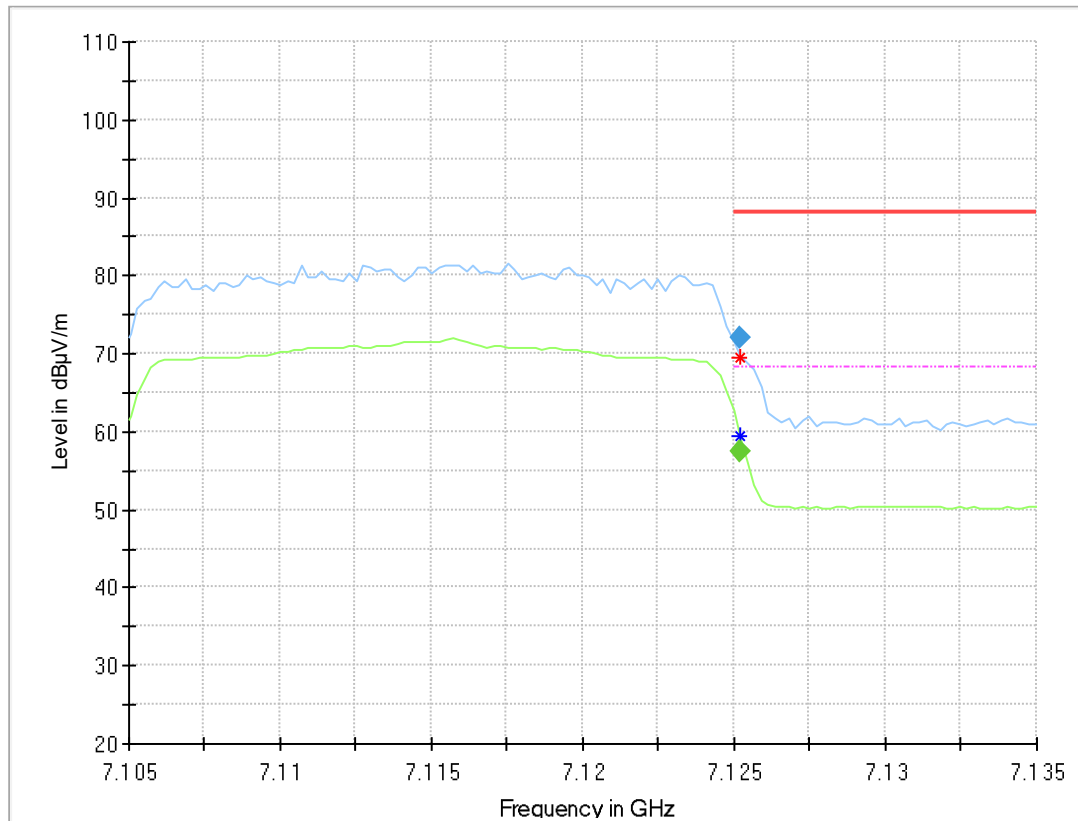
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-5 (S02_BG03)



Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
5924.787	---	47.9	68.20	20.27	1000.0	1000.000	150.0	H	-94.0	86.0	17.0
5924.787	59.7	---	88.20	28.50	1000.0	1000.000	150.0	H	-94.0	86.0	17.0

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-8
(S02_BG03)



Final_Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB/m)
7125.213	---	57.5	68.20	10.68	1000.0	1000.000	150.0	H	-46.0	86.0	19.7
7125.213	72.0	---	88.20	16.23	1000.0	1000.000	150.0	H	-46.0	86.0	19.7

5.6.5 TEST EQUIPMENT USED

- Radiated Emissions FAR 5 GHz FCC

5.7 IN-BAND EMISSIONS

Standard **FCC Part 15 Subpart E**

The test was performed according to:
 KDB 987594 D02, chapter J

5.7.1 TEST DESCRIPTION

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

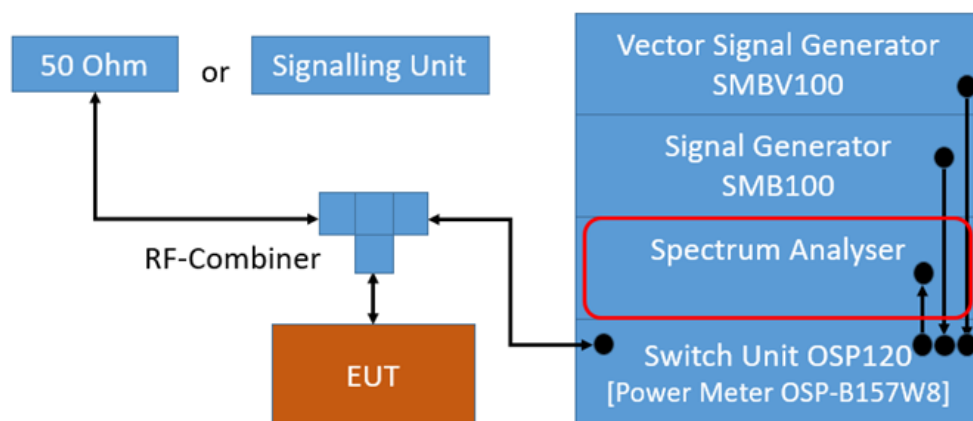
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

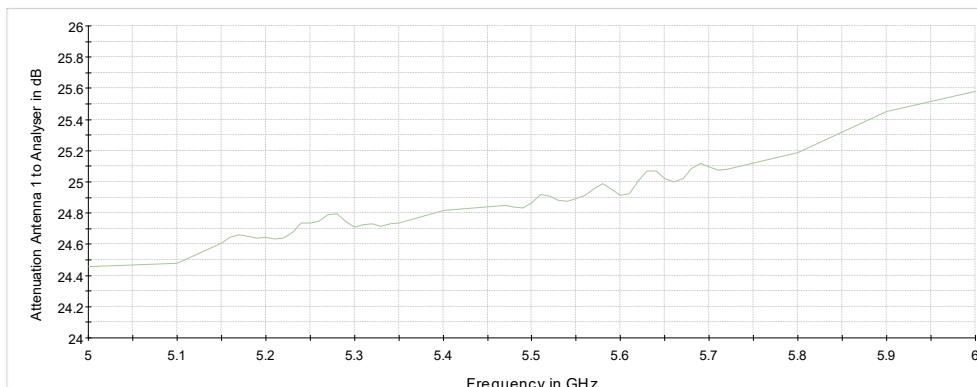
Analyzer settings:

- Resolution Bandwidth (RBW): same RBW used for 26 dB EBW measurement
- Video Bandwidth (VBW): $\geq 3 \times \text{RBW}$
- Trace: Average (Power)
- Sweeps: see plots
- Sweptime: Auto
- Detector: RMS
- Trigger: free run

Note:

The analyser settings are according FCC KDB 987594 D02.





Attenuation of the measurement path

5.7.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart E, §15.407 (b) (7)

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.

5.7.3 TEST PROTOCOL

Ambient temperature: 21 - 23 °C
 Air Pressure: 1005 - 1016 hPa
 Humidity: 45 - 56 %

Radio Technology	Subband	Operating Frequency	Within Spectrum Mask?
WLAN ax 20 MHz	U-NII-5	low	Yes
WLAN ax 20 MHz	U-NII-5	mid	Yes
WLAN ax 20 MHz	U-NII-5	high	Yes
WLAN ax 20 MHz	U-NII-6	low	Yes
WLAN ax 20 MHz	U-NII-6	mid	Yes
WLAN ax 20 MHz	U-NII-6	high	Yes
WLAN ax 20 MHz	U-NII-7	low	Yes
WLAN ax 20 MHz	U-NII-7	mid	Yes
WLAN ax 20 MHz	U-NII-7	high	Yes
WLAN ax 20 MHz	U-NII-7/8	straddle	Yes
WLAN ax 20 MHz	U-NII-8	low	Yes
WLAN ax 20 MHz	U-NII-8	mid	Yes
WLAN ax 20 MHz	U-NII-8	high	Yes

5.7.4 MEASUREMENT PLOTS

Radio Technology = WLAN ax 20 MHz
(S01_BC01)

