

# FCC Measurement/Technical Report on

## WLAN and Bluetooth Module

### MAYA-W381

FCC ID: XPYMAW3A  
IC: 8595A-MAYAW3A

**Test Report Reference:** MDE\_UBLOX\_2408\_FCC\_08\_rev01

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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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## 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) /<br>§ 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;<br>General Field Strength Limits,<br>Restricted Bands, In-Band Emissions | § 15.407 (b)<br>§ 15.209 (a)            | RSS-Gen Issue 5: 6.13 / 8.9 / 8.10;<br>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<br>§ 15.407 (a) (10)  | RSS-Gen Issue 5: 6.8<br>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 §15.207**

AC Conducted Emissions

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

#### **Final Result**

#### **OP-Mode**

Operating mode

worst case

#### **Setup**

S03\_AA01

#### **Date**

2025-07-16

#### **FCC**

Passed

#### **IC**

Passed

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

#### **FCC §15.31, §15.403 (i)**

26 dB Bandwidth

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

#### **Final Result**

#### **OP-Mode**

Radio Technology, Operating Frequency, Subband

#### **Setup**

#### **Date**

#### **FCC**

#### **IC**

WLAN ax 20 MHz, high, U-NII-5

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, high, U-NII-6

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, high, U-NII-7

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, high, U-NII-8

S01\_AA01

2025-10-20

Passed

N/A

WLAN ax 20 MHz, low, U-NII-5

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, low, U-NII-6

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, low, U-NII-7

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, low, U-NII-8

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, mid, U-NII-5

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, mid, U-NII-6

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, mid, U-NII-7

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, mid, U-NII-8

S01\_AA01

2025-05-27

Passed

N/A

WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8

S01\_AA01

2025-05-27

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**

| <b>OP-Mode</b><br>Radio Technology, Operating Frequency,<br>Subband | <b>Setup</b> | <b>Date</b> | <b>FCC</b> | <b>IC</b> |
|---------------------------------------------------------------------|--------------|-------------|------------|-----------|
| WLAN ax 20 MHz, high, U-NII-5                                       | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, high, U-NII-6                                       | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, high, U-NII-7                                       | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, high, U-NII-8                                       | S01_AA01     | 2025-10-20  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-5                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-6                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-7                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-8                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-5                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-6                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-7                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-8                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8                         | S01_AA01     | 2025-03-10  | Passed     | Passed    |

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

Maximum E.I.R.P.

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

**Final Result**

| <b>OP-Mode</b><br>Radio Technology, Operating Frequency,<br>Subband | <b>Setup</b> | <b>Date</b> | <b>FCC</b> | <b>IC</b> |
|---------------------------------------------------------------------|--------------|-------------|------------|-----------|
| WLAN ax 20 MHz, high, U-NII-5                                       | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, high, U-NII-6                                       | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, high, U-NII-7                                       | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, high, U-NII-8                                       | S01_AA01     | 2025-10-20  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-5                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-6                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-7                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, low, U-NII-8                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-5                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-6                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-7                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, U-NII-8                                        | S01_AA01     | 2025-03-10  | Passed     | Passed    |
| WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8                         | S01_AA01     | 2025-03-10  | 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_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, high, U-NII-6               | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, high, U-NII-7               | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, high, U-NII-8               | S01_AA01 | 2025-10-20 | Passed | Passed |
| WLAN ax 20 MHz, low, U-NII-5                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, low, U-NII-6                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, low, U-NII-7                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, low, U-NII-8                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, mid, U-NII-5                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, mid, U-NII-6                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, mid, U-NII-7                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, mid, U-NII-8                | S01_AA01 | 2025-03-10 | Passed | Passed |
| WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8 | S01_AA01 | 2025-03-10 | 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**

| <b>OP-Mode</b>                                                                                        | <b>Setup</b> | <b>Date</b> | <b>FCC</b> | <b>IC</b> |
|-------------------------------------------------------------------------------------------------------|--------------|-------------|------------|-----------|
| Radio Technology, Operating Frequency, Measurement range, Subband                                     |              |             |            |           |
| WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-5<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-8<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-10-20  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 1GHz - 26GHz, U-NII-8<br>Remark: Measurement Method Radiated                    | S02_AG03     | 2025-07-03  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-5<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-5<br>Remark: Measurement Method Radiated 5th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-6<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-6<br>Remark: Measurement Method Radiated 4th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-7<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-7<br>Remark: Measurement Method Radiated 4th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-8<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-10-20  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 26GHz - 40GHz, U-NII-8<br>Remark: Measurement Method Radiated                   | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-5<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 30MHz - 1GHz, U-NII-8<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-10-20  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-5<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, high, 9kHz - 30MHz, U-NII-8<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-10-20  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-5<br>Remark: Measurement Method Conducted                    | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-5<br>Remark: Measurement Method Radiated                     | S02_AG03     | 2025-07-03  | 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**

| <b>OP-Mode</b>                                                                                       | <b>Setup</b> | <b>Date</b> | <b>FCC</b> | <b>IC</b> |
|------------------------------------------------------------------------------------------------------|--------------|-------------|------------|-----------|
| Radio Technology, Operating Frequency, Measurement range, Subband                                    |              |             |            |           |
| WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 1GHz - 26GHz, U-NII-8<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-5<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-5<br>Remark: Measurement Method Radiated 5th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-6<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-6<br>Remark: Measurement Method Radiated 5th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-7<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-7<br>Remark: Measurement Method Radiated 4th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-8<br>Remark: Measurement Method Conducted                  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 26GHz - 40GHz, U-NII-8<br>Remark: Measurement Method Radiated 4th harmonic only | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-5<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 30MHz - 1GHz, U-NII-8<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-5<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, low, 9kHz - 30MHz, U-NII-8<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-5<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-6<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-6<br>Remark: Measurement Method Radiated                    | S02_AG03     | 2025-07-03  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-7<br>Remark: Measurement Method Conducted                   | S01_AA01     | 2025-07-24  | 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**

| <b>OP-Mode</b>                                                                      | <b>Setup</b> | <b>Date</b> | <b>FCC</b> | <b>IC</b> |
|-------------------------------------------------------------------------------------|--------------|-------------|------------|-----------|
| Radio Technology, Operating Frequency, Measurement range, Subband                   |              |             |            |           |
| WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-7<br>Remark: Measurement Method Radiated   | S02_AG03     | 2025-07-03  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 1GHz - 26GHz, U-NII-8<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-24  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-5<br>Remark: Measurement Method Conducted | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-5<br>Remark: Measurement Method Radiated  | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-6<br>Remark: Measurement Method Conducted | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-6<br>Remark: Measurement Method Radiated  | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-7<br>Remark: Measurement Method Conducted | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-7<br>Remark: Measurement Method Radiated  | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-8<br>Remark: Measurement Method Conducted | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 26GHz - 40GHz, U-NII-8<br>Remark: Measurement Method Radiated  | S02_AG03     | 2025-07-16  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-5<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-5<br>Remark: Measurement Method Radiated   | S02_AG03     | 2025-07-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-6<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-7<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-8<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 30MHz - 1GHz, U-NII-8<br>Remark: Measurement Method Radiated   | S02_AG03     | 2025-07-10  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-5<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-5<br>Remark: Measurement Method Radiated   | S02_AG03     | 2025-07-11  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-6<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-7<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-8<br>Remark: Measurement Method Conducted  | S01_AA01     | 2025-07-25  | Passed     | Passed    |
| WLAN ax 20 MHz, mid, 9kHz - 30MHz, U-NII-8<br>Remark: Measurement Method Radiated   | S02_AG03     | 2025-07-11  | 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**

Radio Technology, Operating Frequency, Subband

WLAN ax 20 MHz, high, U-NII-8

Remark: Measurement Method: Conducted

WLAN ax 20 MHz, high, U-NII-8

Remark: Measurement Method Radiated

WLAN ax 20 MHz, low, U-NII-5

Remark: Measurement Method: Conducted

WLAN ax 20 MHz, low, U-NII-5

Remark: Measurement Method Radiated

**Setup**
**Date**
**FCC**
**IC**

S01\_AA01

2025-10-20

Passed

Passed

S02\_AG03

2025-07-03

Passed

Passed

S01\_AA01

2025-03-10

Passed

Passed

S02\_AG03

2025-07-03

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

**OP-Mode**

Radio Technology, Operating Frequency, Subband

WLAN ax 20 MHz, high, U-NII-5

WLAN ax 20 MHz, high, U-NII-6

WLAN ax 20 MHz, high, U-NII-7

WLAN ax 20 MHz, high, U-NII-8

WLAN ax 20 MHz, low, U-NII-5

WLAN ax 20 MHz, low, U-NII-6

WLAN ax 20 MHz, low, U-NII-7

WLAN ax 20 MHz, low, U-NII-8

WLAN ax 20 MHz, mid, U-NII-5

WLAN ax 20 MHz, mid, U-NII-6

WLAN ax 20 MHz, mid, U-NII-7

WLAN ax 20 MHz, mid, U-NII-8

WLAN ax 20 MHz, straddle, U-NII-7 + U-NII-8

**Setup**
**Date**
**Final Result**
**FCC**
**IC**

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-10-20

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-27

Passed

Passed

S01\_AA01

2025-05-28

Passed

Passed

**47 CFR CHAPTER I FCC PART 15 Subpart E §15.407**
**FCC §15.31, §15.407 (d) (6)**
**Contention-Based Protocol**

The measurement was performed according to KDB 987594

**OP-Mode**

Radio Technology, Operating Frequency, Subband

WLAN ax 20 MHz, mid, U-NII-5

WLAN ax 20 MHz, mid, U-NII-6

WLAN ax 20 MHz, mid, U-NII-7

WLAN ax 20 MHz, mid, U-NII-8

**Setup**
**Date**
**Final Result**
**FCC**
**IC**

S01\_AA01

2025-04-11

Passed

Passed

S01\_AA01

2025-04-11

Passed

Passed

S01\_AA01

2025-04-11

Passed

Passed

S01\_AA01

2025-04-11

Passed

Passed

N/A: Not applicable

N/P: Not performed

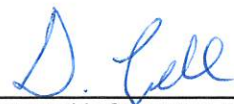
## 2 REVISION HISTORY / SIGNATURES

| Report version control |              |                                                                                                                                                                                                                                                                                                                                    |                  |
|------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Version                | Release date | Change Description                                                                                                                                                                                                                                                                                                                 | Version validity |
| initial                | 2025-11-13   | --                                                                                                                                                                                                                                                                                                                                 | valid            |
| rev01                  | 2025-12-17   | <p>Changed final result "performed" in Measurement Summary to Passed.</p> <p>Removed references to U-NII bands 1 to 4 related chapters.</p> <p>Added limit and margin to bandwidth test cases.</p> <p>Added offset description to chapter 5.6.4.</p> <p>Revised result table and plots in test case Contention Based Protocol.</p> | valid            |

COMMENT: -



(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: 2025-03-10 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<br>product description         | Host-based module with WLAN and Bluetooth technology                                                                                                                                                                                                                                                                                                                                                                                                                     |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Product name                                  | MAYA-W381                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Type                                          | MAYA-W381-00B                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Declared EUT data by the supplier             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Voltage Type                                  | DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Voltage Level                                 | 1.8 / 3.3 V                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Tested Modulation Type                        | OFDM                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Specific product<br>description               | <p>The EUT is a Bluetooth and WLAN module.</p> <p>Supported technologies relevant for this report are WLAN ax 20 MHz bandwidth.</p> <p>For ax mode OFDMA MU is supported.</p> <p>Supported Class for 6 GHz band is Indoor Client (6XD)</p>                                                                                                                                                                                                                               |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Ports of the device                           | <p>Enclosure</p> <p>Data</p> <p>DC</p> <p>Antenna</p> <p>The EUT is a module with solder pads for surface mounting, so no cables were connected to the EUT itself.</p>                                                                                                                                                                                                                                                                                                   |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Antenna / Gain                                | External / 5.8 dBi in the bands 5 to 8. (The 5.8 dBi correspond to the Molex WiFi 6E flex cable balance antenna dipole Antenna in the antenna list. Tests are to be performed without antenna, for radiated tests antenna ports are terminated by 50 Ohm terminations.)                                                                                                                                                                                                  |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Tested Datarates                              | ax: MSC 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Special software used<br>for testing          | Scripts provided on a computer board by the applicant.                                                                                                                                                                                                                                                                                                                                                                                                                   |       |    |    |         |     |     |         |     |     |     |         |     |  |  |            |   |      |    |    |         |     |     |         |     |     |     |         |     |           |   |   |   |   |   |   |   |   |   |   |   |   |    |
| Used output power<br>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> <p>OFDMA power: U-NII Bd. 5-8: -6 / -11 (ch. 233)</p> | 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 aa01         | DE1015193aa01       |             |
| Sample Parameter | Value               |             |
| Serial No.       | GZ4B8F44FA23A480400 |             |
| HW Version       | W3A                 |             |
| SW Version       | 28.10.387.10        |             |
| Comment          |                     |             |

| Sample Name      | Sample Code         | Description |
|------------------|---------------------|-------------|
| EUT ag03         | DE1015193ag03       |             |
| Sample Parameter | Value               |             |
| Serial No.       | GZ4B8F44FA23A080400 |             |
| 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.

|   |   |   |
|---|---|---|
| - | - | - |
|---|---|---|

## 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<br>(Manufacturer, Type Model, HW, SW, S/N) | Description                            |
|-----------------|----------------------------------------------------|----------------------------------------|
| AC/DC supply    | Agilent, E3631A, -, -, MY40018563                  | Laboratory Power Supply<br>120 V 60 Hz |
| 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.

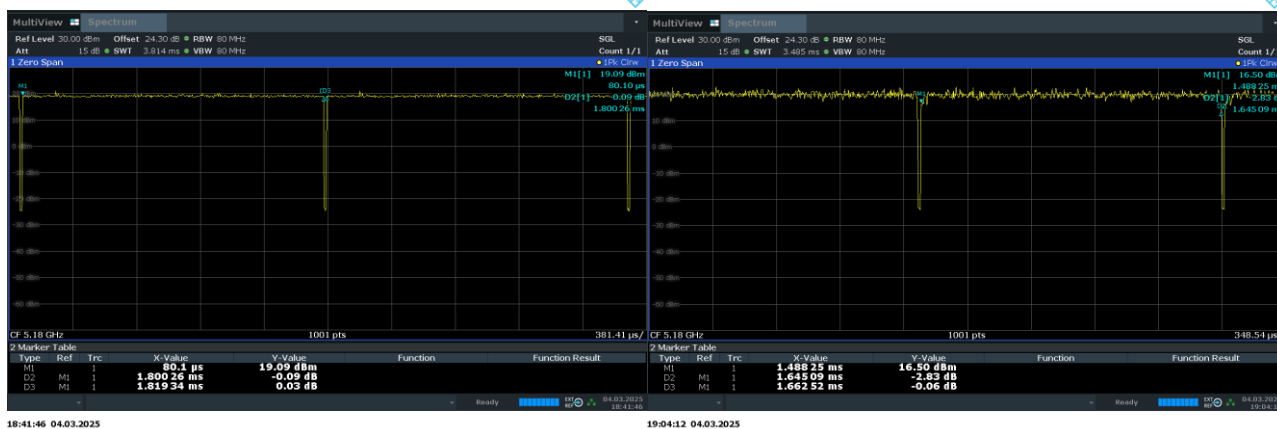
| <b>Setup</b> | <b>Combination of EUTs</b> | <b>Description and Rationale</b> |
|--------------|----------------------------|----------------------------------|
| S01_AA01     | EUT aa01, Control board 1  | Conducted Setup                  |
| S02_AG03     | EUT ag03                   | Radiated Setup                   |
| S03_AA01     | EUT aa01, AC/DC supply     | AC conducted Setup               |

## 4.6 OPERATING MODES / TEST CHANNELS

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

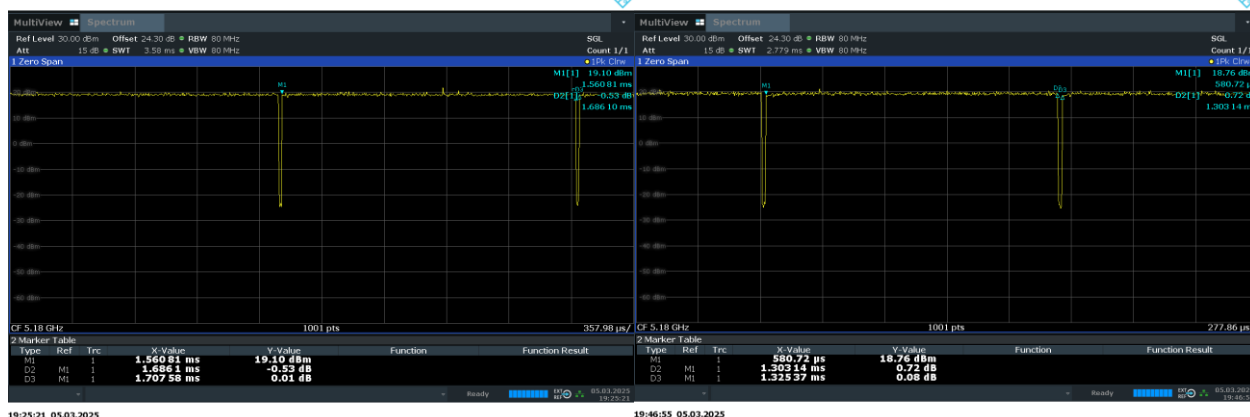
| U-NII-Subband 5<br>5925 - 6425 MHz |      |      |          | U-NII<br>5 / 6 | U-NII-Subband 6<br>6425 - 6525 MHz |      |          | U-NII<br>6 / 7 | U-NII-Subband 7<br>6525 - 6875 MHz |      |          | U-NII<br>7 / 8 | U-NII-Subband 8<br>6875 - 7125 MHz |      |  |
|------------------------------------|------|------|----------|----------------|------------------------------------|------|----------|----------------|------------------------------------|------|----------|----------------|------------------------------------|------|--|
| 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 |  |

## Duty Cycles



18:41:46 04.03.2025

19:04:12 04.03.2025



19:25:21 05.03.2025

19:46:55 05.03.2025

| Resulting Duty Cycle |        |          |           |           |
|----------------------|--------|----------|-----------|-----------|
| Mode                 | WLAN a | WLAN n20 | WLAN ac20 | WLAN ax20 |
| Duty Cycle [%]       | 99.0   | 99.0     | 98.7      | 98.3      |
| Corr. [dB]           | 0.1    | 0.1      | 0.1       | 0.1       |

Duty Cycle test was not repeated for 6 GHz bands since change in channel does not influence the duty cycle.

**Worst case data rate check at channel 5180 MHz:**

| Mode             | PD   | BE PK | BE AV |
|------------------|------|-------|-------|
| ax 20 MHz MCS 0  | -2.6 | -42.2 | -53.8 |
| ax 20 MHz MCS 1  | -4.3 | -42.7 | -54.3 |
| ax 20 MHz MCS 2  | -4.1 | -43.4 | -54.5 |
| ax 20 MHz MCS 3  | -3.7 | -43.3 | -54.0 |
| ax 20 MHz MCS 4  | -3.7 | -42.8 | -54.1 |
| ax 20 MHz MCS 5  | -3.3 | -41.9 | -53.9 |
| ax 20 MHz MCS 6  | -3.3 | -42.3 | -54.1 |
| ax 20 MHz MCS 7  | -4.7 | -42.4 | -54.0 |
| ax 20 MHz MCS 8  | -4.6 | -42.9 | -54.1 |
| ax 20 MHz MCS 9  | -4.9 | -42.7 | -54.1 |
| ax 20 MHz MCS 10 | -4.6 | -40.9 | -54.1 |
| ax 20 MHz MCS 11 | -4.7 | -41.8 | -54.0 |

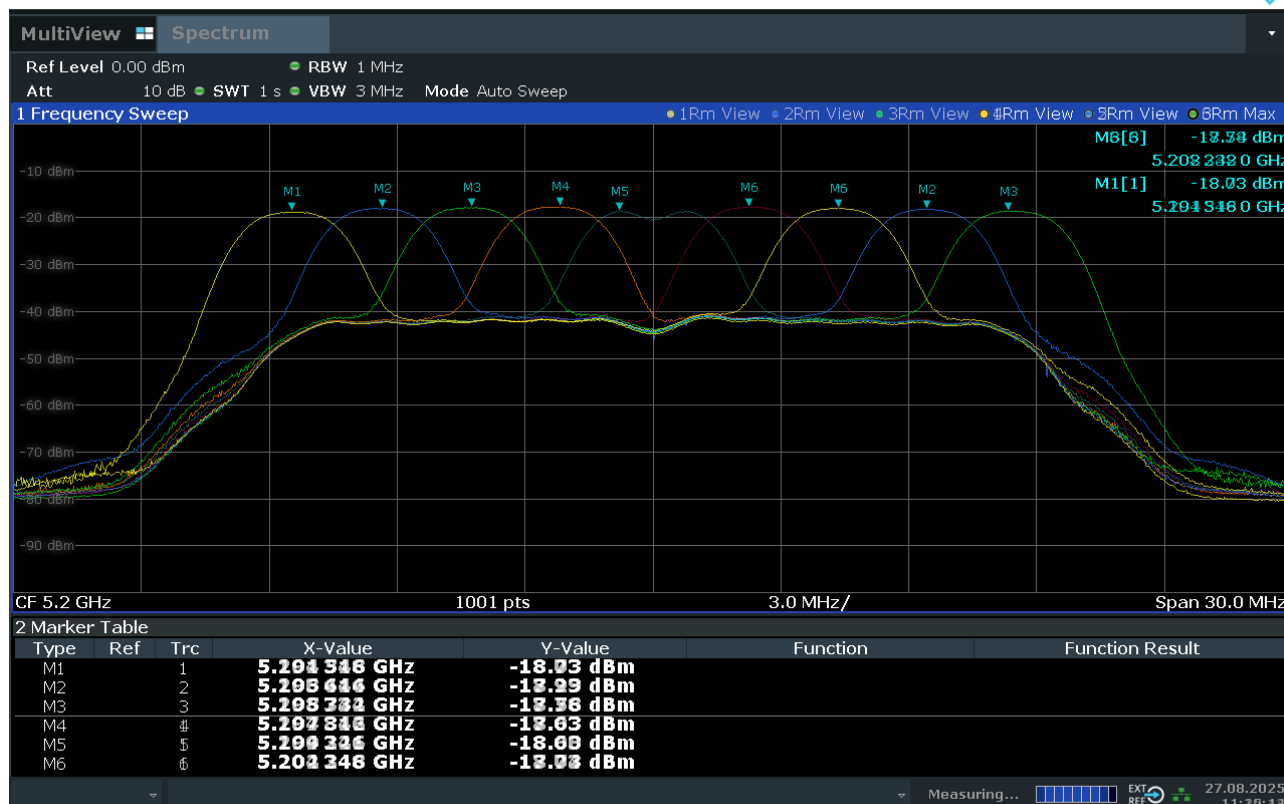
**Max power setting per data rate provided by applicant:**

| Rate           | 5 GHz Band            |                        |                          |                         | 6 GHz Band           |                        |                         |                         |
|----------------|-----------------------|------------------------|--------------------------|-------------------------|----------------------|------------------------|-------------------------|-------------------------|
|                | U-NII-1<br>Ch 36 - 48 | U-NII-2A<br>Ch 52 - 64 | U-NII-2C<br>Ch 100 - 144 | U-NII-3<br>Ch 149 - 165 | U-NII-5<br>Ch 1 - 93 | U-NII-6<br>Ch 97 - 113 | U-NII-7<br>Ch 117 - 185 | U-NII-8<br>Ch 189 - 233 |
| MCS0 / 6 Mbps  | 16.00                 | 15.00                  | 15.00                    | 15.00                   | 16.00                | 16.00                  | 16.00                   | 16.00                   |
| 9 Mbps         | 16.00                 | 15.00                  | 15.00                    | 15.00                   | 16.00                | 16.00                  | 16.00                   | 16.00                   |
| MCS1 / 12 Mbps | 16.00                 | 15.00                  | 15.00                    | 15.00                   | 16.00                | 16.00                  | 16.00                   | 16.00                   |
| MCS2 / 18 Mbps | 16.00                 | 15.00                  | 15.00                    | 15.00                   | 16.00                | 16.00                  | 16.00                   | 16.00                   |
| MCS3 / 24 Mbps | 16.00                 | 15.00                  | 15.00                    | 15.00                   | 16.00                | 16.00                  | 16.00                   | 16.00                   |
| MCS4 / 36 Mbps | 16.00                 | 15.00                  | 15.00                    | 15.00                   | 16.00                | 16.00                  | 15.00                   | 15.00                   |
| MCS5 / 48 Mbps | 15.00                 | 14.00                  | 14.00                    | 14.00                   | 16.00                | 16.00                  | 14.00                   | 14.00                   |
| MCS6 / 54 Mbps | 14.00                 | 14.00                  | 14.00                    | 14.00                   | 15.00                | 15.00                  | 13.00                   | 13.00                   |
| MCS7           | 14.00                 | 14.00                  | 14.00                    | 14.00                   | 14.00                | 14.00                  | 12.00                   | 12.00                   |
| MCS8           | 11.00                 | 13.00                  | 12.00                    | 12.00                   | 13.00                | 13.00                  | 11.00                   | 11.00                   |
| MCS9           | 10.00                 | 12.00                  | 10.00                    | 10.00                   | 12.00                | 12.00                  | 11.00                   | 11.00                   |
| MCS10          | 10.00                 | 10.00                  | 10.00                    | 8.00                    | 9.00                 | 9.00                   | 9.00                    | 9.00                    |
| MCS11          | 10.00                 | 10.00                  | 9.00                     | 8.00                    | 9.00                 | 9.00                   | 9.00                    | 9.00                    |

Since the mode is the same for 5 and 6 GHz, worst case check was not repeated for 6 GHz bands.

Since Power Density was highest for the lowest data rates and the higher data rates are only supported for lower power settings, the lowest data rates were used for testing.  
For n mode Band Edge measurements were also performed with data rate MCS 7 at 14 dBm.

Worst case RU for OFDMA RU testing:



11:25:14 27.08.2025

Highest RU: RU 3

## 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 AC CONDUCTED EMISSIONS

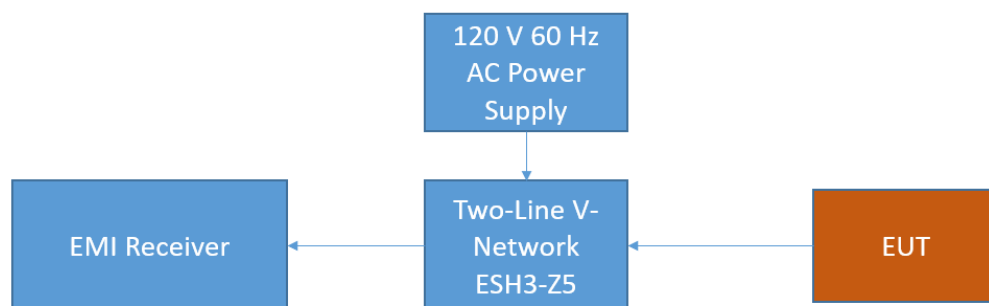
Standard **FCC Part 15 Subpart E**

**The test was performed according to:**

ANSI C63.10, chapter 6.2

#### 5.1.1 TEST DESCRIPTION

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



FCC Conducted Emissions on AC

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

#### Step 1: Preliminary scan

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

EMI receiver settings:

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

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

#### Step 2: Final measurement

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

EMI receiver settings:

- Detector: Quasi-Peak & (CISPR) Average
- IF Bandwidth: 9 kHz
- Measuring time: 1 s / frequency

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

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

The highest value is reported.

### 5.1.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart C, §15.207

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

### 5.1.3 TEST PROTOCOL

Temperature: 27 °C  
 Air Pressure: 1006 hPa  
 Humidity: 44 %

| Mode                         | Power line | PE  | Frequency [MHz] | Measured value QP [dBμV] | Measured value AV [dBμV] | Limit [dBμV] | Margin [dB] |
|------------------------------|------------|-----|-----------------|--------------------------|--------------------------|--------------|-------------|
| WLAN ax<br>MCS 0<br>6475 MHz | L1         | GND | 12.01           | 46.1                     | -                        | 60.0         | 13.9        |
|                              | L1         | GND | 12.01           | -                        | 42.4                     | 50.0         | 7.6         |
|                              | L1         | FLO | 24.01           | 46.4                     | ---                      | 60.0         | 13.6        |
|                              | L1         | FLO | 24.01           | ---                      | 44.6                     | 50.0         | 5.4         |

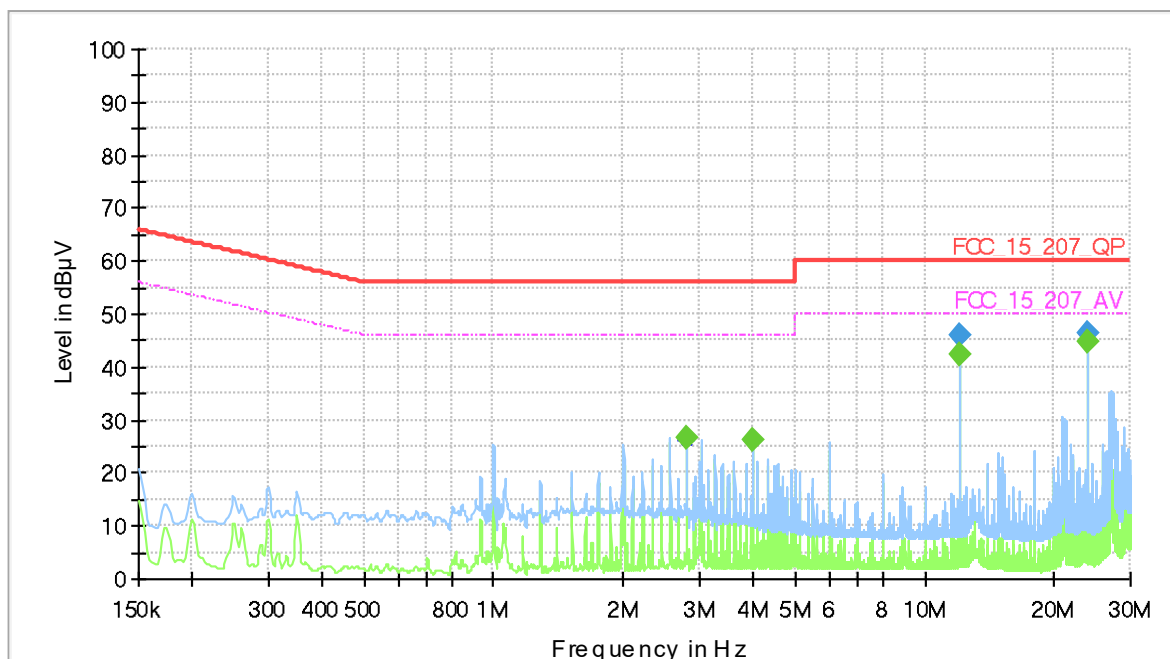
Remark: Please see next sub-clause for the measurement plot.

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

Operating mode = worst case  
(S03\_AA01)

##### Common Information

Test Description: Conducted Emissions  
Test Standard: FCC §15.207  
EUT / Setup Code: DE1015194aa01  
Operating Conditions: 120 V 60 Hz -> 3.3V & 1.8V DC; WLAN6GHz, ax-Mode, CH105, pwr3;  
Comment: -  
Legend: Trace: blue = QP, green = CISPR AV; Star: red or blue = critical frequency; Rhombus: blue = final QP, green = final CISPR AV  
Tested Port / used LISN: AC mains => 1st LISN ESH3-Z5  
Termination of other ports: N/A, AC of AUX => 2nd LISN ESH3-Z5 +50 Ohm



##### Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Line | PE  | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------------|-----------------|------|-----|------------|
| 2.802750        | ---              | 26.58           | 46.00        | 19.42       | 1000.0     | 9.000           | L1   | GND | 10.3       |
| 4.002000        | ---              | 26.29           | 46.00        | 19.71       | 1000.0     | 9.000           | L1   | GND | 10.3       |
| 12.005250       | ---              | 42.38           | 50.00        | 7.62        | 1000.0     | 9.000           | L1   | GND | 10.7       |
| 12.005250       | 46.05            | ---             | 60.00        | 13.95       | 1000.0     | 9.000           | L1   | GND | 10.7       |
| 24.009000       | 46.41            | ---             | 60.00        | 13.59       | 1000.0     | 9.000           | L1   | FLO | 11.2       |
| 24.009000       | ---              | 44.61           | 50.00        | 5.39        | 1000.0     | 9.000           | L1   | FLO | 11.2       |

#### 5.1.5 TEST EQUIPMENT USED

- Conducted Emissions FCC

## 5.2 26 DB BANDWIDTH

Standard **FCC Part 15 Subpart E**

**The test was performed according to:**

ANSI C63.10, chapter 12.5.2

### 5.2.1 TEST DESCRIPTION

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

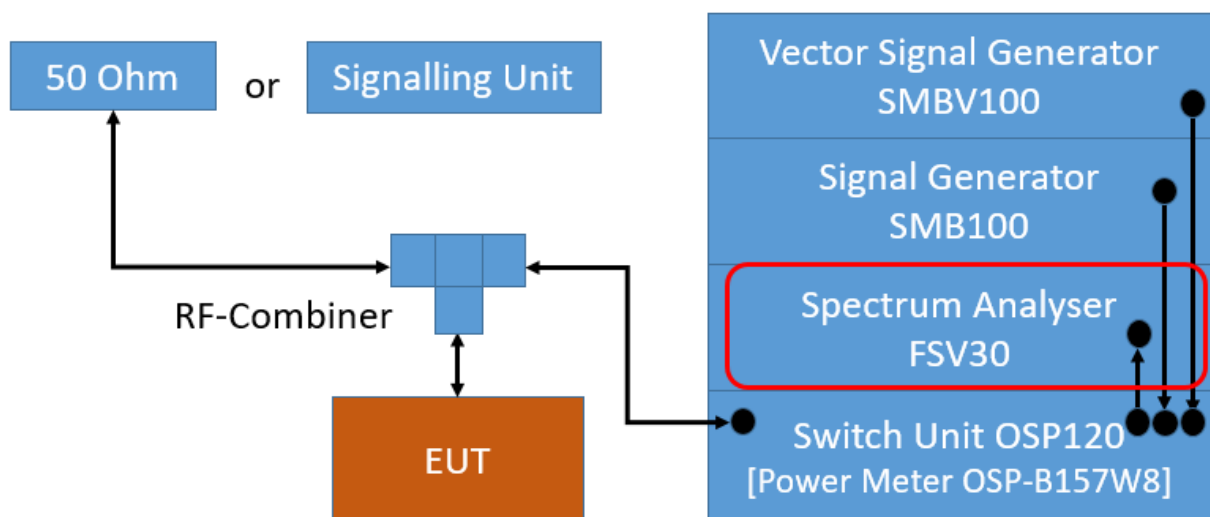
The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.

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 emission bandwidth
- Video Bandwidth (VBW): > RBW
- Span: see example plots
- Trace: Maxhold
- Sweeps: see plots
- Sweptime: Auto
- Detector: Peak



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.

## 5.2.3 TEST PROTOCOL

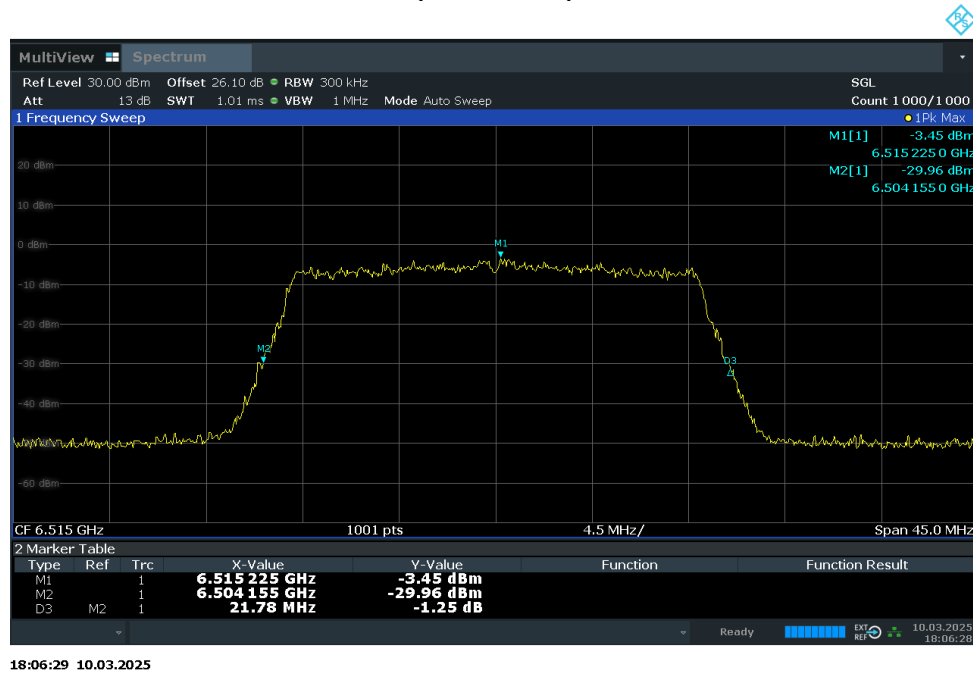
Ambient temperature: 20 - 24 °C  
 Air Pressure: 30 - 56 hPa  
 Humidity: 992 - 1020 %

| Radio Technology | Subband   | Operating Frequency | 26 dB Bandwidth [MHz] | Limit [MHz] | Margin to Limit [MHz] |
|------------------|-----------|---------------------|-----------------------|-------------|-----------------------|
| WLAN ax 20 MHz   | U-NII-5   | low                 | 21.7                  | 320         | 298.3                 |
| 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                 | 21.6                  | 320         | 298.4                 |
| WLAN ax 20 MHz   | U-NII-6   | mid                 | 21.6                  | 320         | 298.4                 |
| WLAN ax 20 MHz   | U-NII-6   | high                | 22.0                  | 320         | 298.0                 |
| WLAN ax 20 MHz   | U-NII-7   | low                 | 21.7                  | 320         | 298.3                 |
| WLAN ax 20 MHz   | U-NII-7   | mid                 | 21.4                  | 320         | 298.6                 |
| WLAN ax 20 MHz   | U-NII-7   | high                | 21.7                  | 320         | 298.3                 |
| WLAN ax 20 MHz   | U-NII-7/8 | straddle            | 10.9/11               | 320         | 298.1                 |
| WLAN ax 20 MHz   | U-NII-8   | low                 | 21.6                  | 320         | 298.4                 |
| WLAN ax 20 MHz   | U-NII-8   | mid                 | 21.7                  | 320         | 298.3                 |
| WLAN ax 20 MHz   | U-NII-8   | high                | 21.6                  | 320         | 298.4                 |

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 ax 20 MHz, Operating Frequency = high, Subband = U-NII-6 (S01\_AA01)



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#### 5.2.5 TEST EQUIPMENT USED

- R&S TS8997

### 5.3 99 % BANDWIDTH

Standard **FCC Part 15 Subpart E**

**The test was performed according to:**

ANSI C63.10, chapter 12.5.3 (6.9.3)

#### 5.3.1 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.

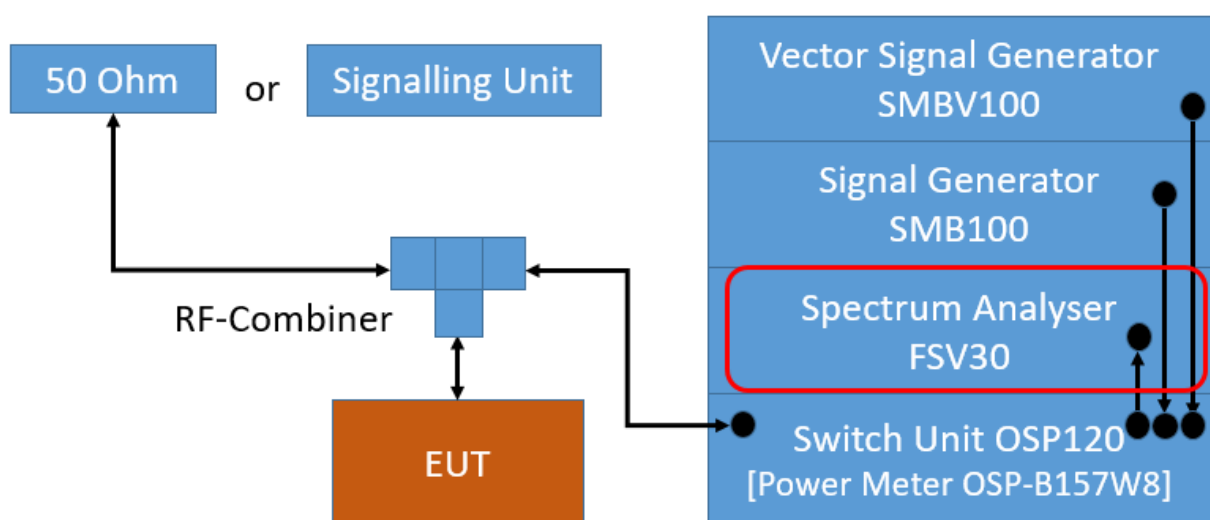
The results recorded were measured with the modulation which produce the worst-case (widest) emission bandwidth.

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):  $\geq 3$  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 %

### 5.3.2 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.

### 5.3.3 TEST PROTOCOL

Ambient temperature: 20 - 24 °C

Air Pressure: 30 - 56 hPa

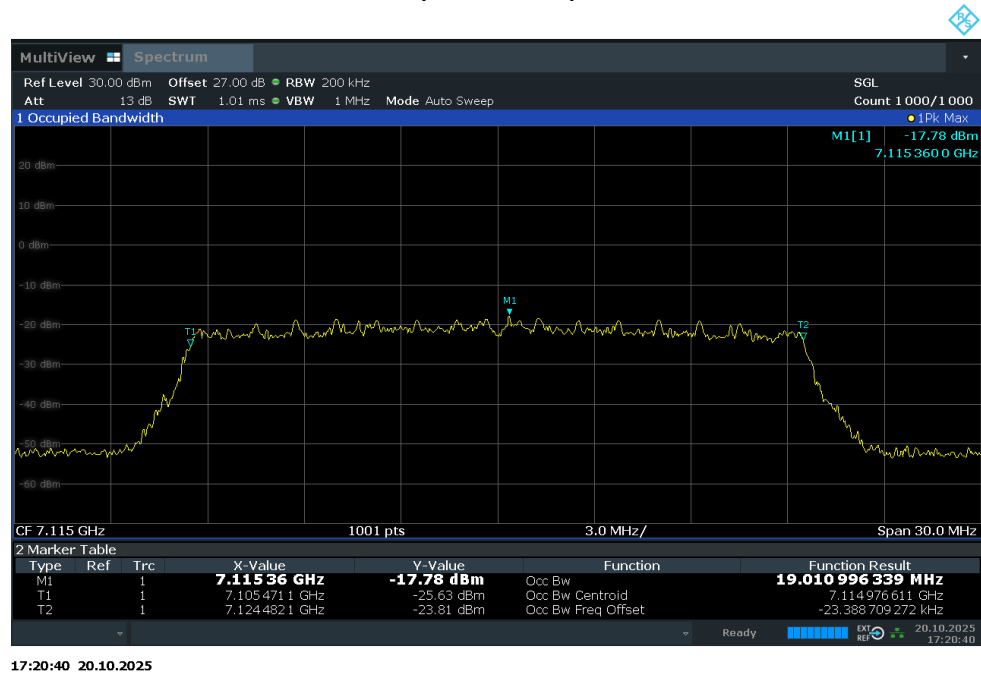
Humidity: 992 - 1020 %

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

Remark: For the straddle channels the given values are the values for each of the two bands that are used by the channel, first value is lower band, second value is higher band.  
Please see next sub-clause for the measurement plot.

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

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Subband = U-NII-8 (S01\_AA01)



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#### 5.3.5 TEST EQUIPMENT USED

- R&S TS8997

## 5.4 MAXIMUM CONDUCTED OUTPUT POWER

Standard **FCC Part 15 Subpart E**

**The test was performed according to:**

ANSI C63.10, chapter 12.4.3.2

### 5.4.1 TEST DESCRIPTION

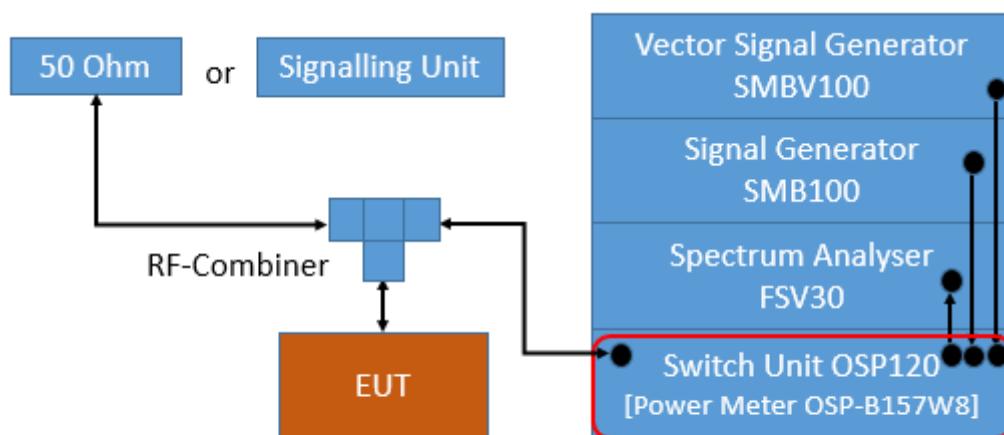
The Equipment Under Test (EUT) was set up to perform the output power measurements. The results recorded were measured with the modulation which produces the worst-case (highest) output power

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.

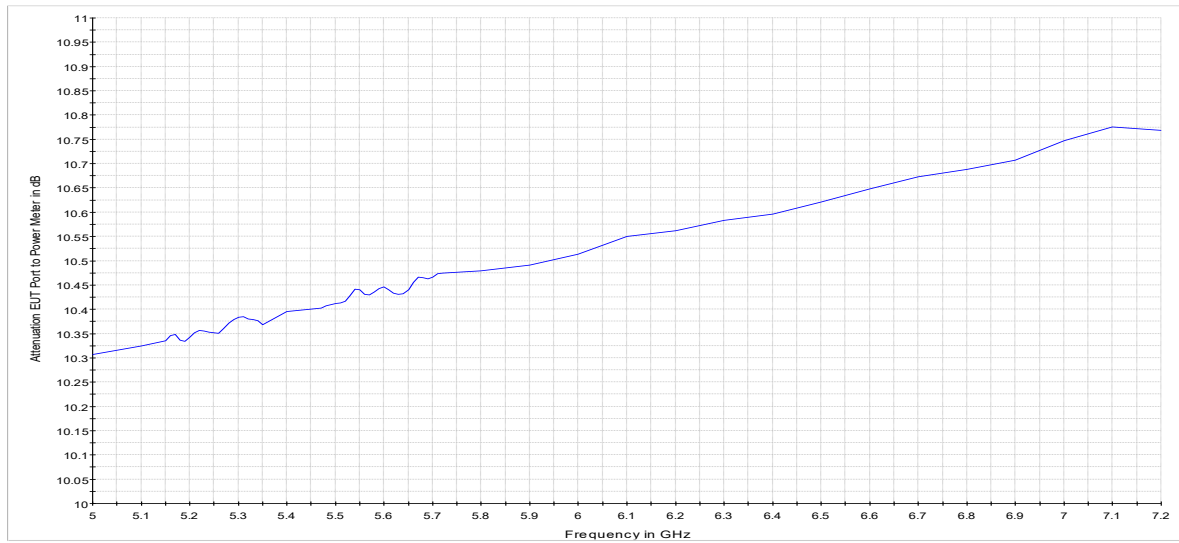
The OSP-B157W is a gated RF average power meter with a signal bandwidth > 300 MHz.

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

#### 5.4.2 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: 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.

### 5.4.3 TEST PROTOCOL

Ambient temperature: 20 - 24 °C  
 Air Pressure: 30 - 56 hPa  
 Humidity: 992 - 1020 %

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           | 2.1               | 7.9        | 24.0                 | 16.1        | 24.0                  | 16.1        |
|            | 45      | 6175           | 2.8               | 8.6        | 24.0                 | 15.4        | 24.0                  | 15.4        |
|            | 93      | 6415           | 4.4               | 10.2       | 24.0                 | 13.8        | 24.0                  | 13.8        |
| 6          | 97      | 6435           | 4.2               | 10.0       | 24.0                 | 14.0        | 24.0                  | 14.0        |
|            | 105     | 6475           | 4.0               | 9.8        | 24.0                 | 14.2        | 24.0                  | 14.2        |
|            | 113     | 6515           | 3.9               | 9.7        | 24.0                 | 14.3        | 24.0                  | 14.3        |
| 7          | 117     | 6535           | 3.8               | 9.6        | 24.0                 | 14.4        | 24.0                  | 14.4        |
|            | 149     | 6695           | 3.8               | 9.6        | 24.0                 | 14.4        | 24.0                  | 14.4        |
|            | 181     | 6855           | 3.2               | 9.0        | 24.0                 | 15.0        | 24.0                  | 15.0        |
| 7+8        | 185     | 6875           | 3.1               | 8.9        | 24.0                 | 15.1        | 24.0                  | 15.1        |
| 8          | 189     | 6895           | 4.5               | 10.3       | 24.0                 | 13.7        | 24.0                  | 13.7        |
|            | 209     | 6995           | 3.6               | 9.4        | 24.0                 | 14.6        | 24.0                  | 14.6        |
|            | 233     | 7115           | -7.7              | -1.9       | 24.0                 | 25.9        | 24.0                  | 25.9        |

Remark: Power Meter measurement, no plots provided.

### 5.4.4 TEST EQUIPMENT USED

- R&S TS8997

## 5.5 PEAK POWER SPECTRAL DENSITY

Standard **FCC Part 15 Subpart E**

**The test was performed according to:**

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

### 5.5.1 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.

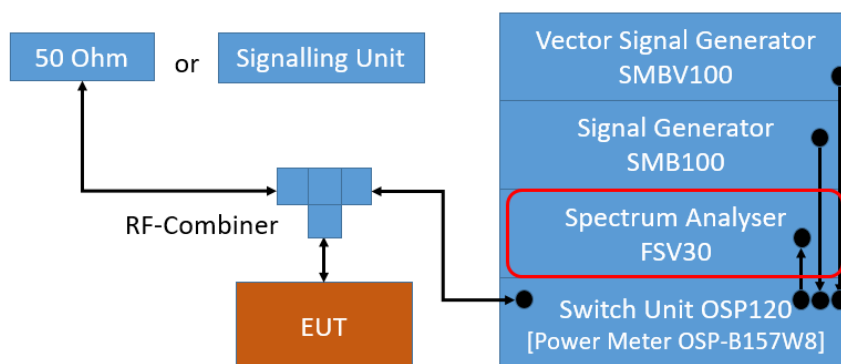
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.

Analyzer settings:

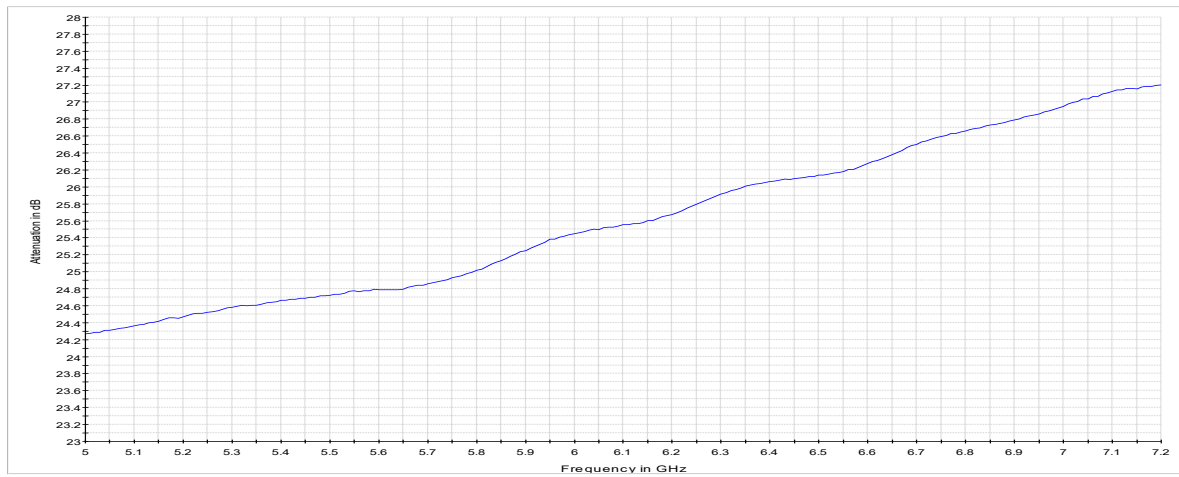
- Resolution Bandwidth (RBW): 1 MHz
- Video Bandwidth (VBW): 3 MHz
- Trace: Average (Power)
- Sweeps: see plots
- Sweptime: Auto
- Detector: RMS
- Trigger: free run

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

## 5.5.2 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

### 5.5.3 TEST PROTOCOL

Ambient temperature: 20 - 24 °C  
 Air Pressure: 30 - 56 hPa  
 Humidity: 992 - 1020 %

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] | Margin [dB] | ISED E.I.R.P Limit [dBm/MHz] | Margin [dB] |
|------------|---------|-------------|----------------|------------------------|-----------------------------|-------------|------------------------------|-------------|
| 5          | 1       | 5955        | -9.0           | -3.2                   | -1.0                        | 2.2         | -1.0                         | 2.2         |
|            | 45      | 6175        | -8.3           | -2.5                   | -1.0                        | 1.5         | -1.0                         | 1.5         |
|            | 93      | 6415        | -7.7           | -1.9                   | -1.0                        | 0.9         | -1.0                         | 0.9         |
| 6          | 97      | 6435        | -7.9           | -2.1                   | -1.0                        | 1.1         | -1.0                         | 1.1         |
|            | 105     | 6475        | -7.9           | -2.1                   | -1.0                        | 1.1         | -1.0                         | 1.1         |
|            | 113     | 6515        | -7.6           | -1.8                   | -1.0                        | 0.8         | -1.0                         | 0.8         |
| 7          | 117     | 6535        | -7.8           | -2.0                   | -1.0                        | 1.0         | -1.0                         | 1.0         |
|            | 149     | 6695        | -7.6           | -1.8                   | -1.0                        | 0.8         | -1.0                         | 0.8         |
|            | 181     | 6855        | -8.1           | -2.3                   | -1.0                        | 1.3         | -1.0                         | 1.3         |
| 7+8        | 185     | 6875        | -8.3           | -2.5                   | -1.0                        | 1.5         | -1.0                         | 1.5         |
| 8          | 189     | 6895        | -7.1           | -1.3                   | -1.0                        | 0.3         | -1.0                         | 0.3         |
|            | 209     | 6995        | -8.2           | -2.4                   | -1.0                        | 1.4         | -1.0                         | 1.4         |
|            | 233     | 7115        | -20.6          | -14.8                  | -1.0                        | 13.8        | -1.0                         | 13.8        |

#### OFDMA RU:

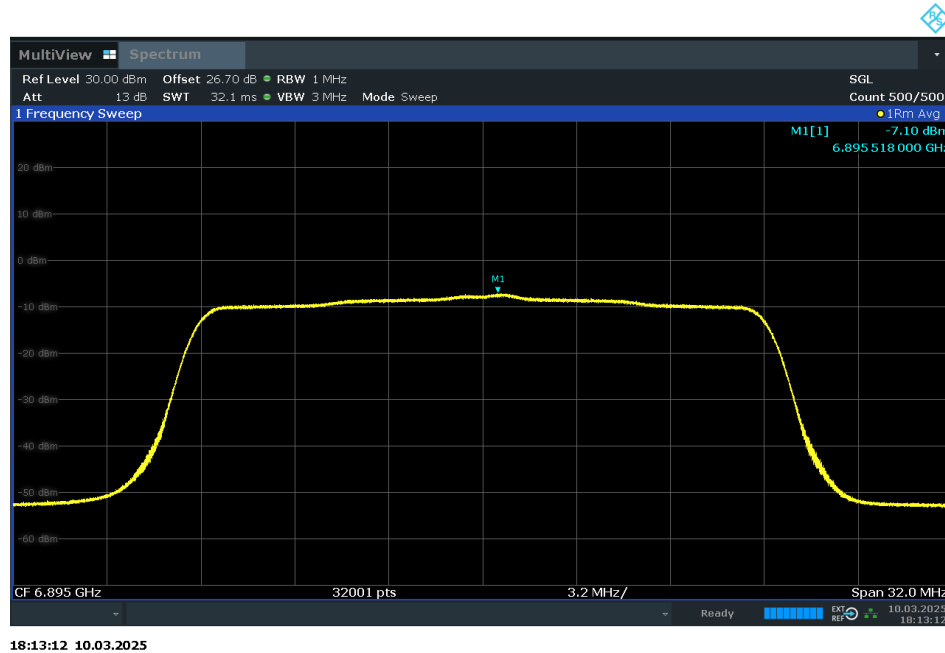
WLAN ax-Mode; 20 MHz; MCS 0; RU3; SISO

| 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] | Margin [dB] | ISED E.I.R.P Limit [dBm/MHz] | Margin [dB] |
|------------|---------|-------------|----------------|------------------------|-----------------------------|-------------|------------------------------|-------------|
| 5          | 1       | 5955        | -8.9           | -3.1                   | -1.0                        | 2.1         | -1.0                         | 2.1         |
|            | 45      | 6175        | -8.3           | -2.5                   | -1.0                        | 1.5         | -1.0                         | 1.5         |
|            | 93      | 6415        | -7.7           | -1.9                   | -1.0                        | 0.9         | -1.0                         | 0.9         |
| 6          | 97      | 6435        | -8.4           | -2.6                   | -1.0                        | 1.6         | -1.0                         | 1.6         |
|            | 105     | 6475        | -7.5           | -1.7                   | -1.0                        | 0.7         | -1.0                         | 0.7         |
|            | 113     | 6515        | -7.9           | -2.1                   | -1.0                        | 1.1         | -1.0                         | 1.1         |
| 7          | 117     | 6535        | -7.7           | -1.9                   | -1.0                        | 0.9         | -1.0                         | 0.9         |
|            | 149     | 6695        | -7.9           | -2.1                   | -1.0                        | 1.1         | -1.0                         | 1.1         |
|            | 181     | 6855        | -8.4           | -2.6                   | -1.0                        | 1.6         | -1.0                         | 1.6         |
| 7+8        | 185     | 6875        | -8.3           | -2.5                   | -1.0                        | 1.5         | -1.0                         | 1.5         |
| 8          | 189     | 6895        | -7.5           | -1.7                   | -1.0                        | 0.7         | -1.0                         | 0.7         |
|            | 209     | 6995        | -8.5           | -2.7                   | -1.0                        | 1.7         | -1.0                         | 1.7         |
|            | 233     | 7115        | -14.4          | -8.6                   | -1.0                        | 7.6         | -1.0                         | 7.6         |

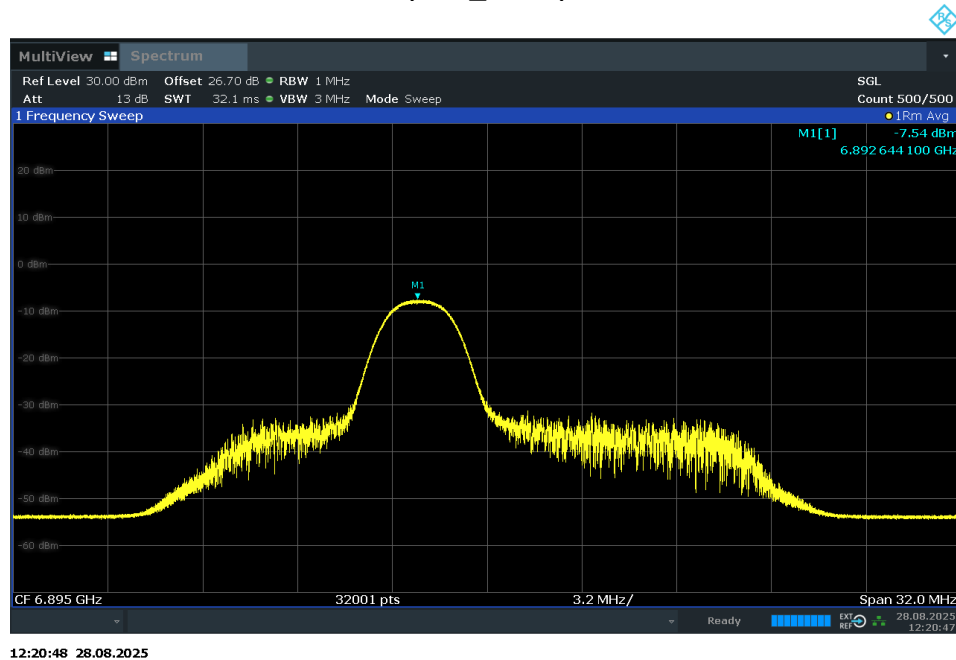
Remark: Please see next sub-clause for the measurement plot.

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

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Subband = U-NII-8 (S01\_AA01)



Radio Technology = WLAN ax 20 MHz, Frequency = low, Subband = U-NII-8, RU 3 (S01\_AA01)



#### 5.5.5 TEST EQUIPMENT USED

- R&S TS8997

## 5.6 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

### 5.6.1 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:

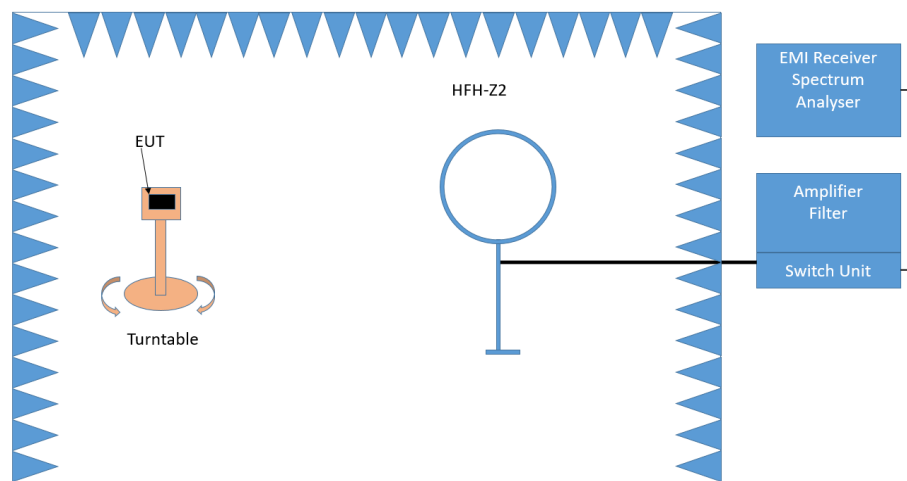
- < 30 MHz: Chapter 6.4
- 30 MHz – 1 GHz: Chapter 6.5
- > 1 GHz: Chapter 6.6 (procedure according 6.6.5 used)

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)

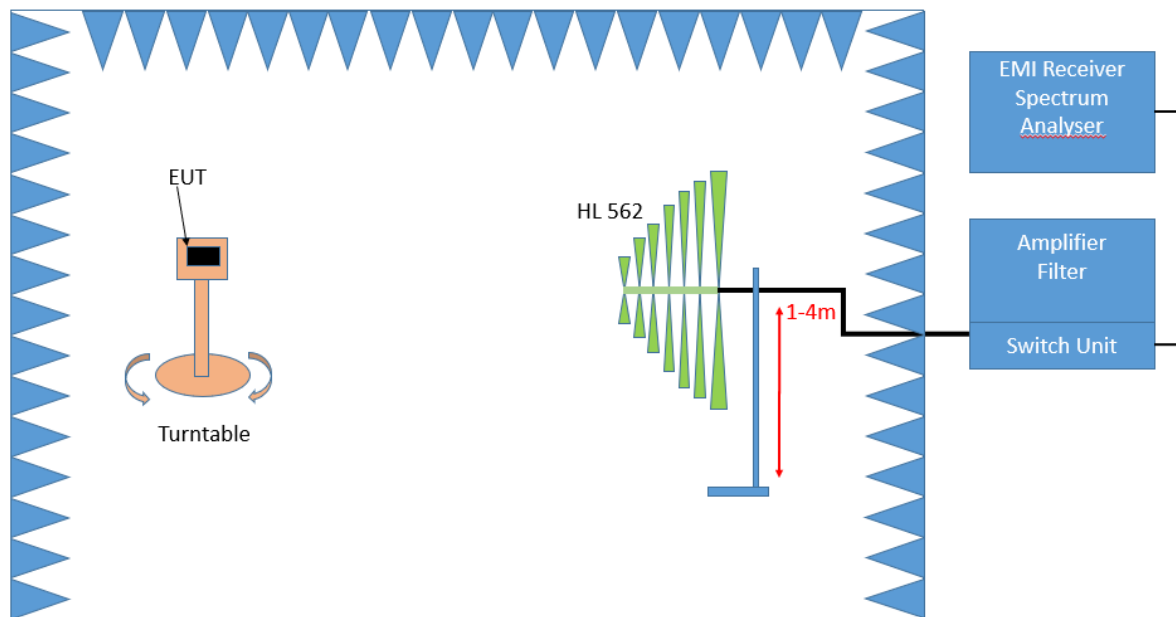
Intention of this step is, to determine the radiated EMI-profile of the EUT. Afterwards the relevant emissions for the final measurement are identified.

**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:  $-180^{\circ}$  to  $90^{\circ}$
- Turntable step size:  $90^{\circ}$
- 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  $360^{\circ}$ . 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:  $360^{\circ}$
- 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

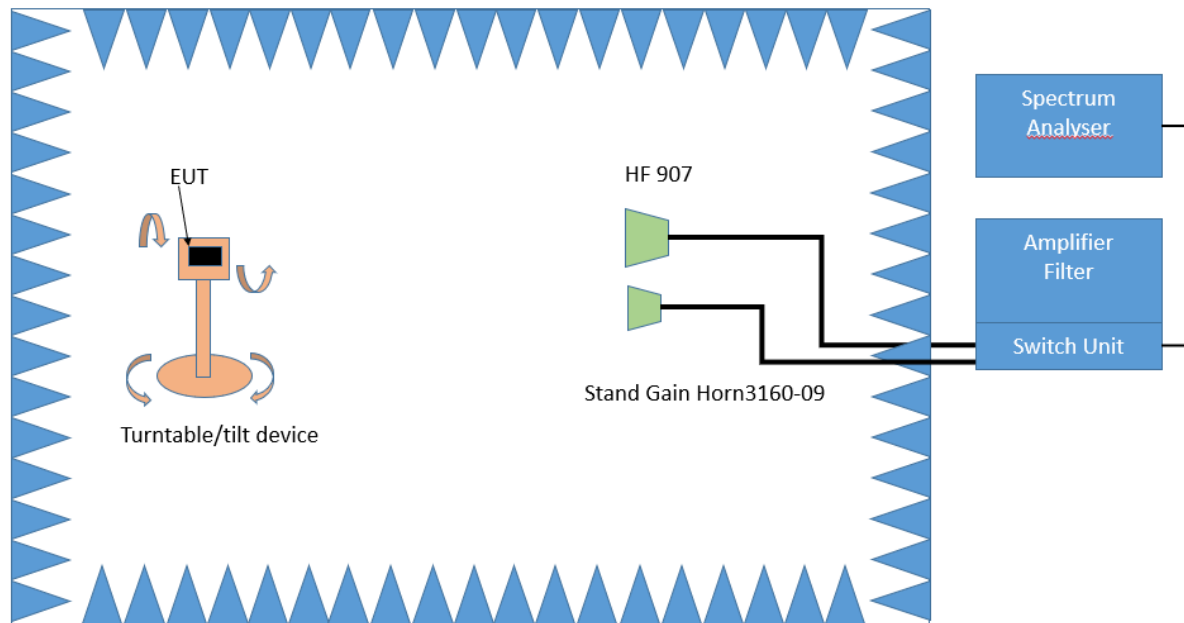
After the measurement a plot will be generated which contains a diagram with the results of the preliminary scan and a chart with the frequencies and values of the results of the final measurement.

### 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:

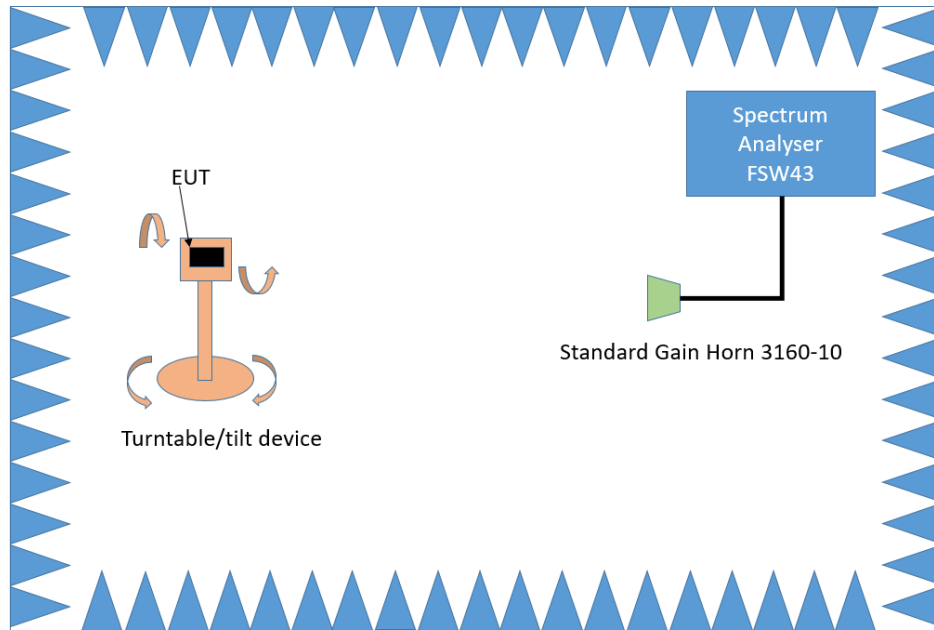
Spectrum analyser settings for step 3:

- 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

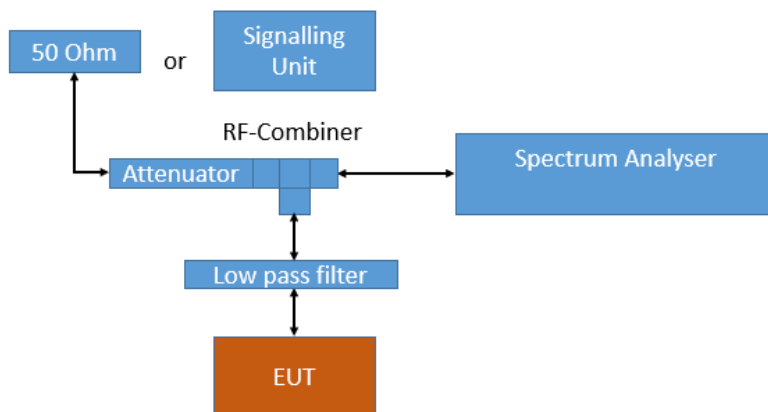


Test Setup; Spurious Emission Radiated (FAC), 26.5 – 40 GHz

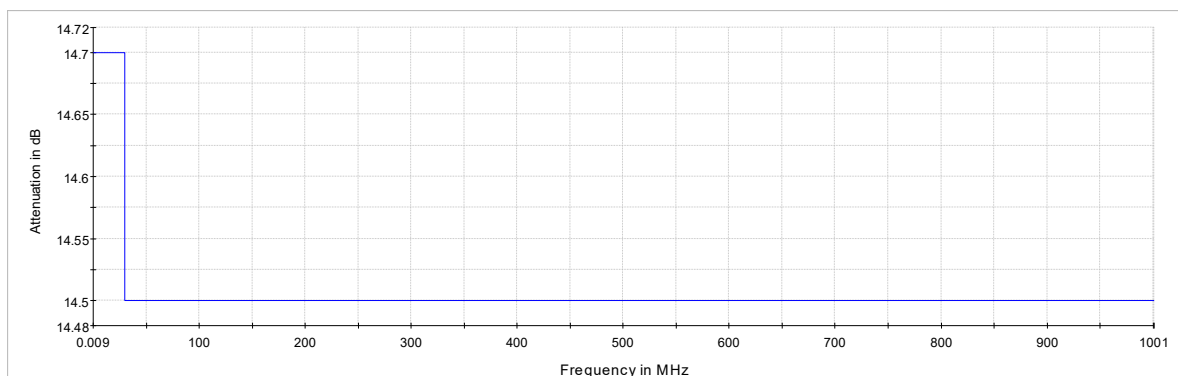
### Conducted Measurements at antenna ports:

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

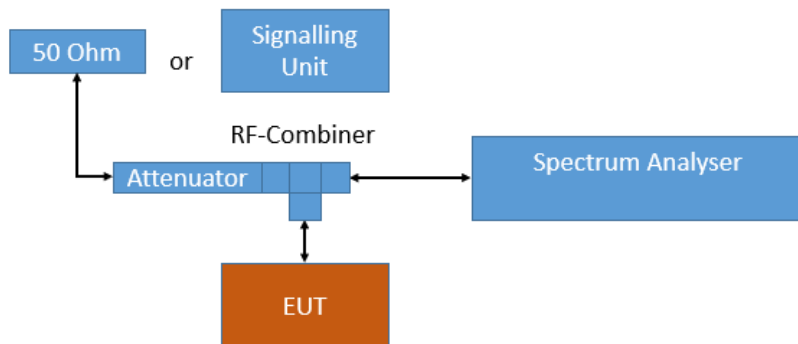
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.



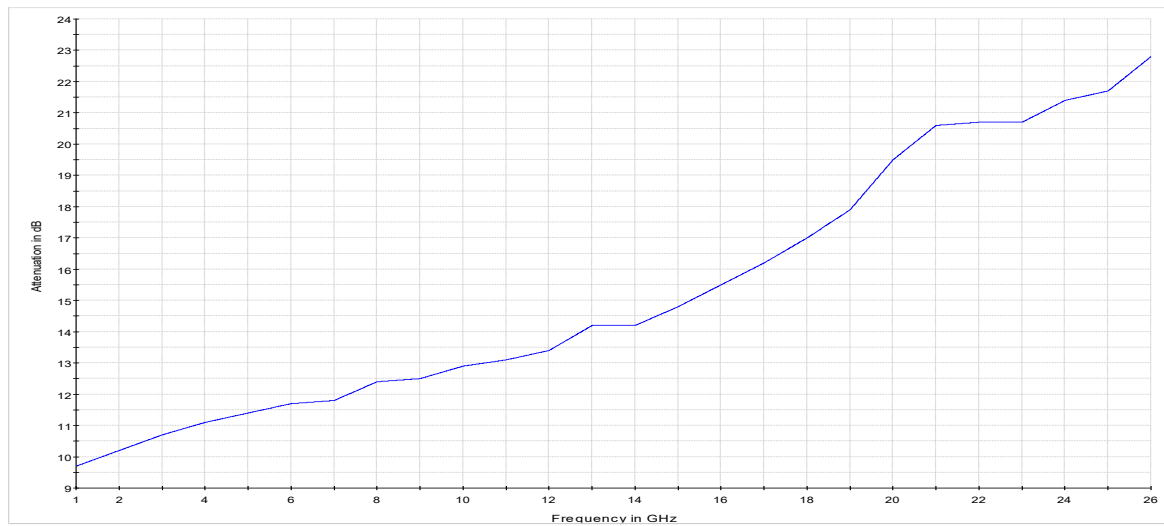
Measurement <1GHz: Path Attenuation Transducer DUT1\_3dB\_TP2000



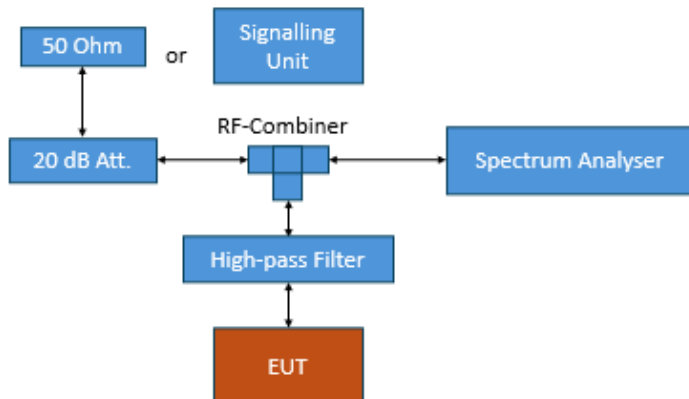
Transducer DUT1\_3dB\_TP2000



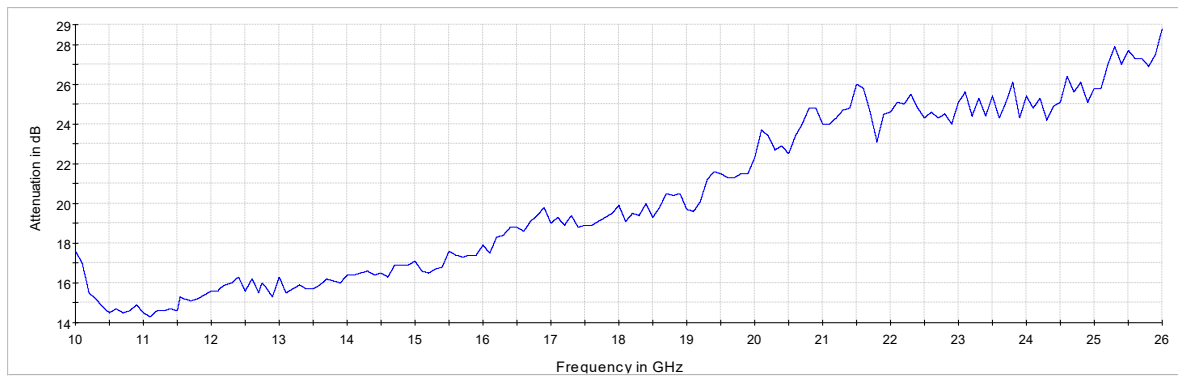
Measurement 1 – 13.5 GHz: Path Attenuation Transducer DUT1\_3dB



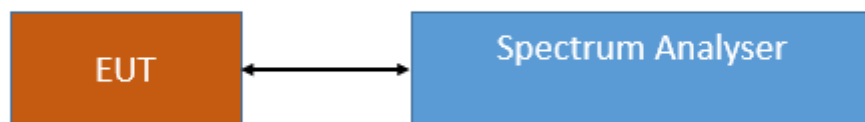
Transducer DUT1\_3dB



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 (5.8 dBi) = 11.3 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

## 5.6.2 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.

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 $\mu$ V/m) = 20 log (Limit ( $\mu$ V/m)/1 $\mu$ V/m)
- Limit (dB $\mu$ 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.

### 5.6.3 TEST PROTOCOL

Ambient temperature: 20 - 27 °C  
 Air Pressure: 30 - 56 hPa  
 Humidity: 992 - 1020 %

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         |
| 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         |
| 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         |
| Conducted          | 7115                   | 4743.0               | 56.7                    | PEAK     | 1000      | 74.0           | 17.4        | RB         |
| Conducted          | 7115                   | 4743.0               | 51.6                    | AV       | 1000      | 54.0           | 2.4         | RB         |
| Radiated           | 5955                   | 29774.5              | 55.5                    | PEAK     | 1000      | 88.2           | 32.7        | UE         |
| Radiated           | 5955                   | 29774.5              | 49.2                    | AV       | 1000      | 68.2           | 19.0        | UE         |
| Radiated           | 6175                   | 30874.0              | 54.2                    | PEAK     | 1000      | 88.2           | 34.0        | UE         |
| Radiated           | 6175                   | 30874.0              | 48.6                    | AV       | 1000      | 68.2           | 19.6        | UE         |
| Radiated           | 6415                   | 32074.5              | 53.7                    | PEAK     | 1000      | 88.2           | 34.5        | UE         |
| Radiated           | 6415                   | 32074.5              | 44.1                    | AV       | 1000      | 68.2           | 24.1        | UE         |
| Radiated           | 6435                   | 32174.5              | 55.0                    | PEAK     | 1000      | 88.2           | 33.2        | UE         |
| Radiated           | 6435                   | 32174.5              | 44.1                    | AV       | 1000      | 68.2           | 24.1        | UE         |
| Radiated           | 6475                   | -                    | -                       | -        | -         | -              | -           | UE         |
| Radiated           | 6475                   | -                    | -                       | -        | -         | -              | -           | UE         |
| Radiated           | 6515                   | 26059.6              | 53.4                    | PEAK     | 1000      | 88.2           | 34.8        | UE         |
| Radiated           | 6515                   | 26059.6              | 46.3                    | AV       | 1000      | 68.2           | 21.9        | UE         |
| Radiated           | 6535                   | 26139.8              | 54.1                    | PEAK     | 1000      | 88.2           | 34.1        | UE         |
| Radiated           | 6535                   | 26139.8              | 48.1                    | AV       | 1000      | 68.2           | 20.1        | UE         |
| Radiated           | 6695                   | 26779.5              | 54.8                    | PEAK     | 1000      | 88.2           | 33.4        | UE         |
| Radiated           | 6695                   | 26779.5              | 48.5                    | AV       | 1000      | 68.2           | 19.7        | UE         |

|          |      |         |      |      |      |      |      |    |
|----------|------|---------|------|------|------|------|------|----|
| Radiated | 6855 | 27420.0 | 56.1 | PEAK | 1000 | 88.2 | 32.1 | UE |
| Radiated | 6855 | 27420.0 | 50.4 | AV   | 1000 | 68.2 | 17.8 | UE |
| Radiated | 6895 | 27580.0 | 55.7 | PEAK | 1000 | 88.2 | 32.5 | UE |
| Radiated | 6895 | 27580.0 | 49.9 | AV   | 1000 | 68.2 | 18.3 | UE |
| Radiated | 6995 | 27980.0 | 56.4 | PEAK | 1000 | 88.2 | 31.8 | UE |
| Radiated | 6995 | 27980.0 | 52.0 | AV   | 1000 | 68.2 | 16.2 | UE |
| Radiated | 7115 | 28459.5 | 55.1 | PEAK | 1000 | 88.2 | 33.1 | UE |
| Radiated | 7115 | 28459.5 | 50.0 | AV   | 1000 | 68.2 | 18.2 | UE |

Remark: Radiated Measurements were performed with 50 Ohm termination at the antenna ports.

When no clear peaks were found in the plots, the tested frequencies are given with "-" instead of values in the table above.

Since radiated measurements did not show relevant peaks below 26 GHz, not all channels were tested for the frequency range <26 GHz and for some channels only the relevant harmonic was tested in the range above 26 GHz.

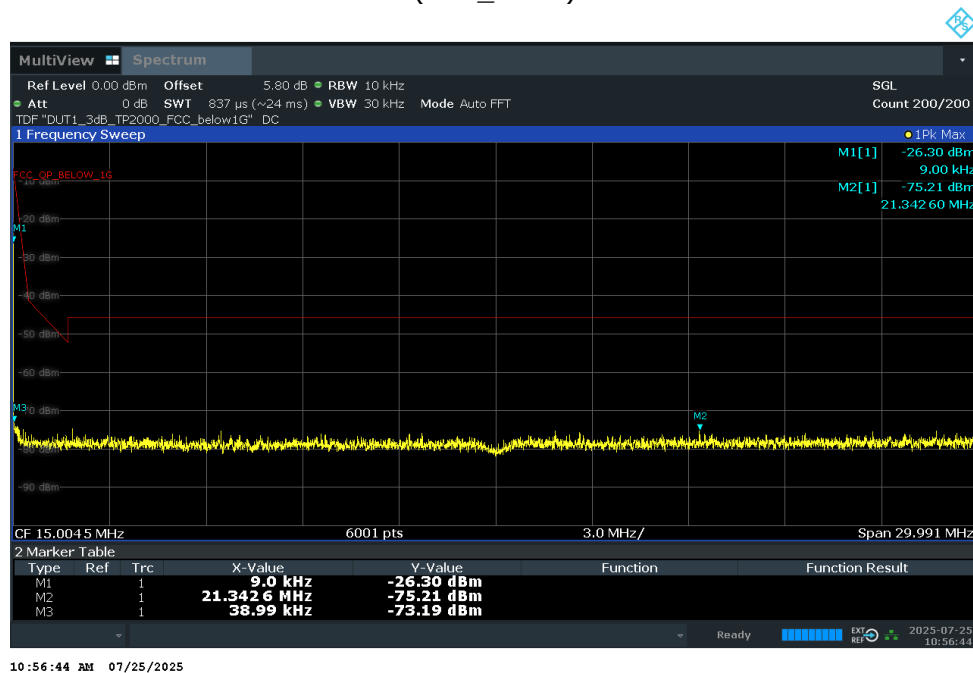
For details, please see the plots in next sub-clause.

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

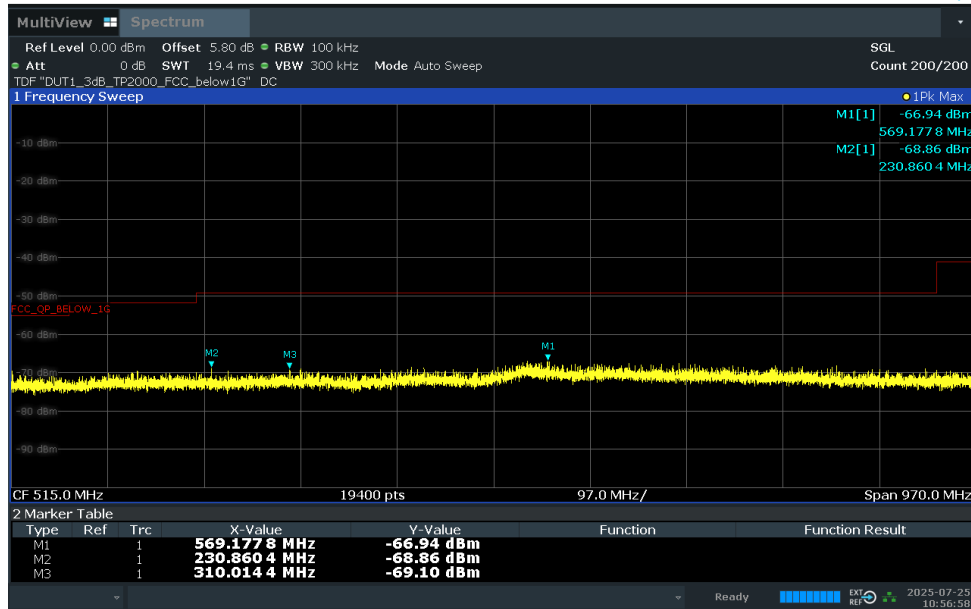
##### Conducted Measurements

**For the range 9 kHz to 26 GHz the cable attenuation is considered as transducer factor and the antenna gain as offset (5.8 dBi)**  
**In the range 26 to 40 GHz, the offset represents the highest cable attenuation (5.5 dB) of the range plus antenna gain (5.8 dBi).**

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 9kHz - 30MHz, Subband = U-NII-5 (S01\_AA01)

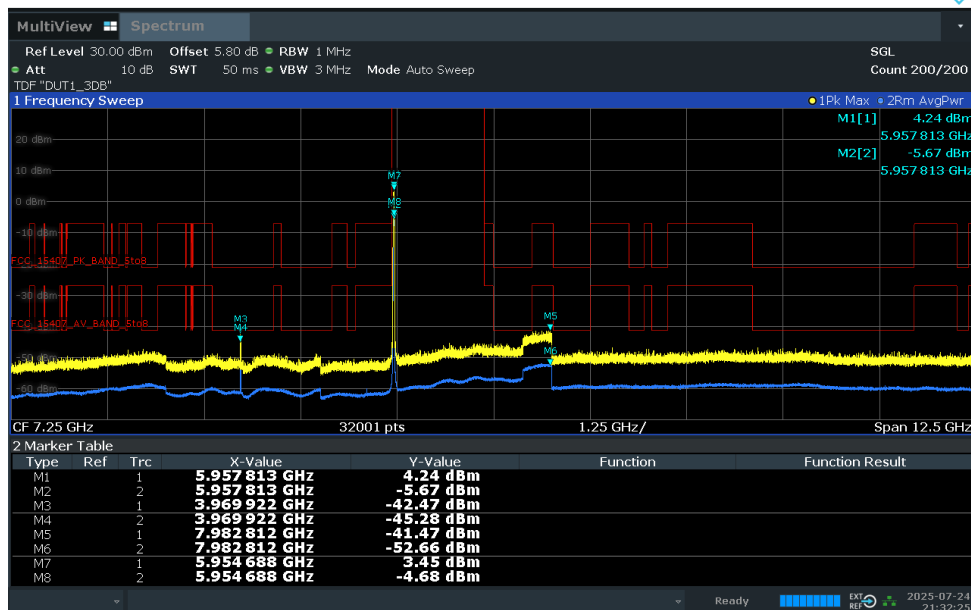


Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
30MHz - 1GHz, Subband = U-NII-5  
(S01\_AA01)

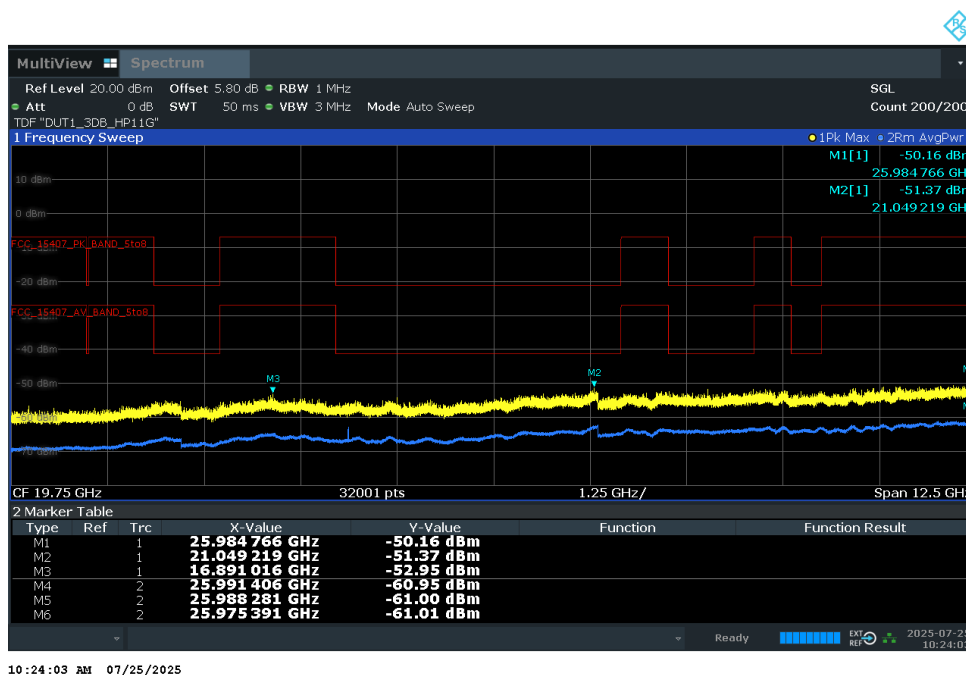


10:56:58 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
1GHz - 26GHz, Subband = U-NII-5  
(S01\_AA01)

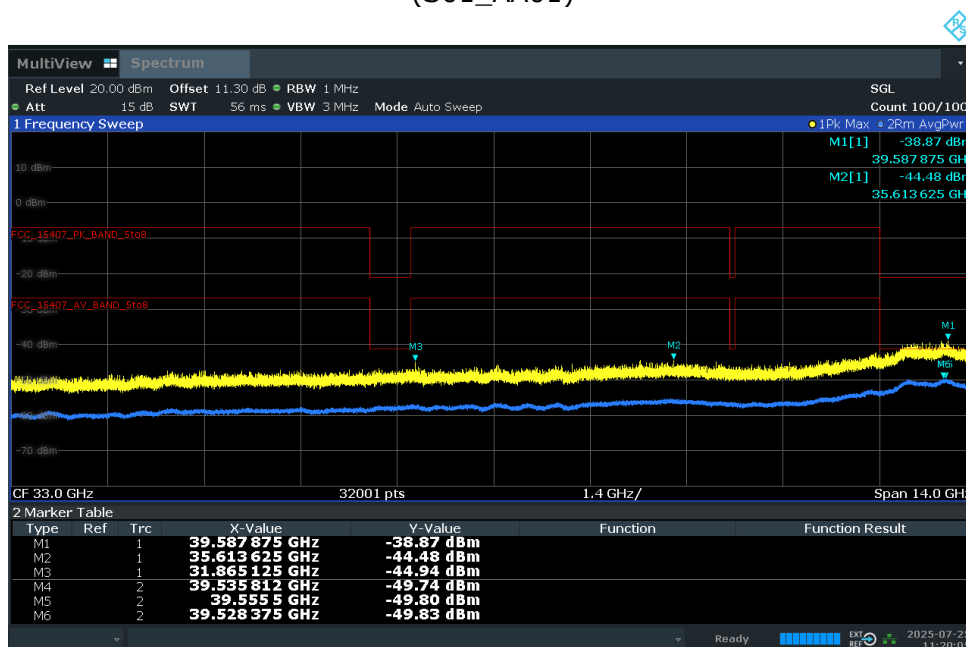


09:32:25 PM 07/24/2025



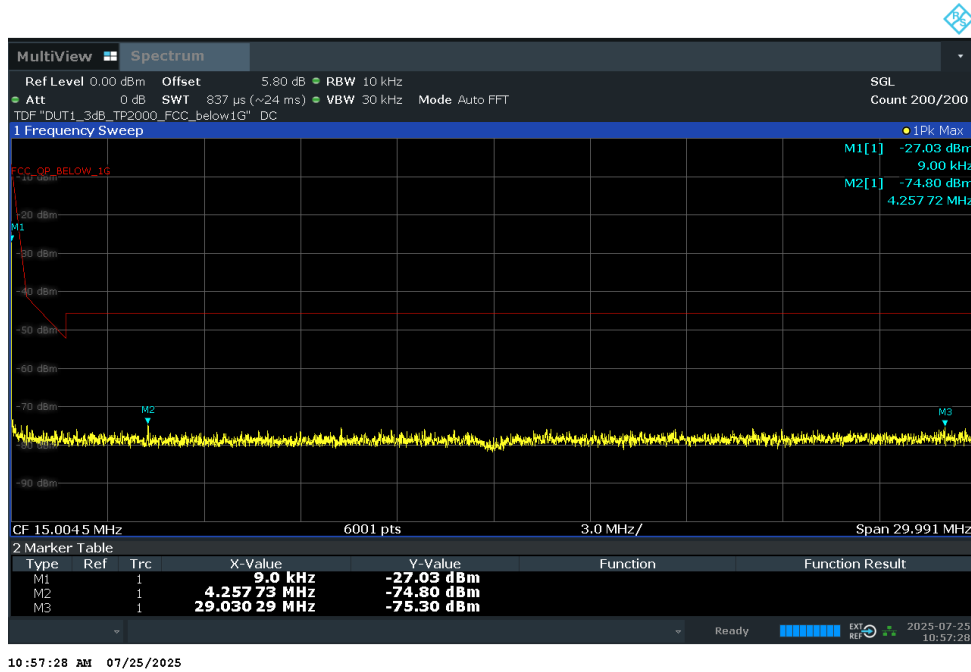
10:24:03 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 26GHz - 40GHz, Subband = U-NII-5 (S01\_AA01)

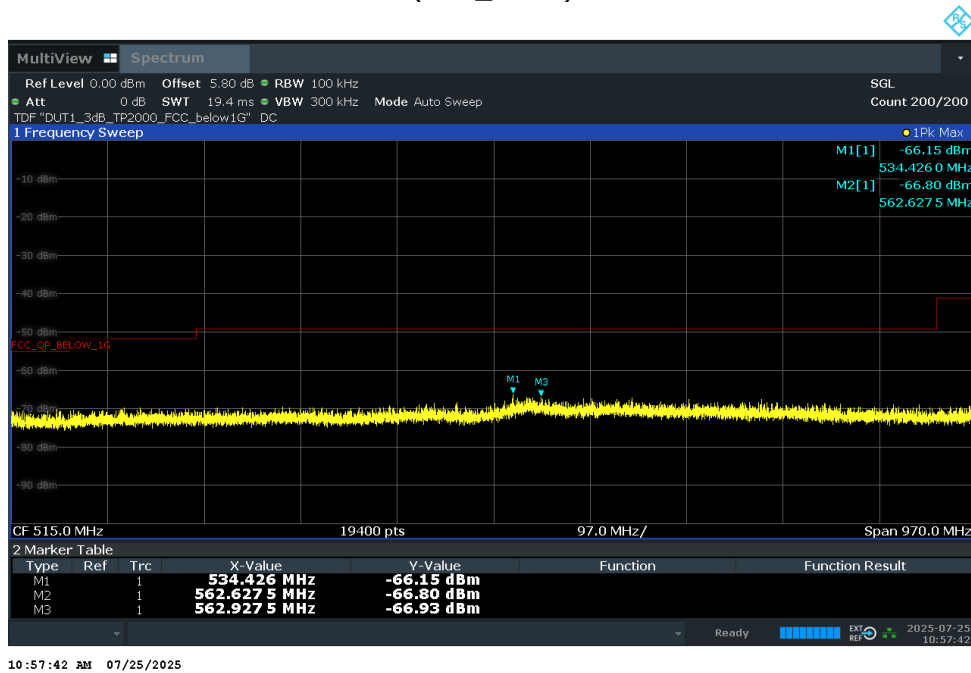


11:20:05 AM 07/25/2025

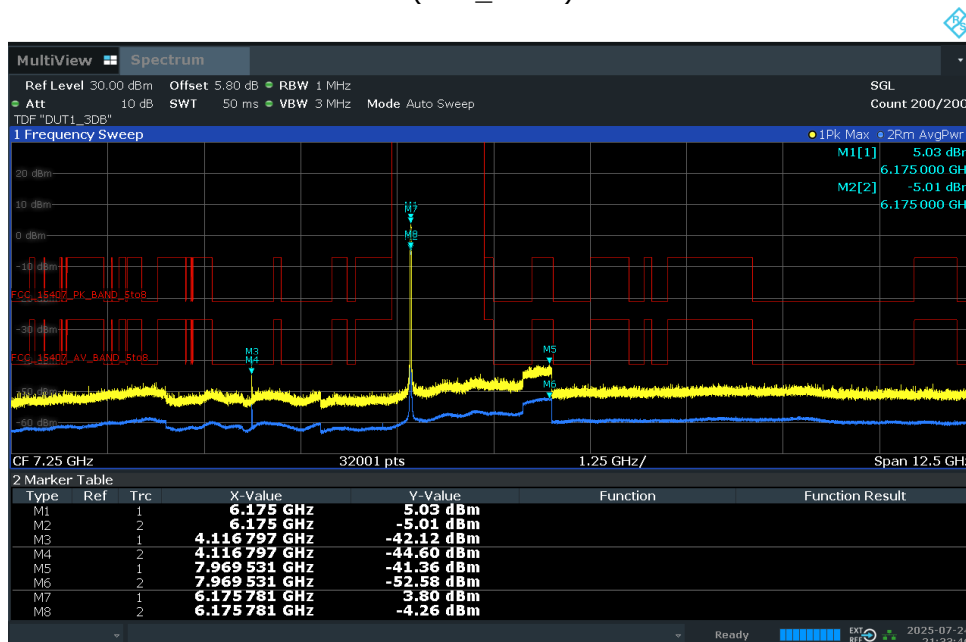
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
9kHz - 30MHz, Subband = U-NII-5  
(S01\_AA01)



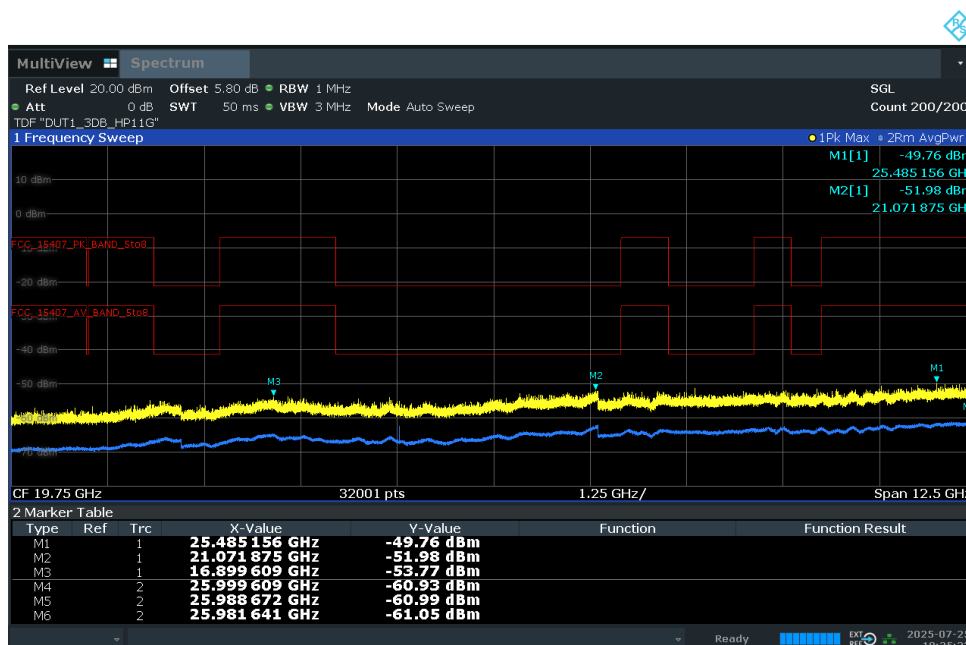
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
30MHz - 1GHz, Subband = U-NII-5  
(S01\_AA01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-5 (S01\_AA01)

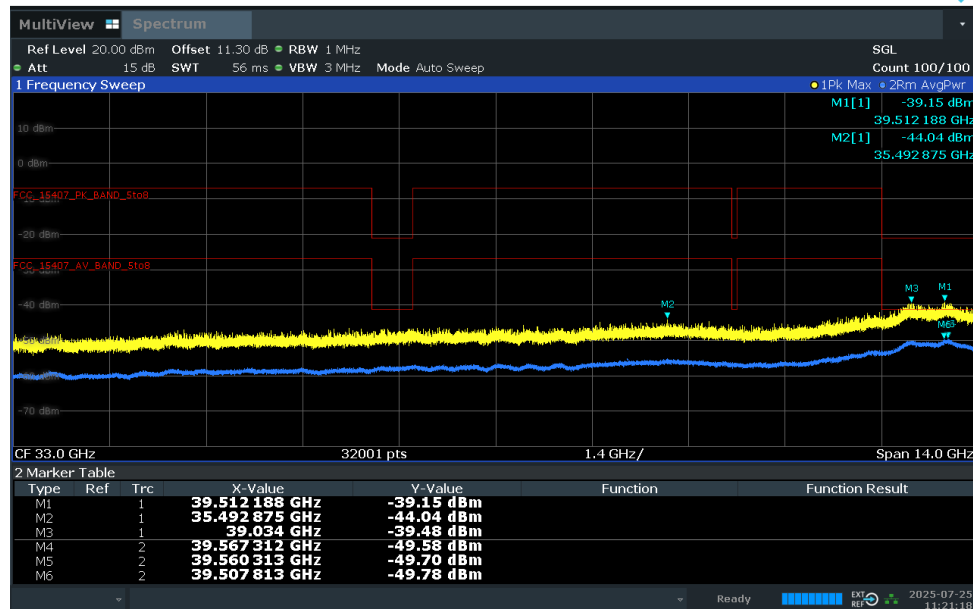


09:33:46 PM 07/24/2025



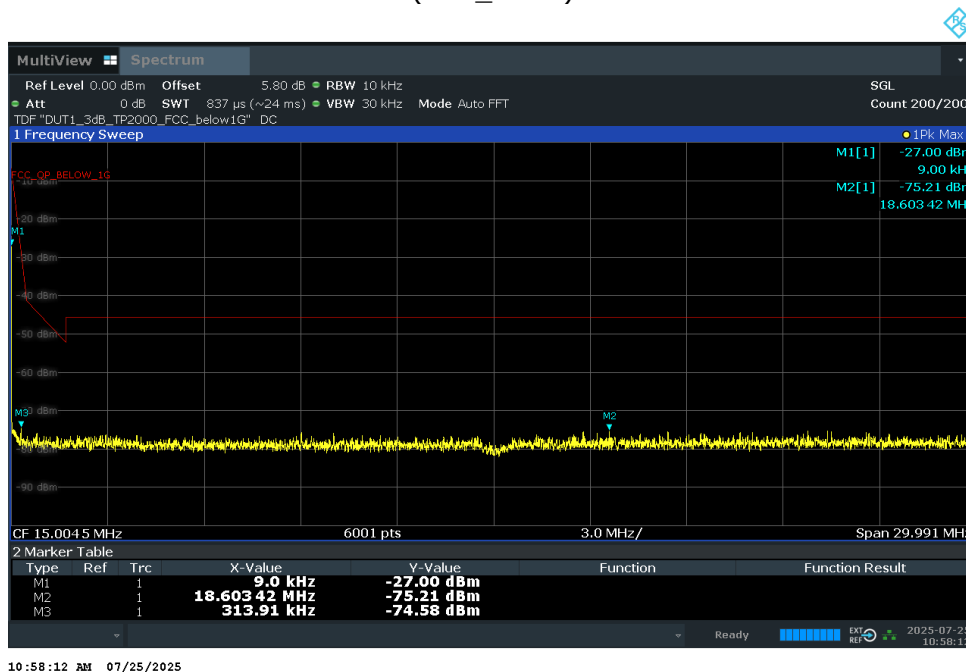
10:25:33 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-5  
(S01\_AA01)

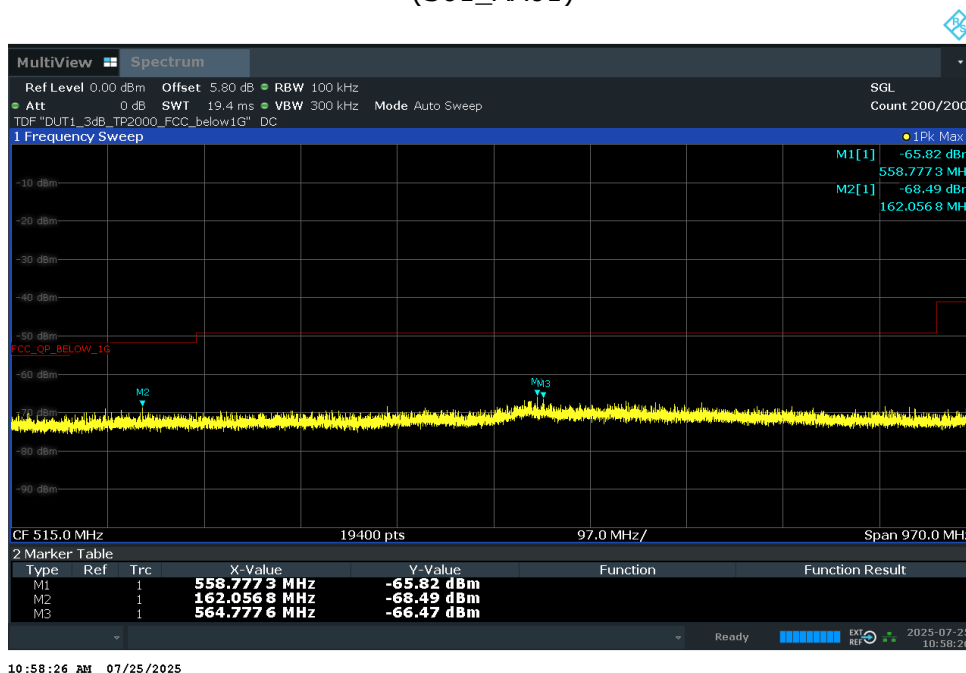


11:21:18 AM 07/25/2025

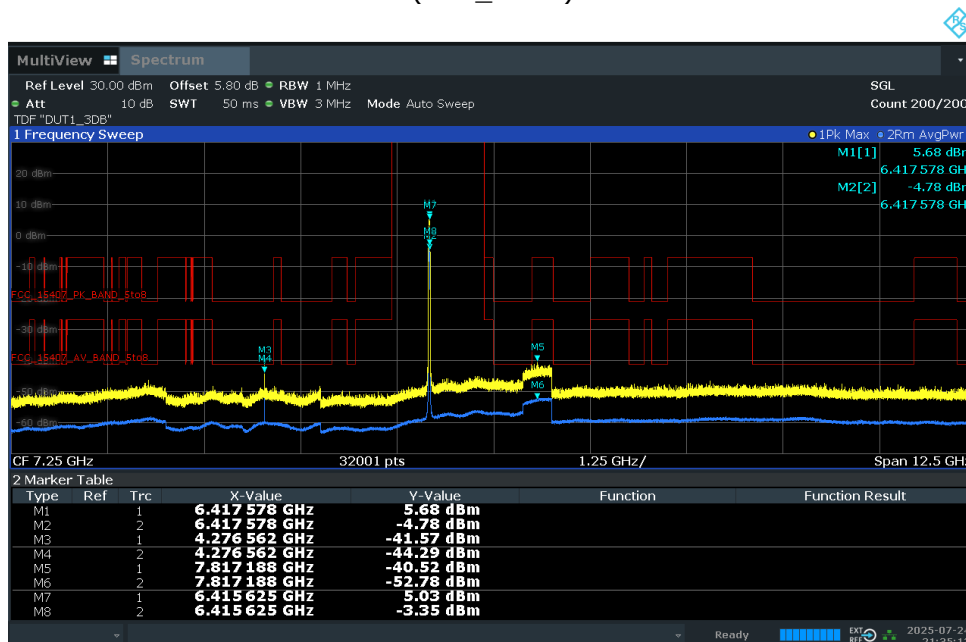
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 9kHz - 30MHz, Subband = U-NII-5 (S01\_AA01)



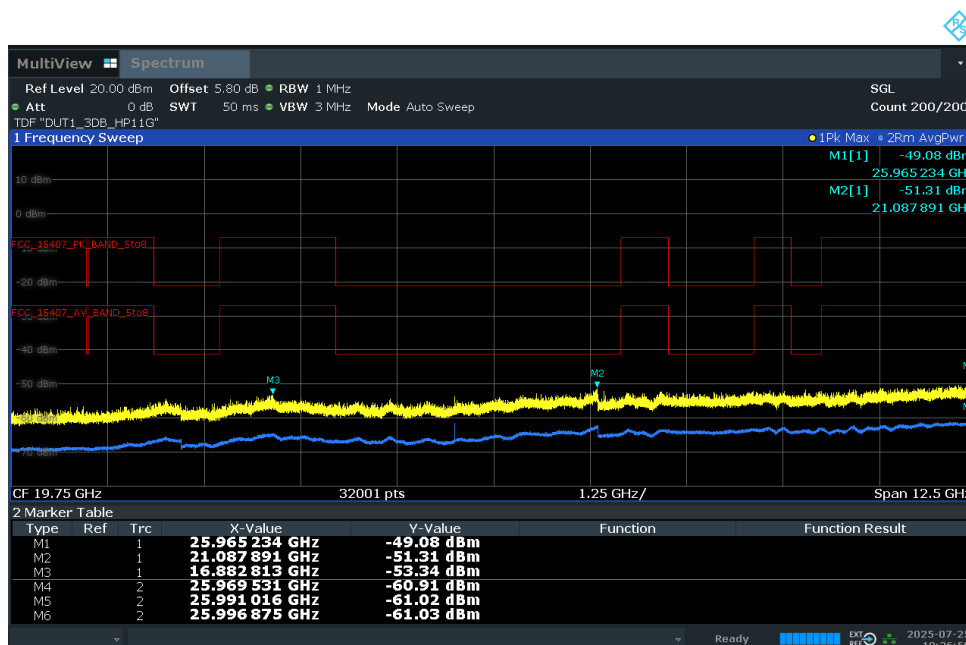
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 30MHz - 1GHz, Subband = U-NII-5 (S01\_AA01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
1GHz - 26GHz, Subband = U-NII-5  
(S01\_AA01)

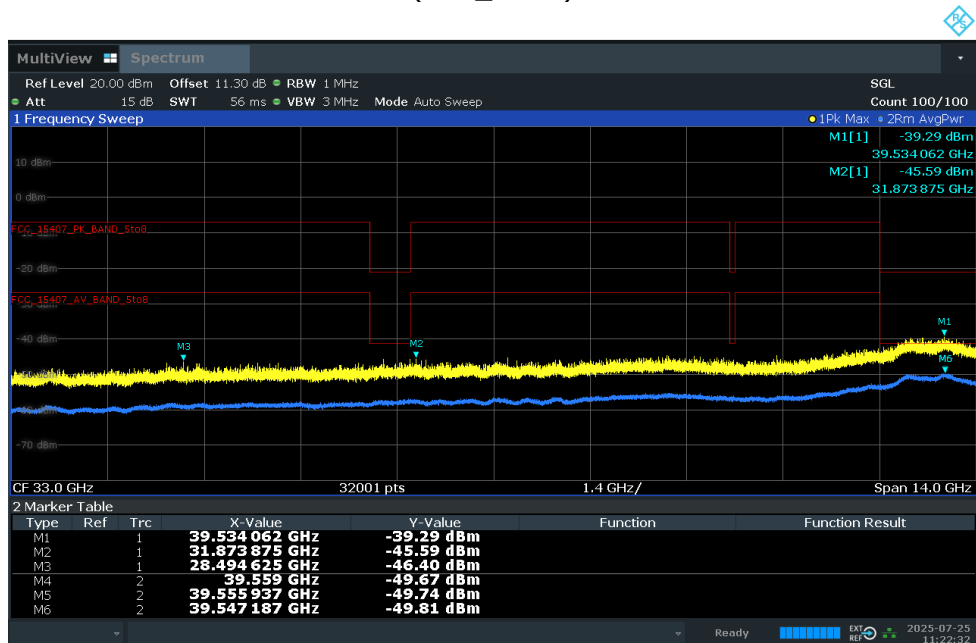


09:35:13 PM 07/24/2025



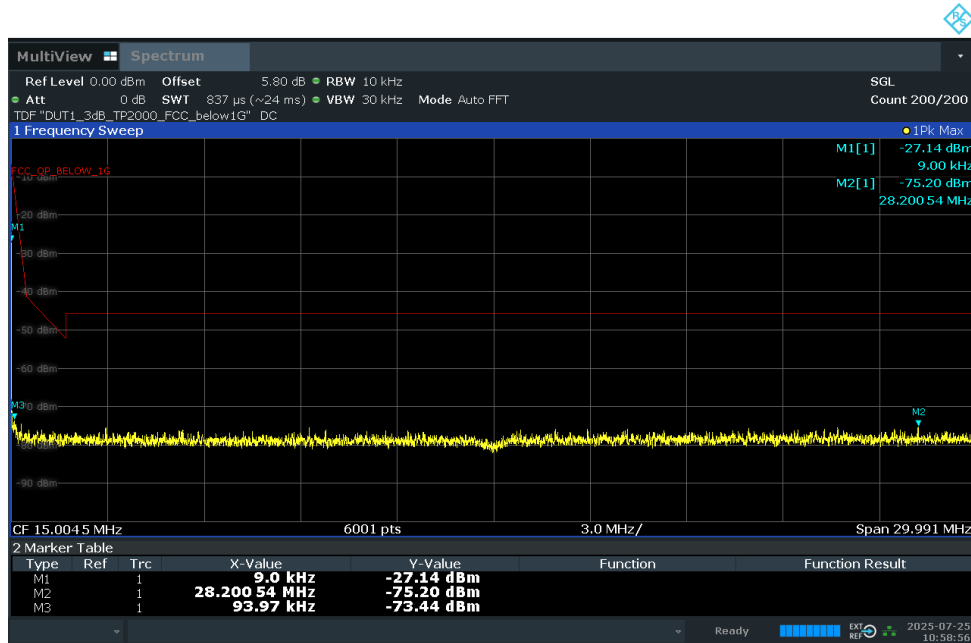
10:27:00 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
26GHz - 40GHz, Subband = U-NII-5  
(S01\_AA01)

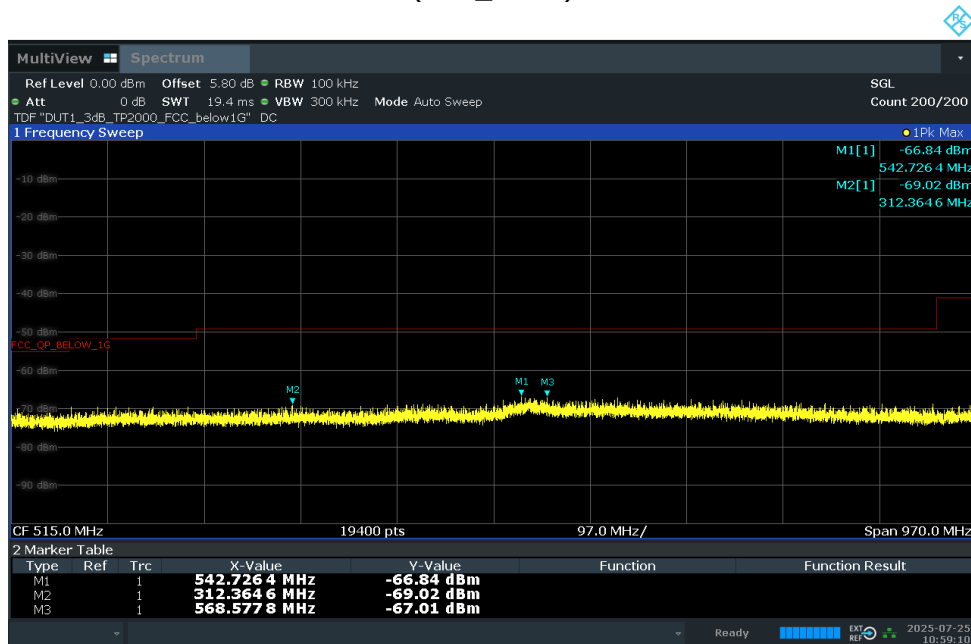


11:22:32 AM 07/25/2025

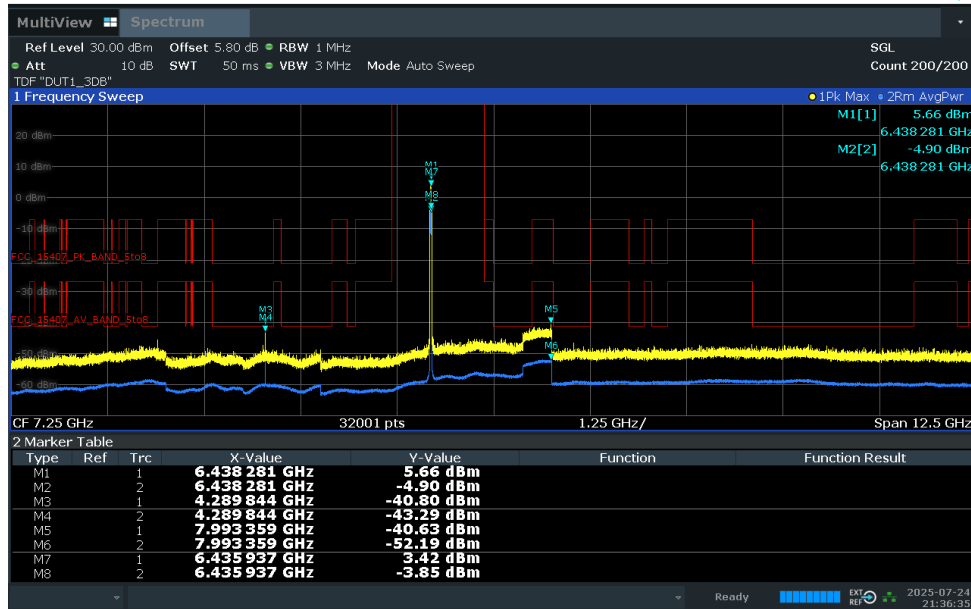
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
9kHz - 30MHz, Subband = U-NII-6  
(S01\_AA01)



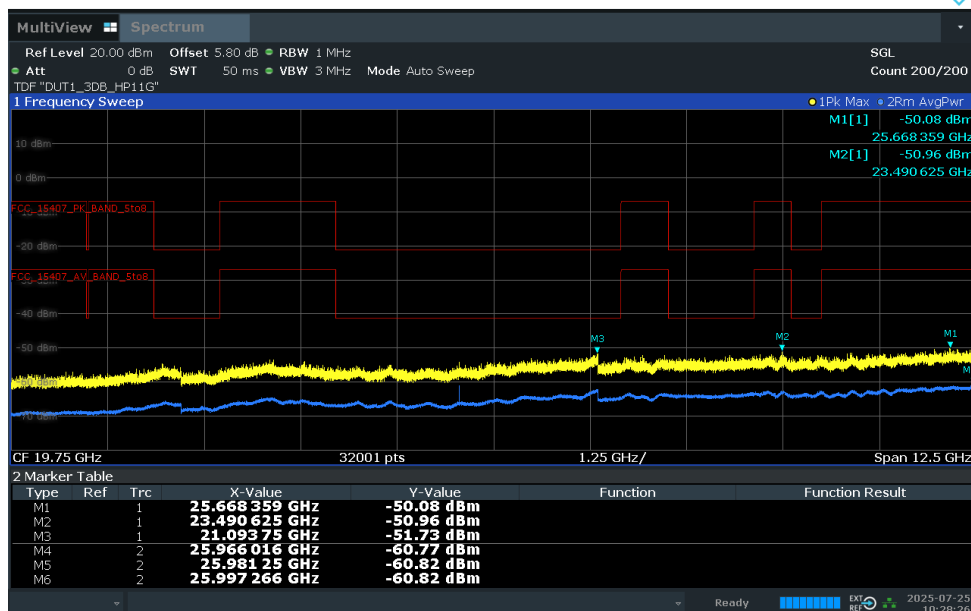
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
30MHz - 1GHz, Subband = U-NII-6  
(S01\_AA01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-6 (S01\_AA01)

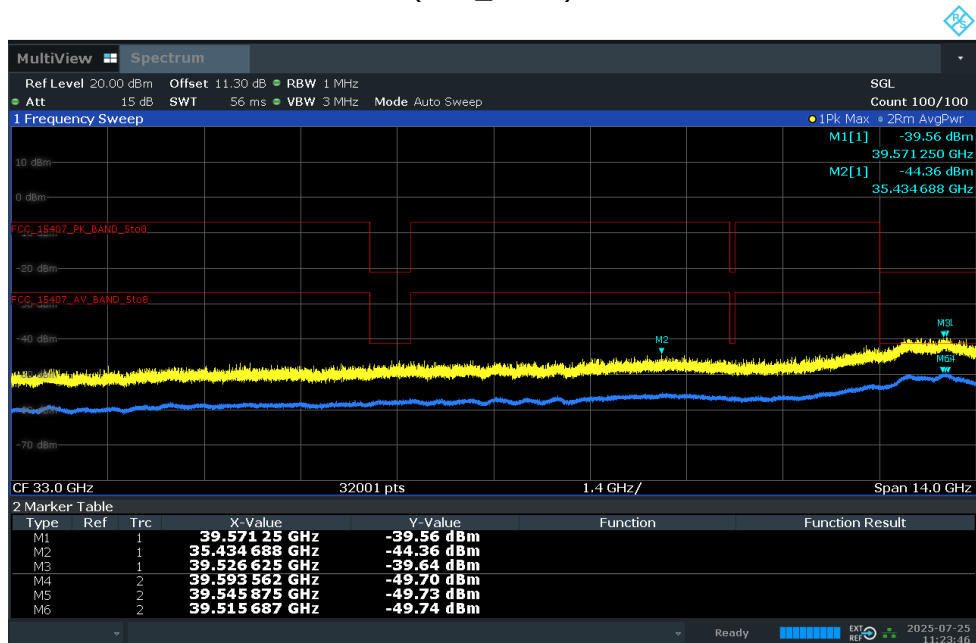


09:36:35 PM 07/24/2025



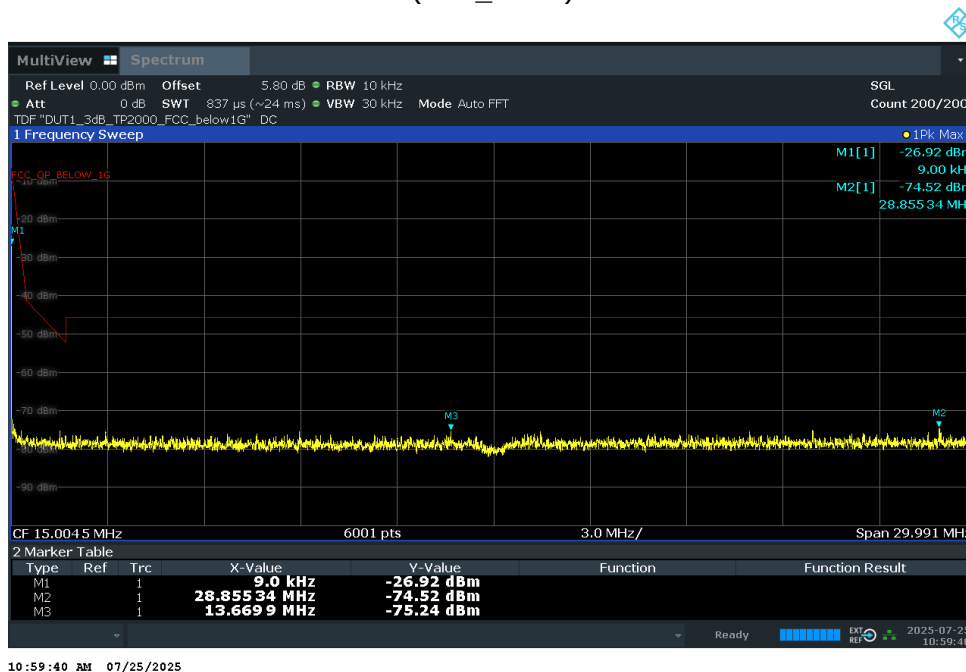
10:28:26 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
26GHz - 40GHz, Subband = U-NII-6  
(S01\_AA01)

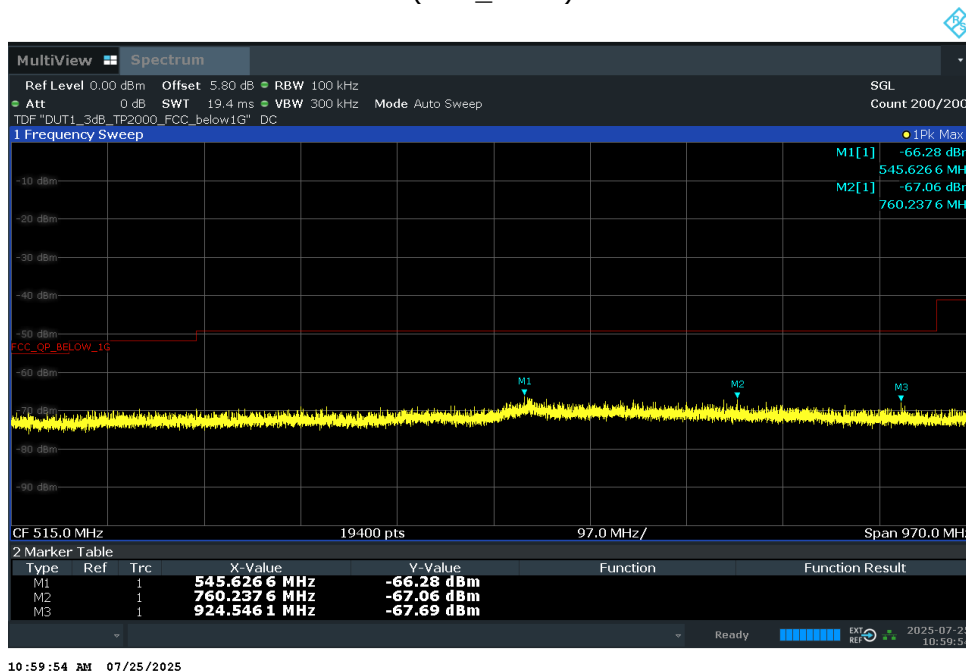


11:23:46 AM 07/25/2025

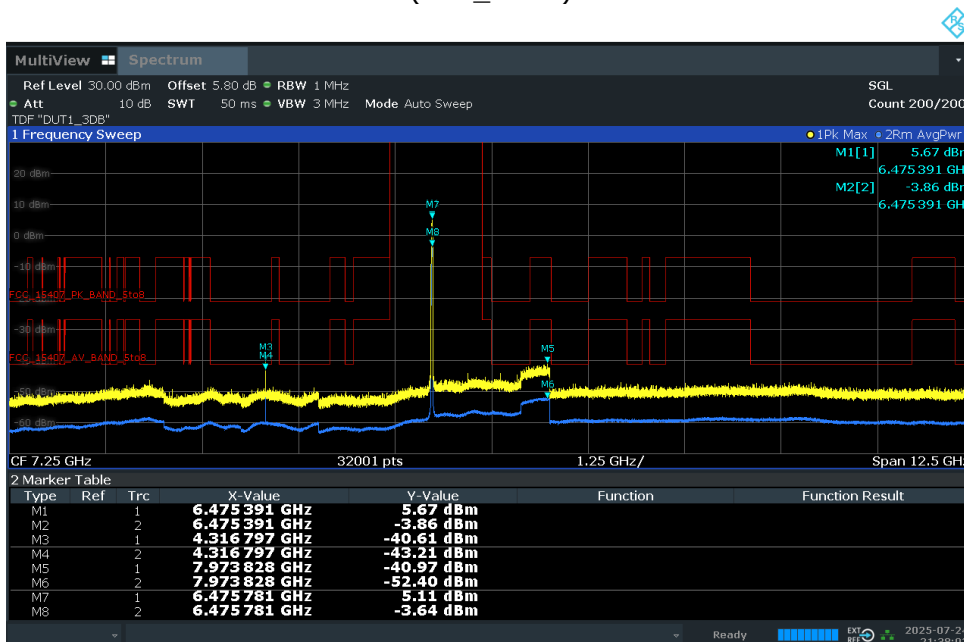
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-6 (S01\_AA01)



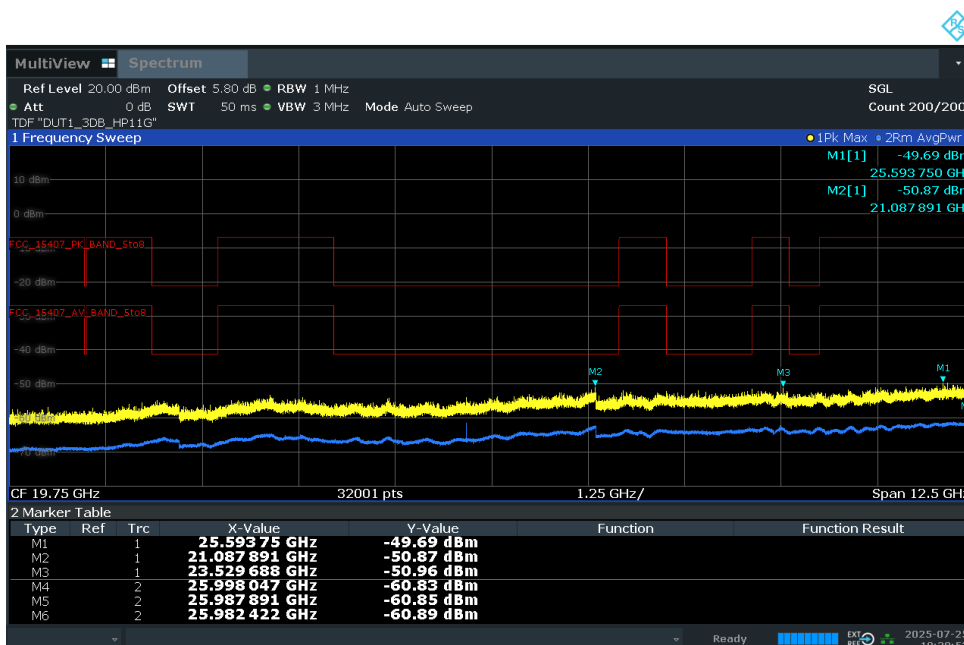
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-6 (S01\_AA01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-6 (S01\_AA01)

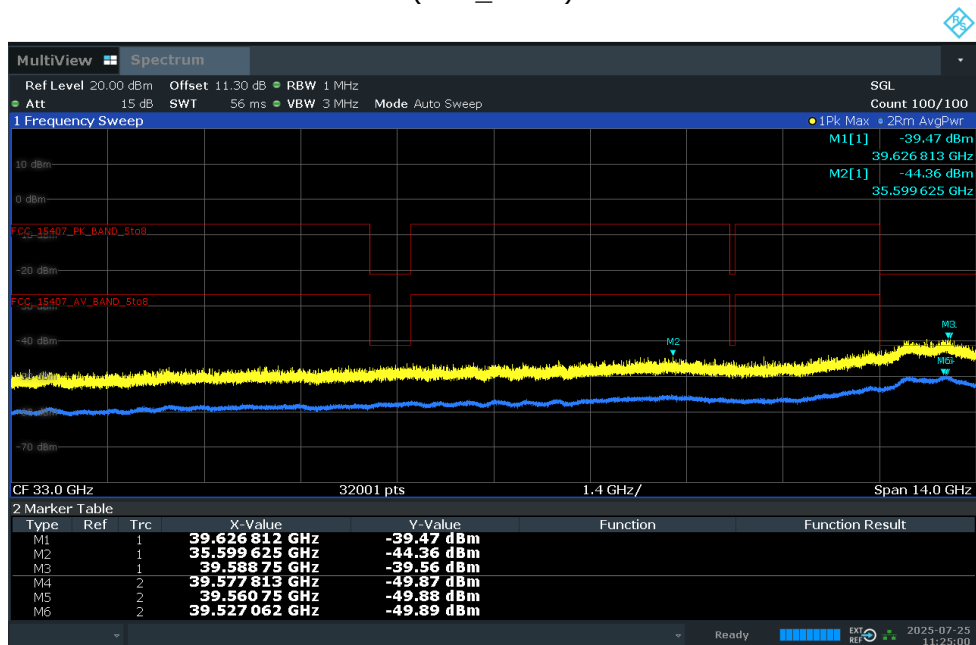


09:38:02 PM 07/24/2025



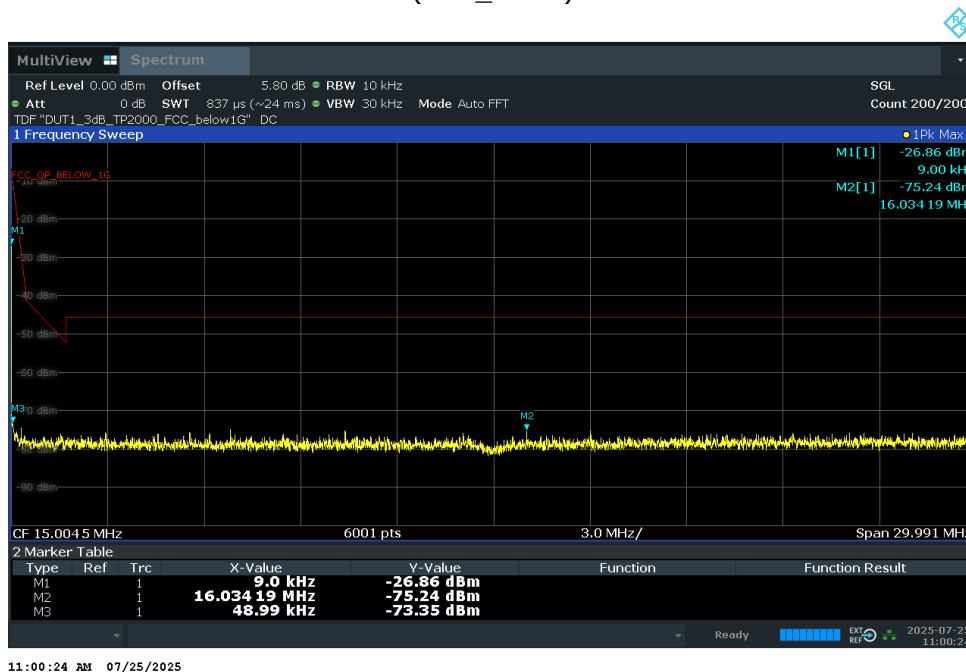
10:29:52 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-6  
(S01\_AA01)



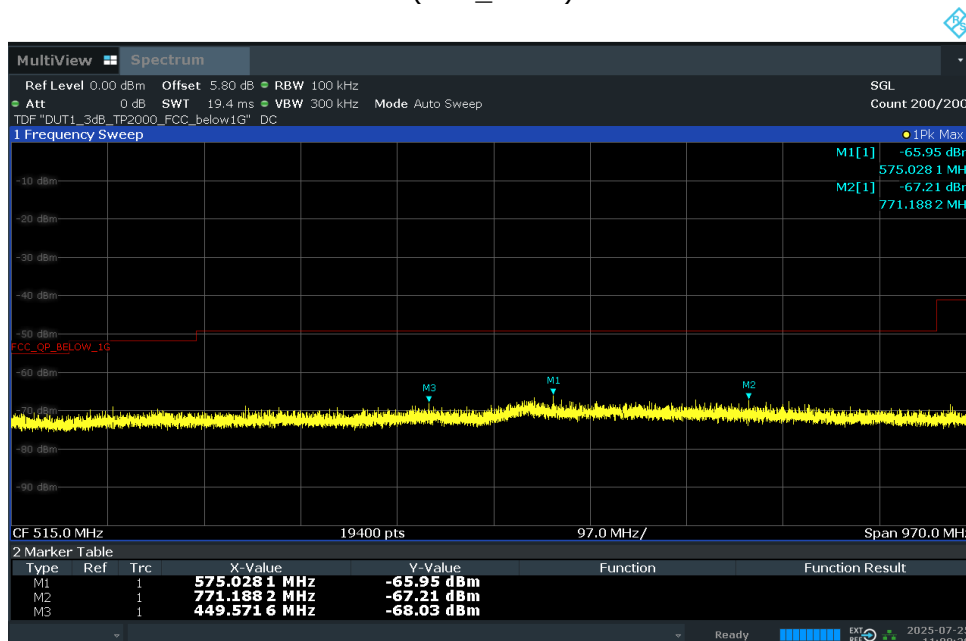
11:25:00 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 9kHz - 30MHz, Subband = U-NII-6 (S01\_AA01)



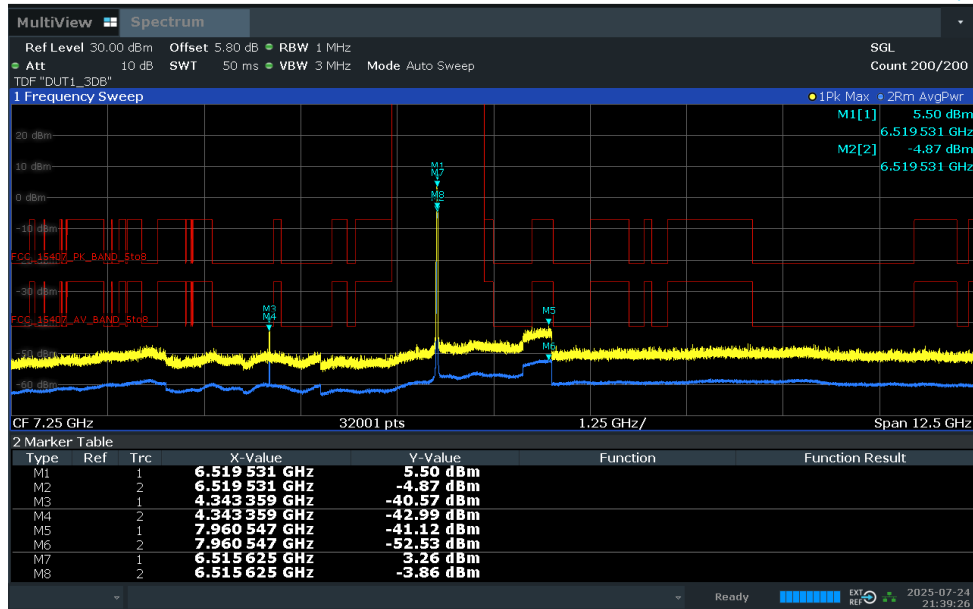
11:00:24 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 30MHz - 1GHz, Subband = U-NII-6 (S01\_AA01)

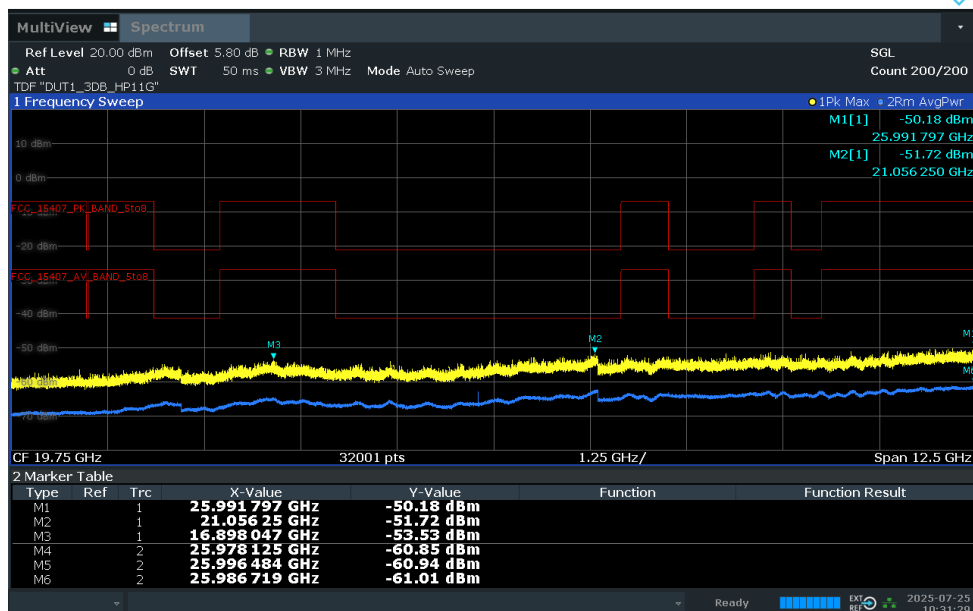


11:00:38 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
1GHz - 26GHz, Subband = U-NII-6  
(S01\_AA01)

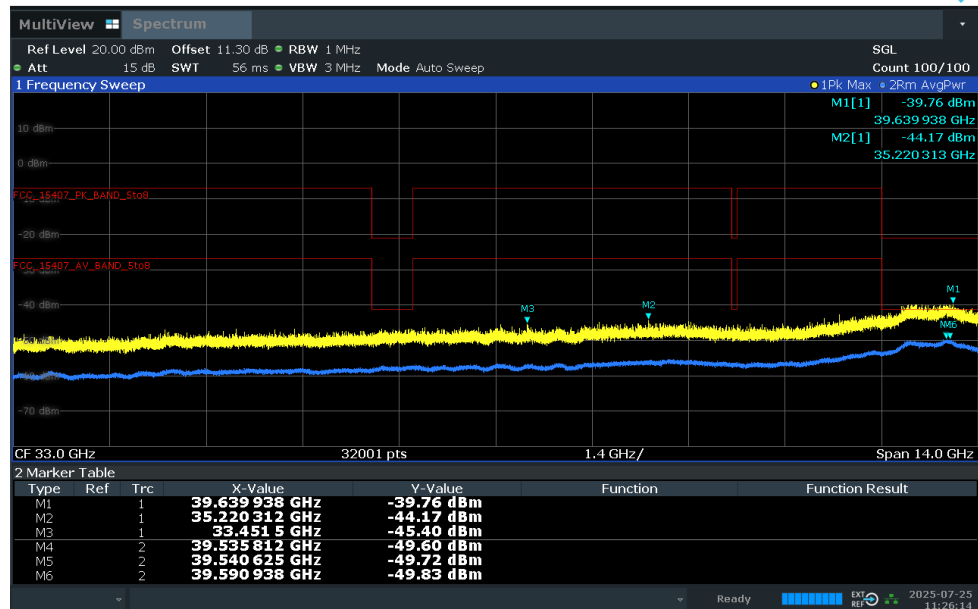


09:39:26 PM 07/24/2025



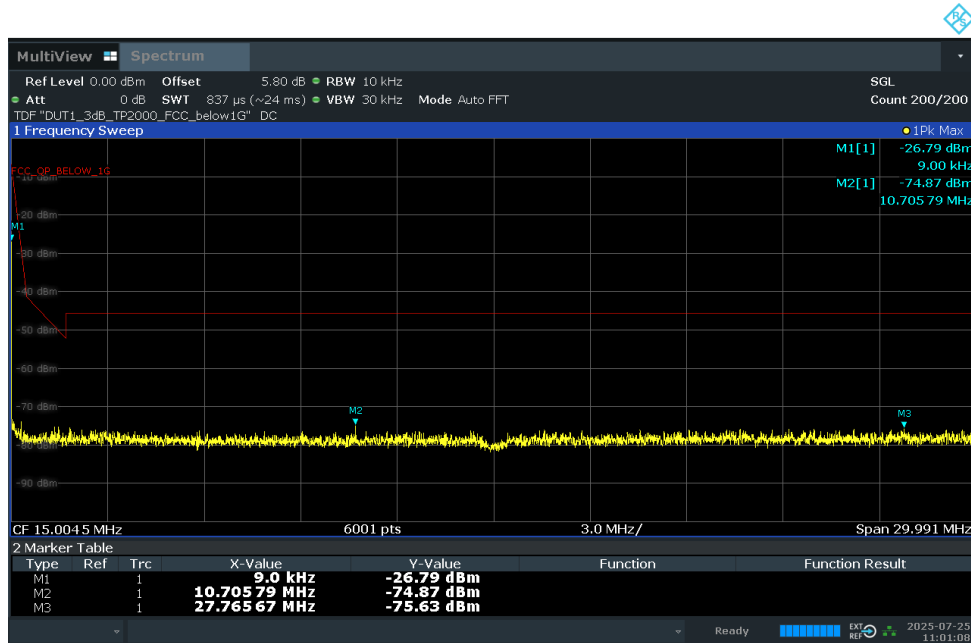
10:31:29 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
26GHz - 40GHz, Subband = U-NII-6  
(S01\_AA01)



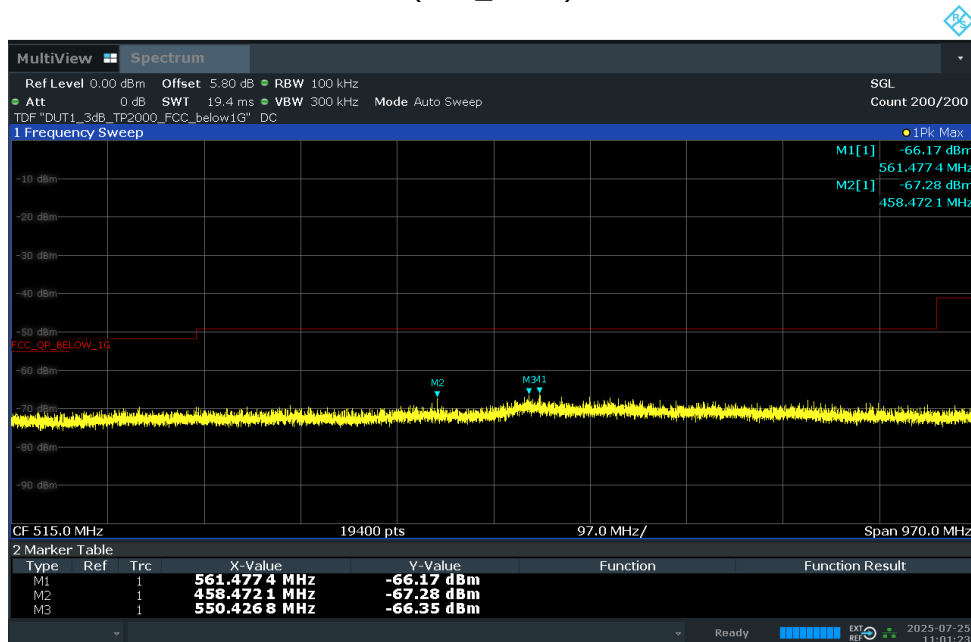
11:26:14 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
9kHz - 30MHz, Subband = U-NII-7  
(S01\_AA01)



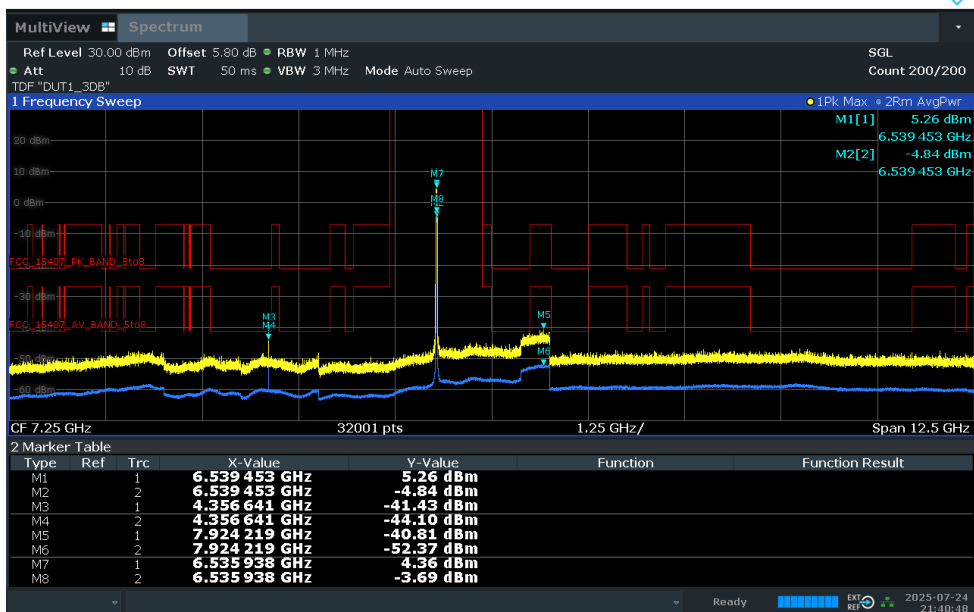
11:01:08 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
30MHz - 1GHz, Subband = U-NII-7  
(S01\_AA01)

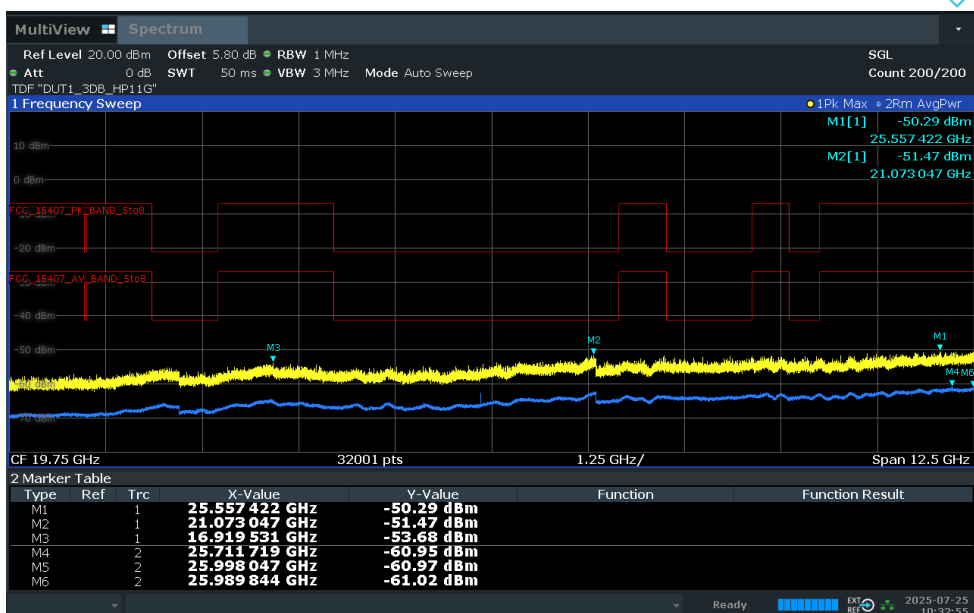


11:01:23 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
1GHz - 26GHz, Subband = U-NII-7  
(S01\_AA01)

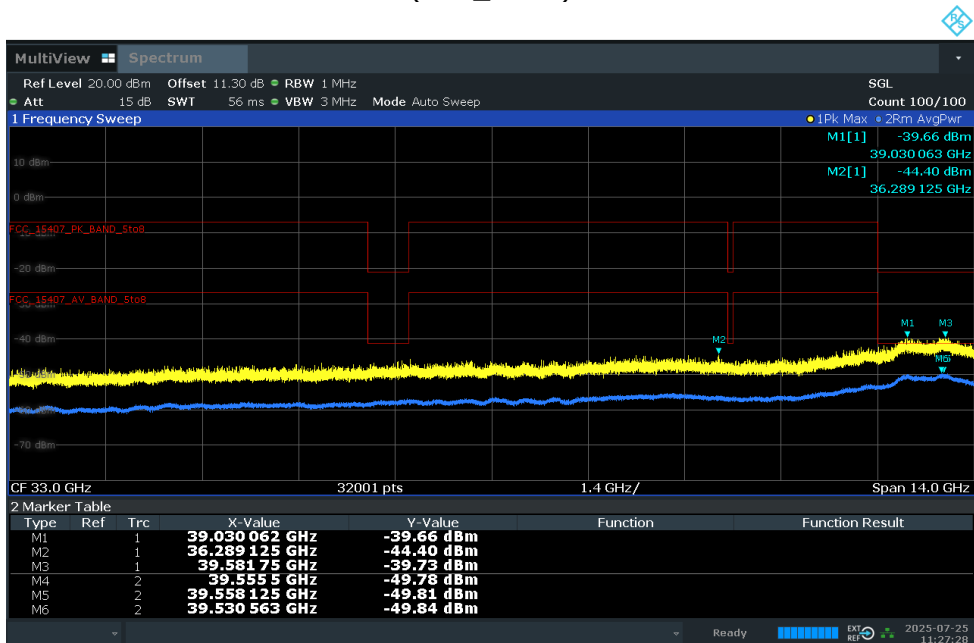


09:40:48 PM 07/24/2025



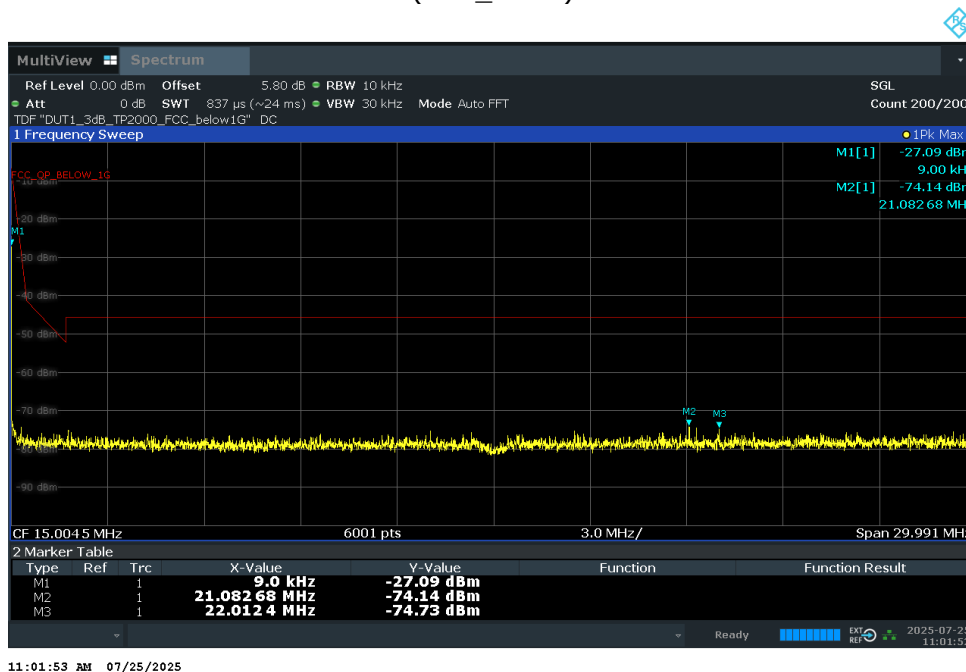
10:32:56 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
26GHz - 40GHz, Subband = U-NII-7  
(S01\_AA01)



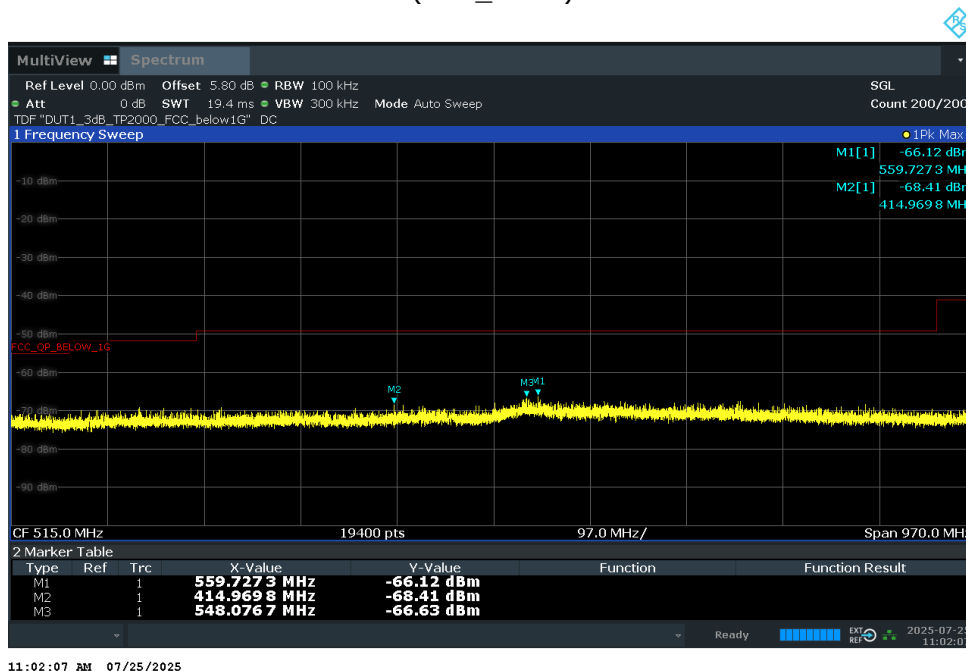
11:27:28 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-7 (S01\_AA01)



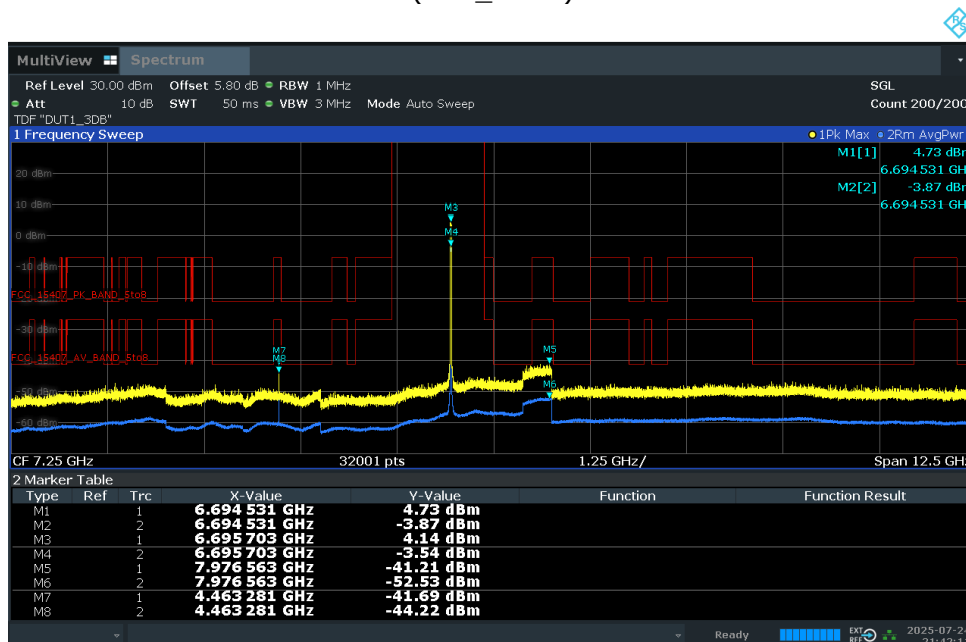
11:01:53 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-7 (S01\_AA01)

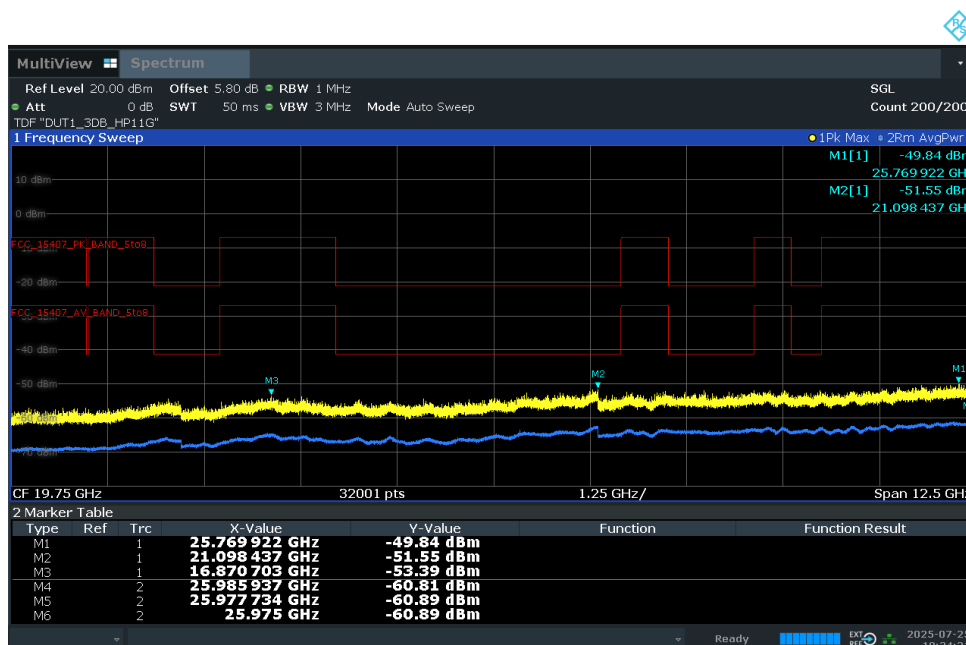


11:02:07 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-7 (S01\_AA01)

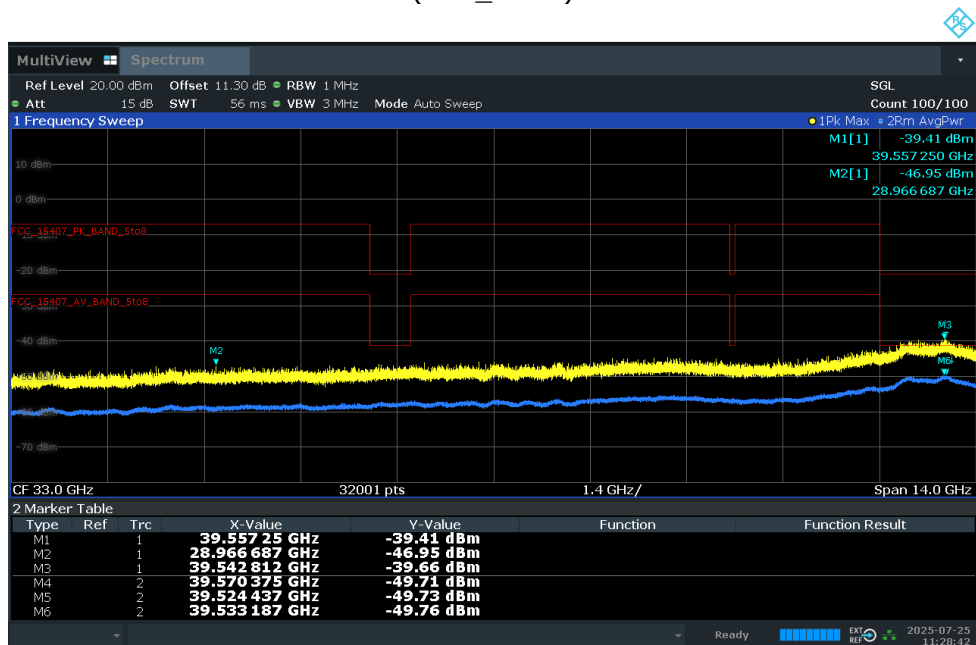


09:42:12 PM 07/24/2025



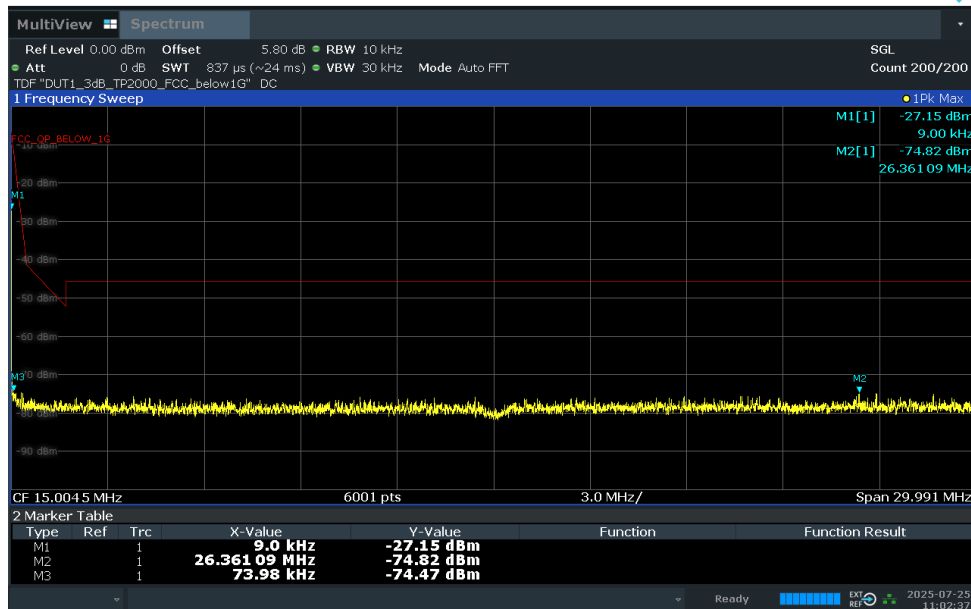
10:34:22 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-7  
(S01\_AA01)



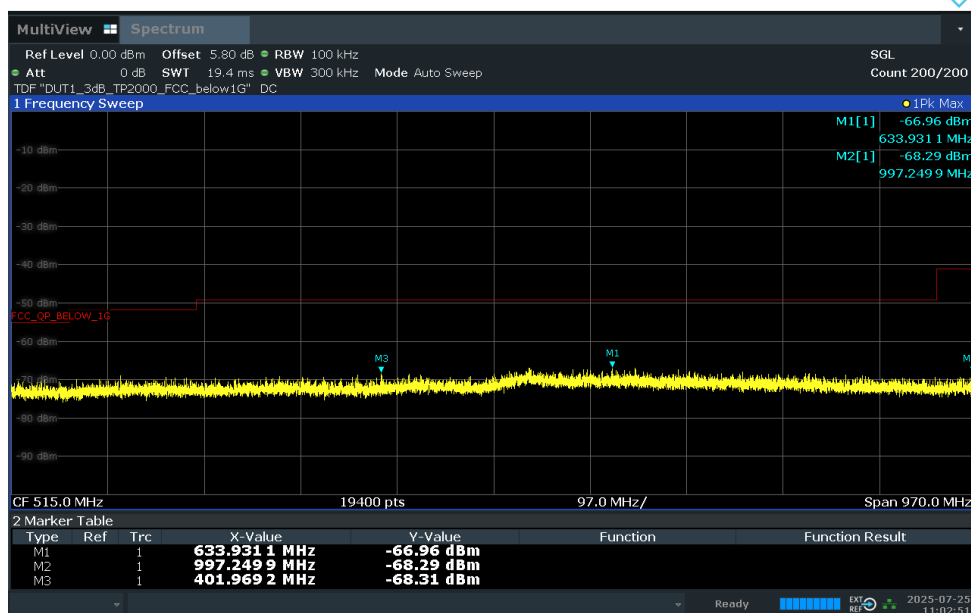
11:28:42 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
9kHz - 30MHz, Subband = U-NII-7  
(S01\_AA01)



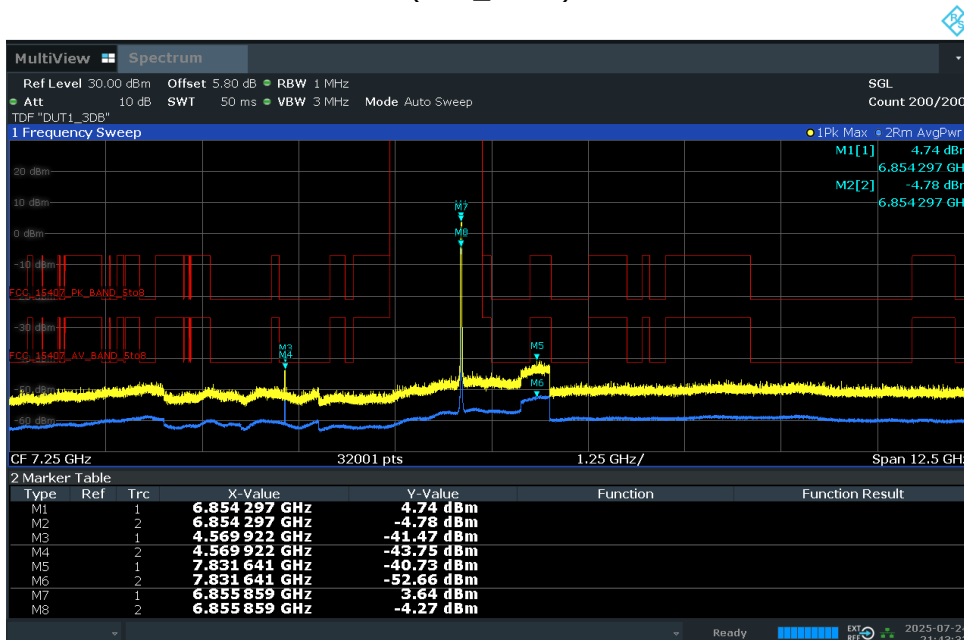
11:02:37 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
30MHz - 1GHz, Subband = U-NII-7  
(S01\_AA01)

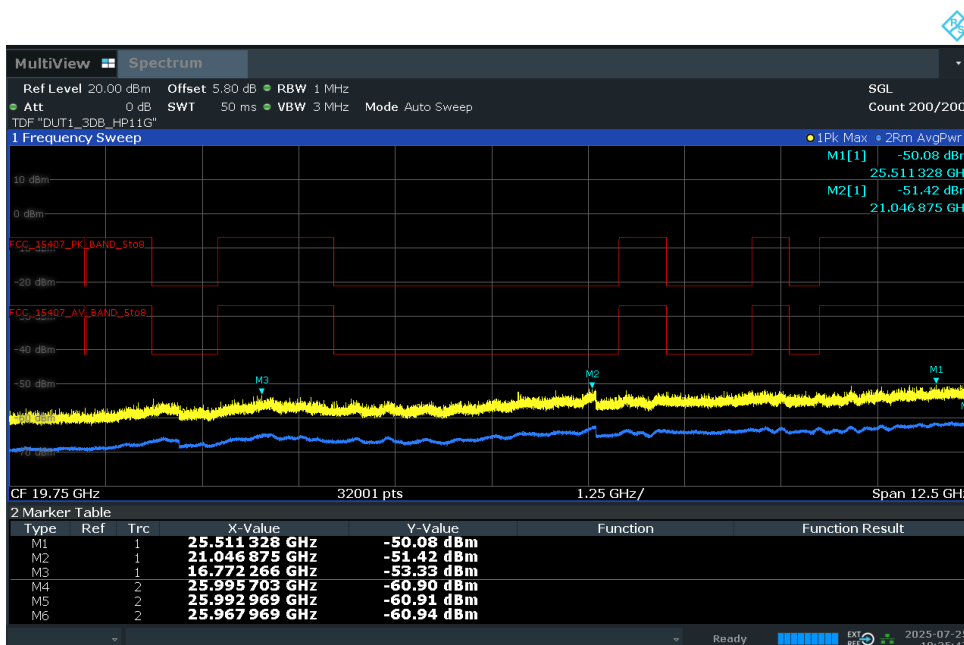


11:02:51 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range = 1GHz - 26GHz, Subband = U-NII-7 (S01\_AA01)

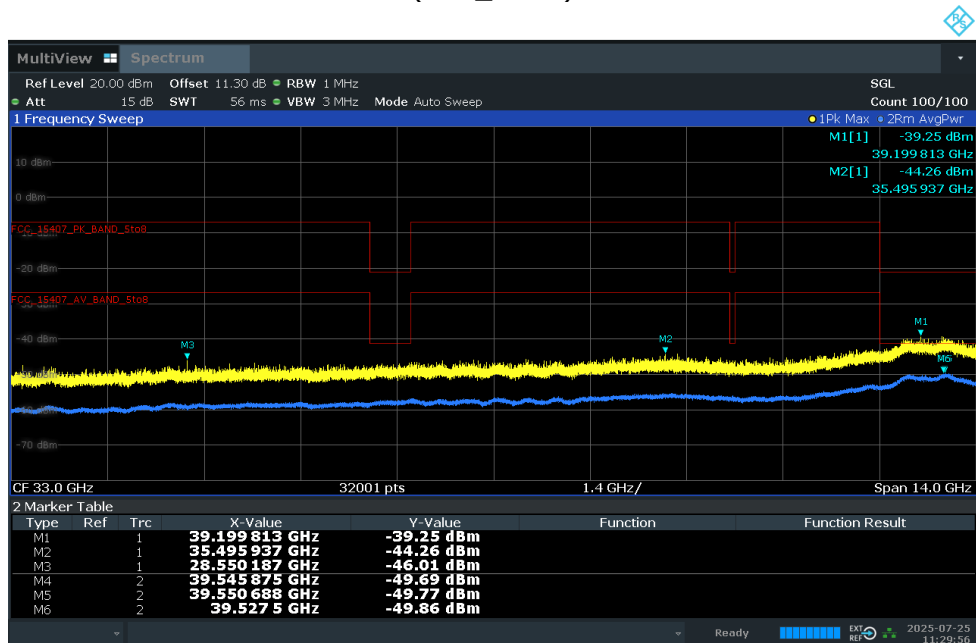


09:43:32 PM 07/24/2025



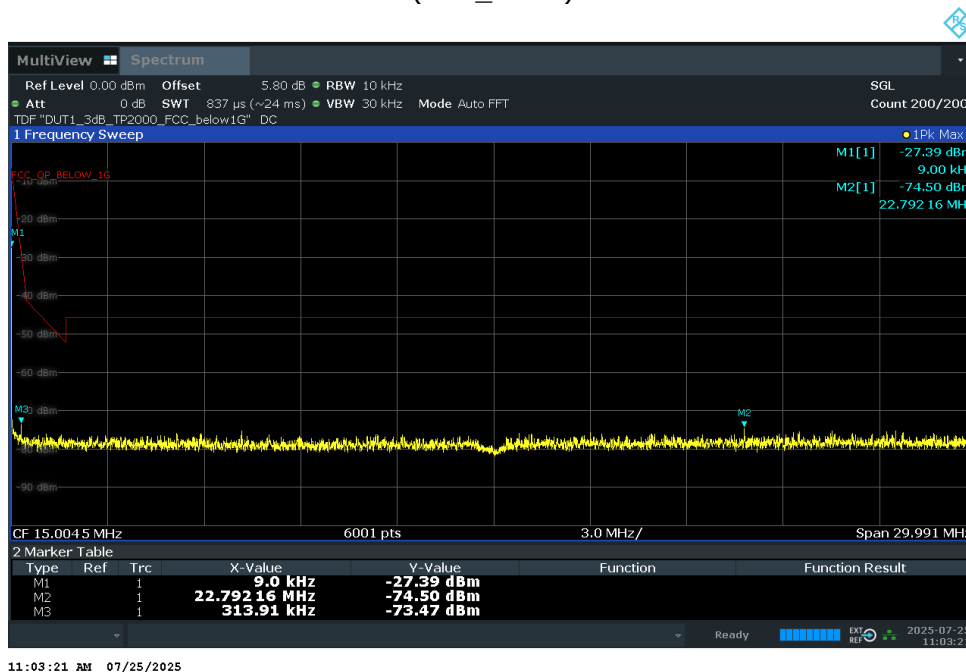
10:35:48 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
26GHz - 40GHz, Subband = U-NII-7  
(S01\_AA01)

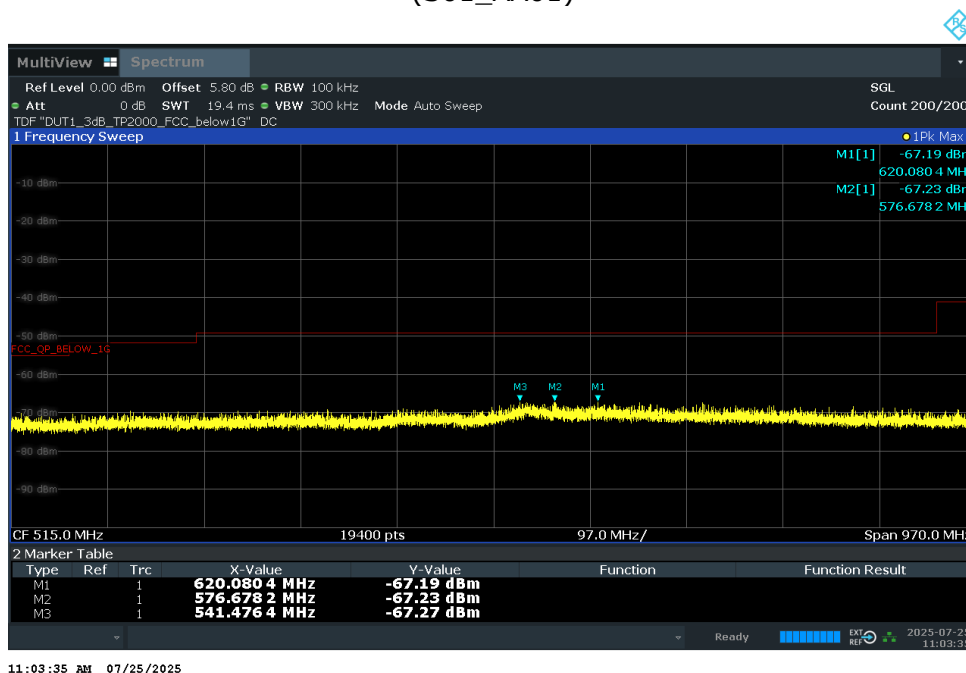


11:29:56 AM 07/25/2025

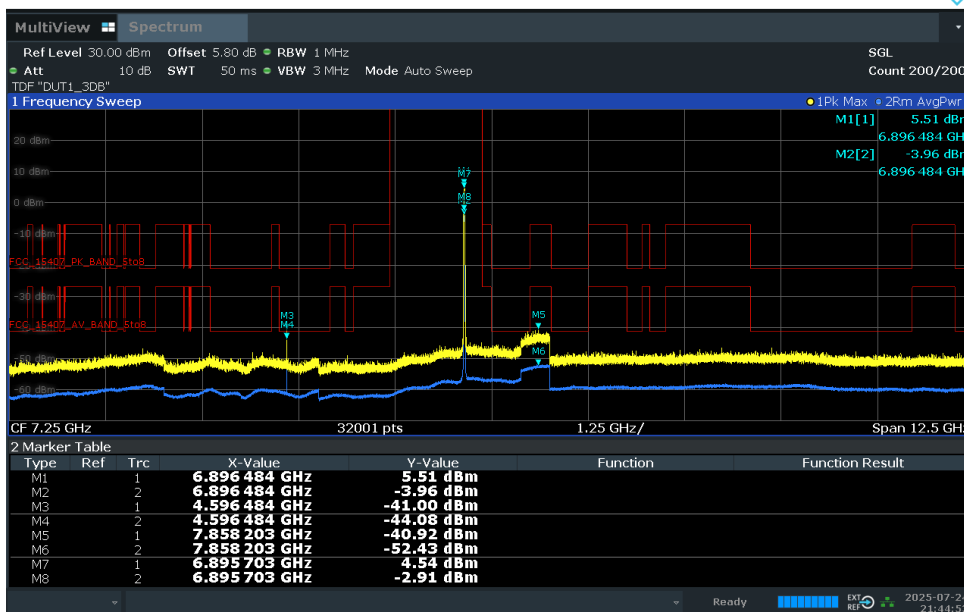
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 9kHz - 30MHz, Subband = U-NII-8 (S01\_AA01)



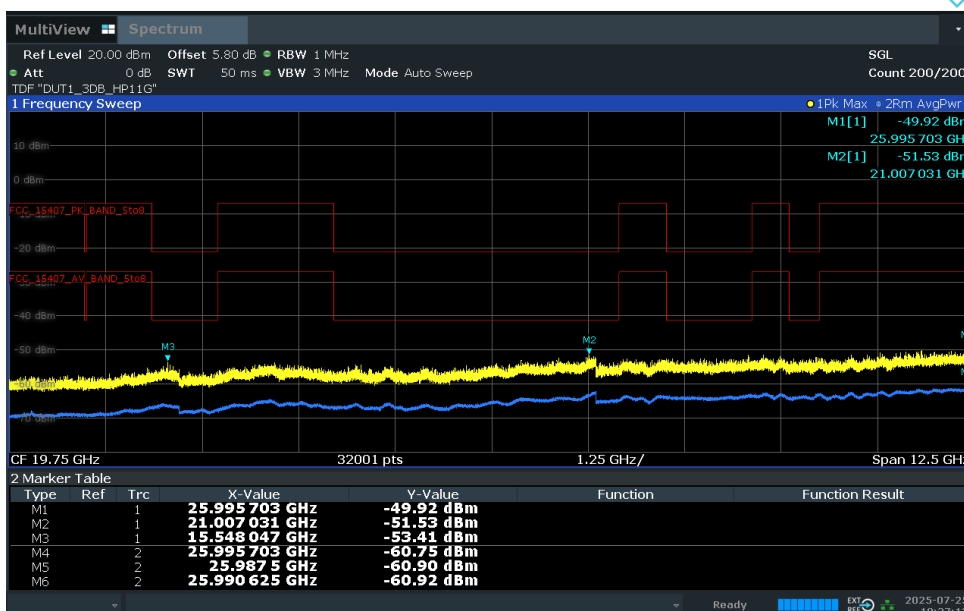
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 30MHz - 1GHz, Subband = U-NII-8 (S01\_AA01)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-8 (S01\_AA01)

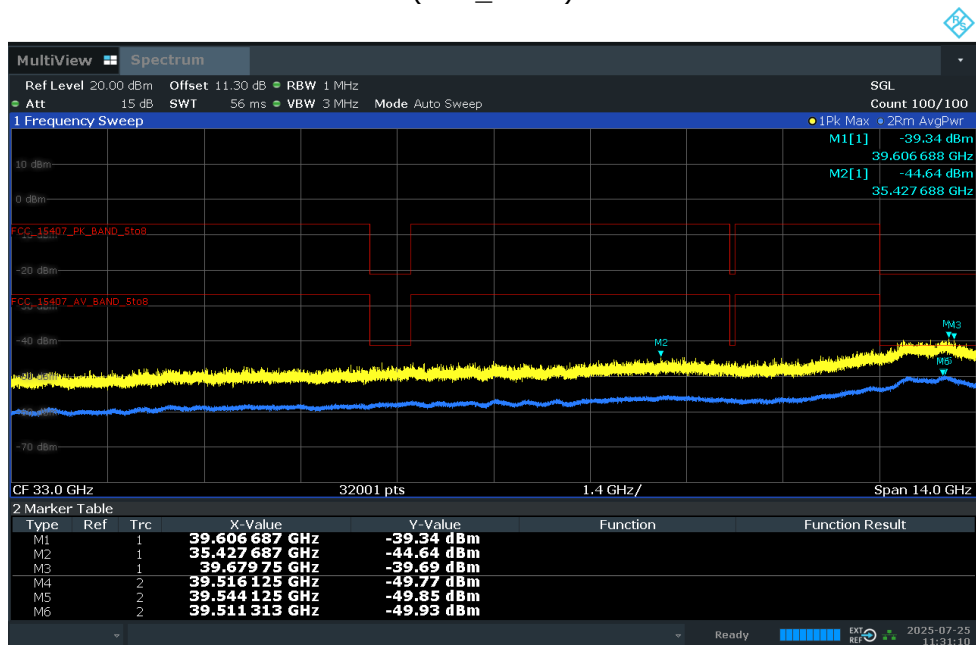


09:44:53 PM 07/24/2025



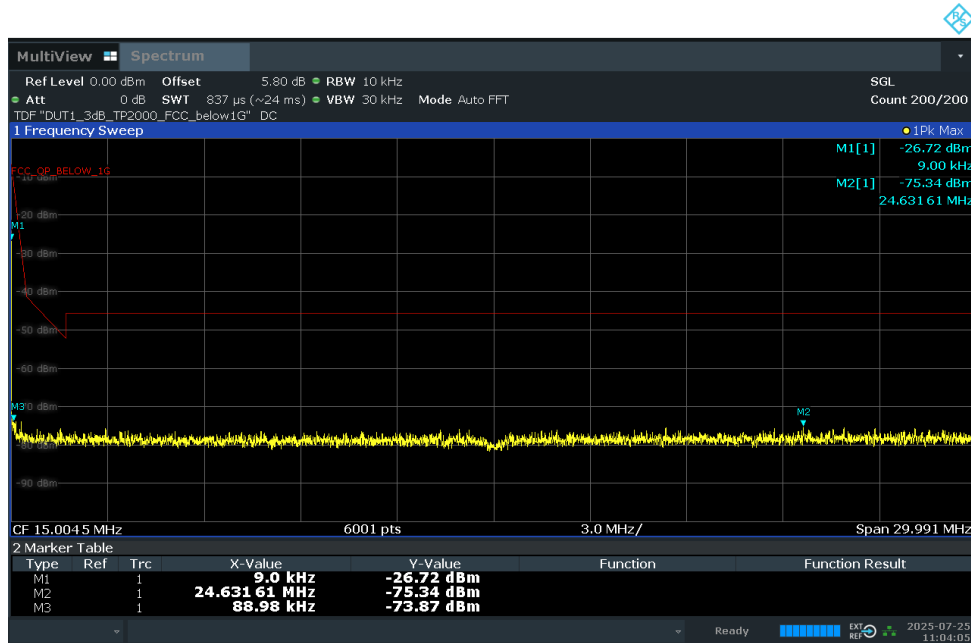
10:37:14 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
26GHz - 40GHz, Subband = U-NII-8  
(S01\_AA01)



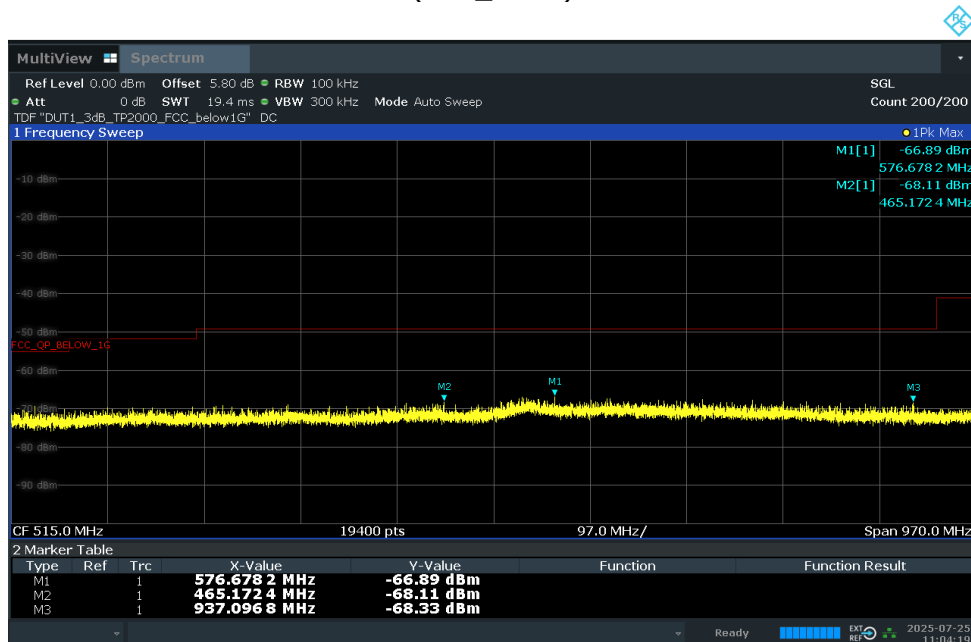
11:31:10 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-8 (S01\_AA01)



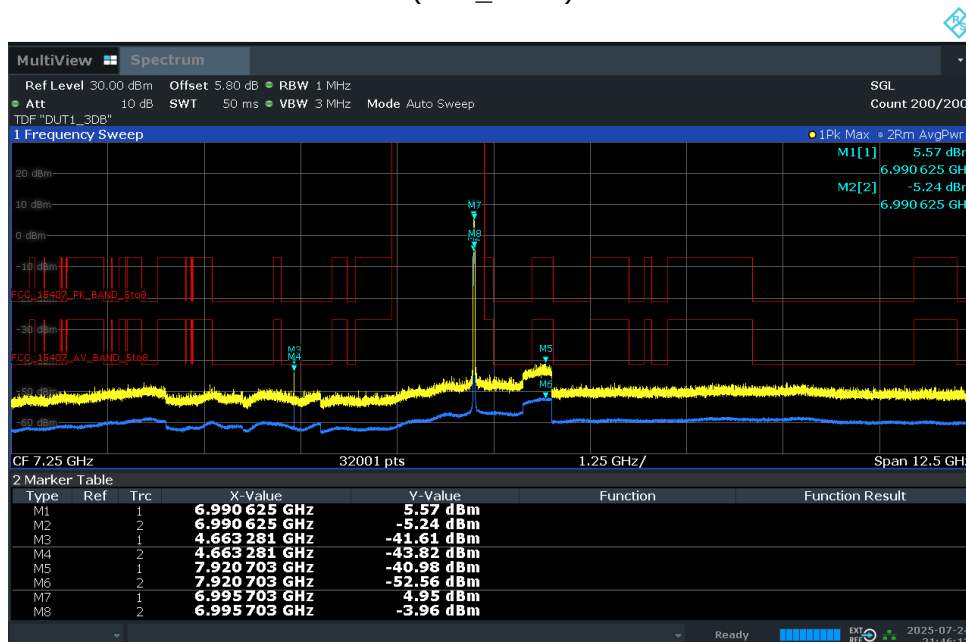
11:04:05 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 30MHz - 1GHz, Subband = U-NII-8 (S01\_AA01)

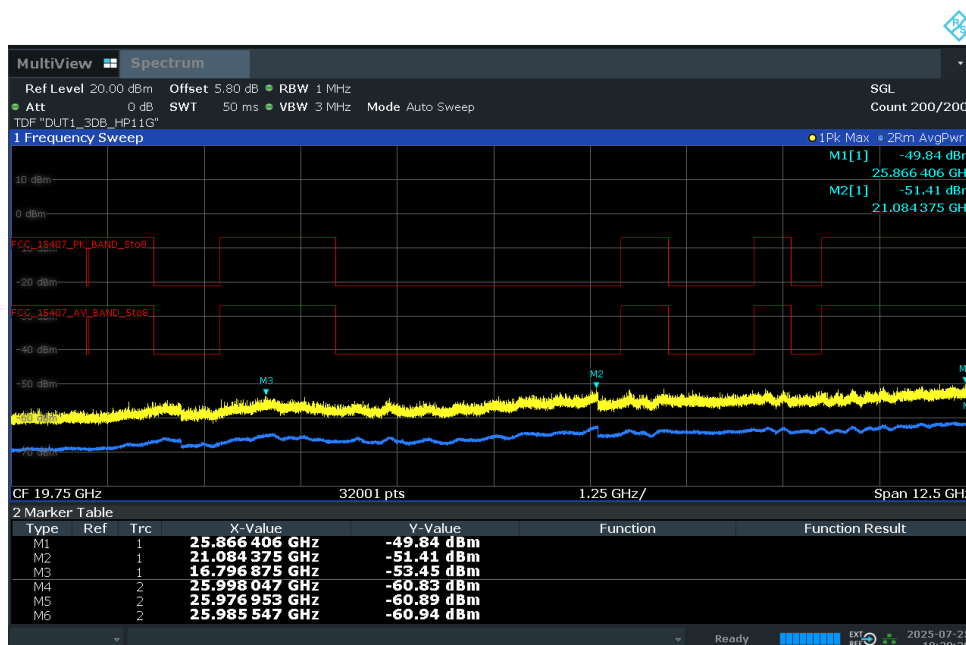


11:04:19 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-8 (S01\_AA01)

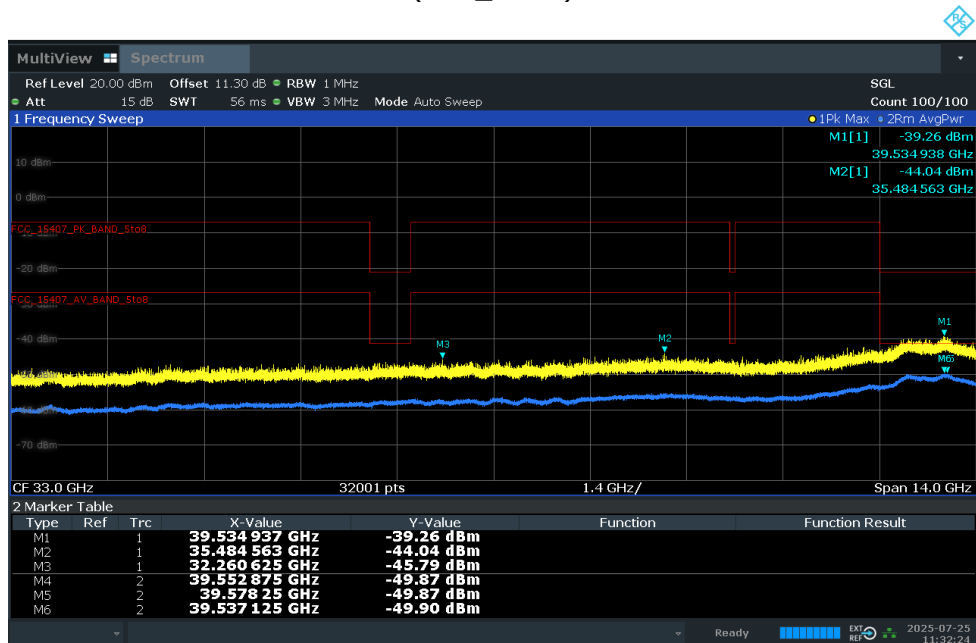


09:46:13 PM 07/24/2025



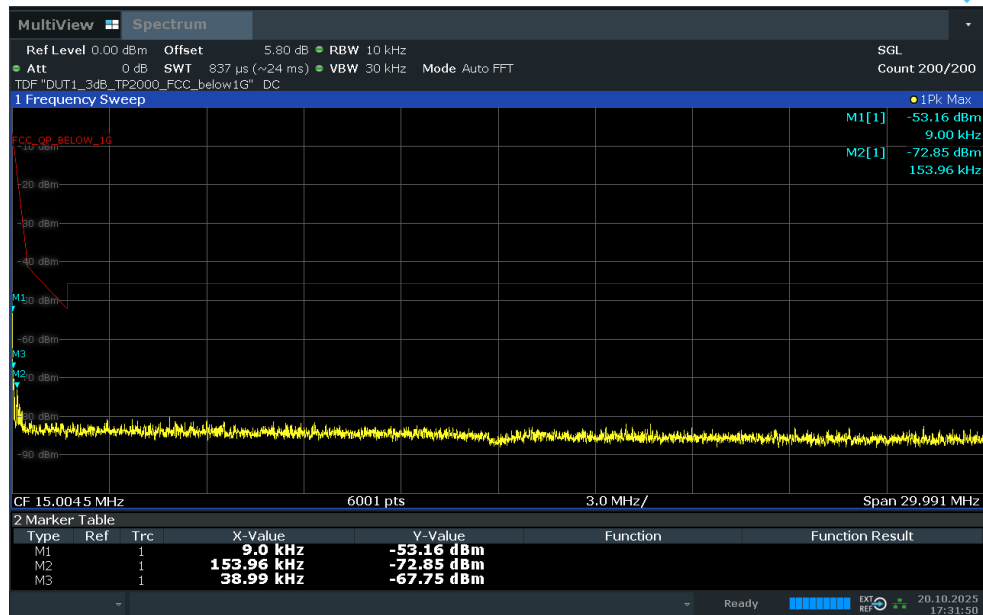
10:38:39 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-8  
(S01\_AA01)



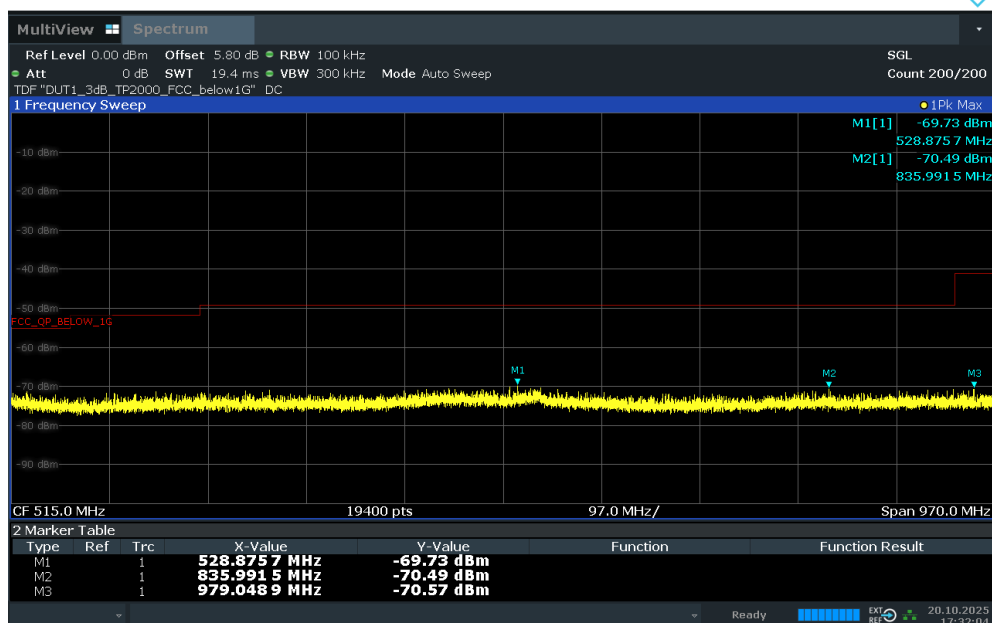
11:32:25 AM 07/25/2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
9kHz - 30MHz, Subband = U-NII-8  
(S01\_AA01)



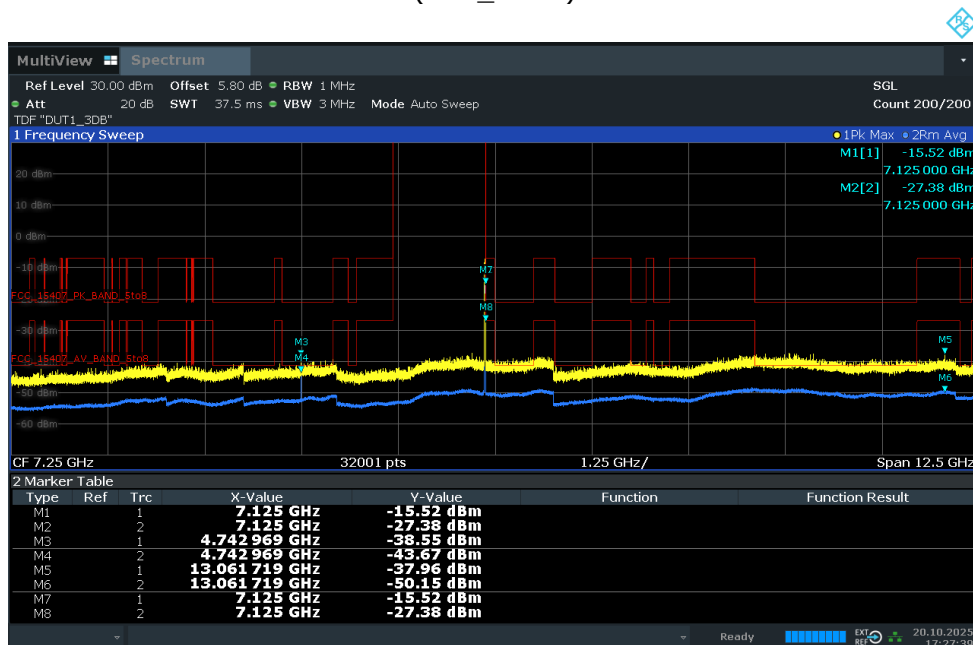
17:31:51 20.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
30MHz - 1GHz, Subband = U-NII-8  
(S01\_AA01)

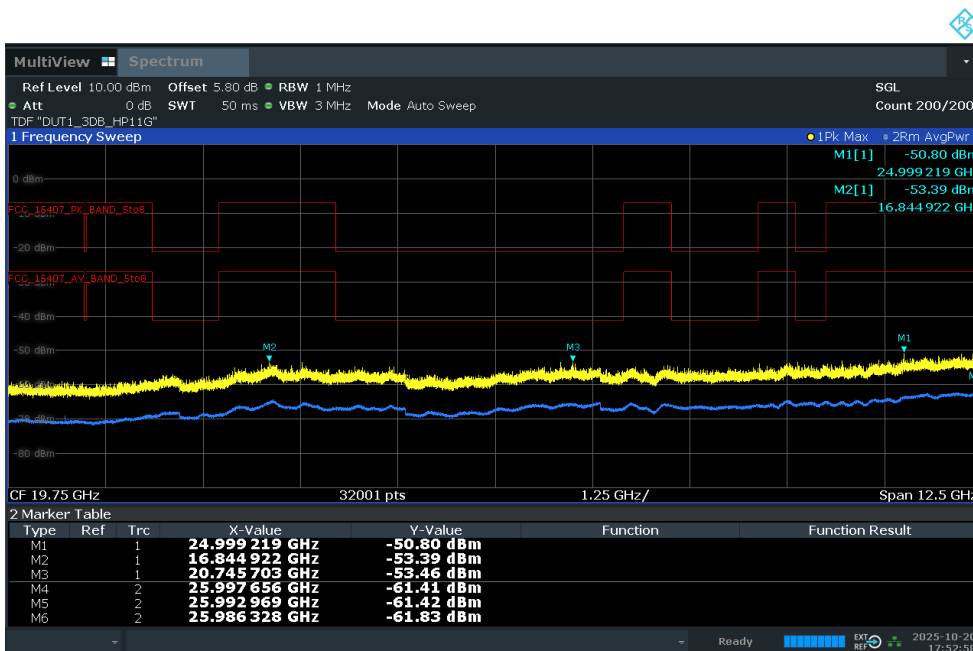


17:32:04 20.10.2025

Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
1GHz - 26GHz, Subband = U-NII-8  
(S01\_AA01)

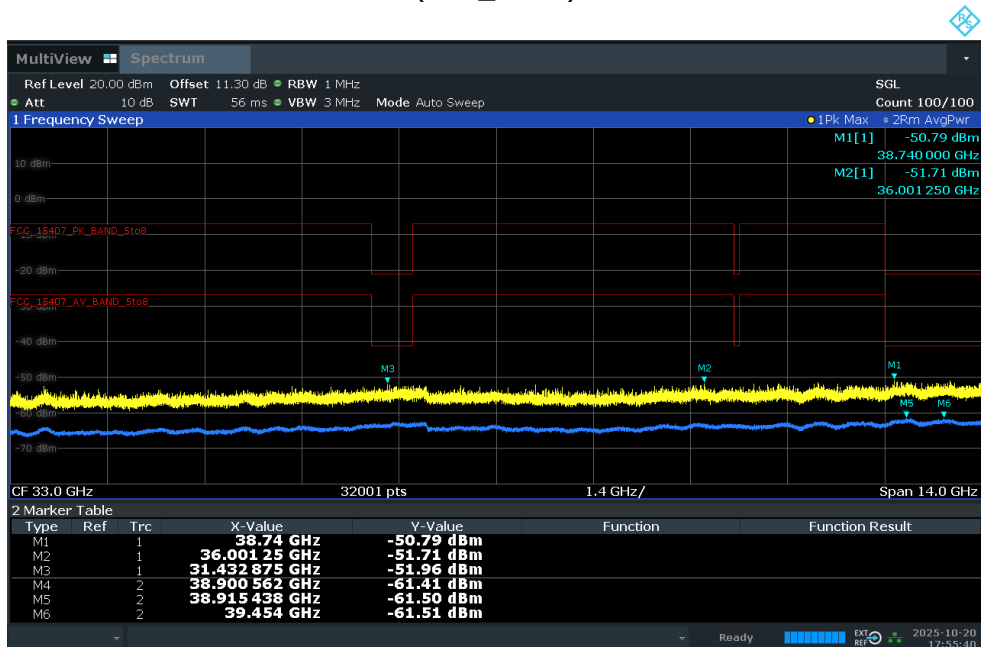


17:27:40 20.10.2025



05:52:58 PM 10/20/2025

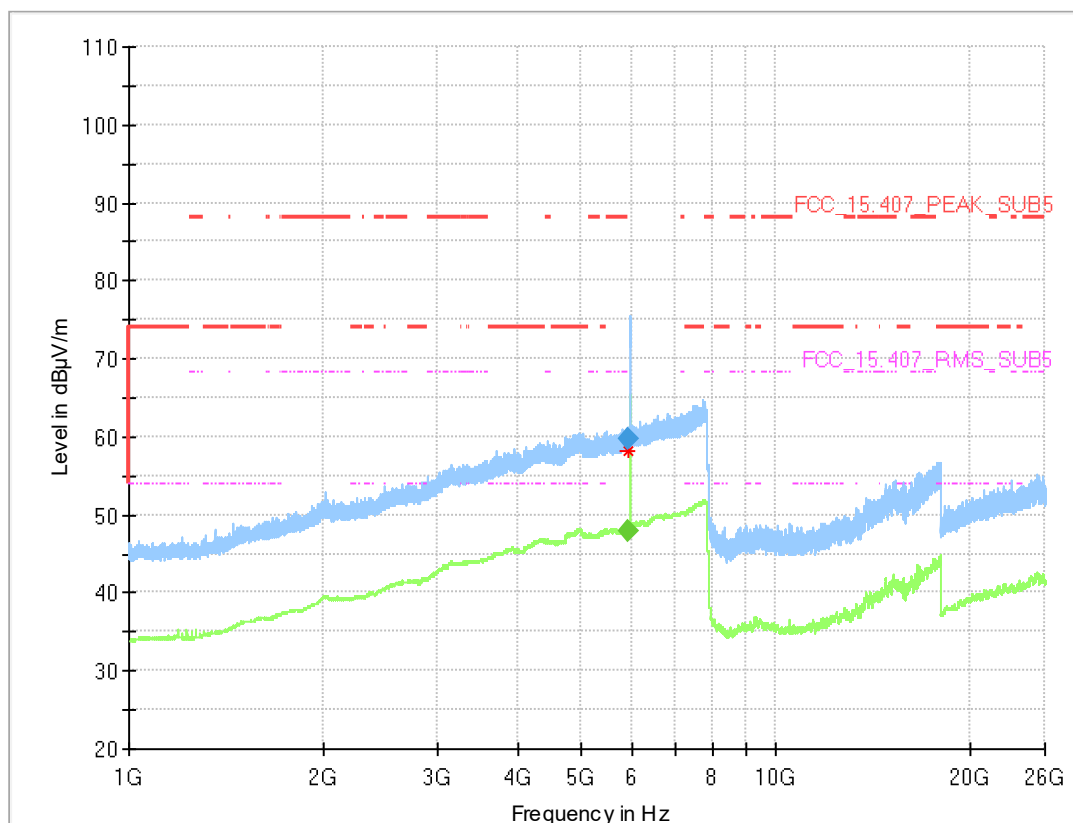
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
26GHz - 40GHz, Subband = U-NII-8  
(S01\_AA01)



05:55:41 PM 10/20/2025

## Radiated Measurements

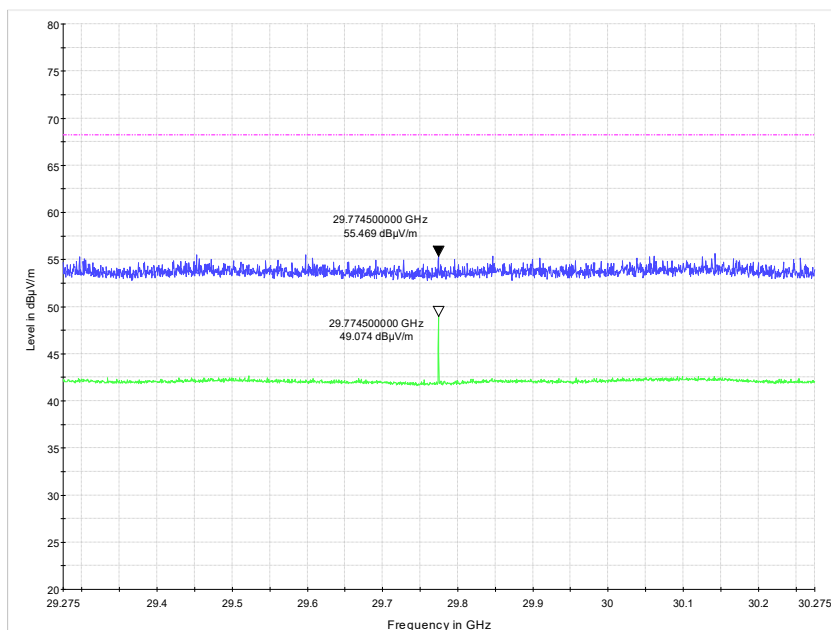
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range = 1GHz - 26GHz, Subband = U-NII-5 (S02\_AG03)



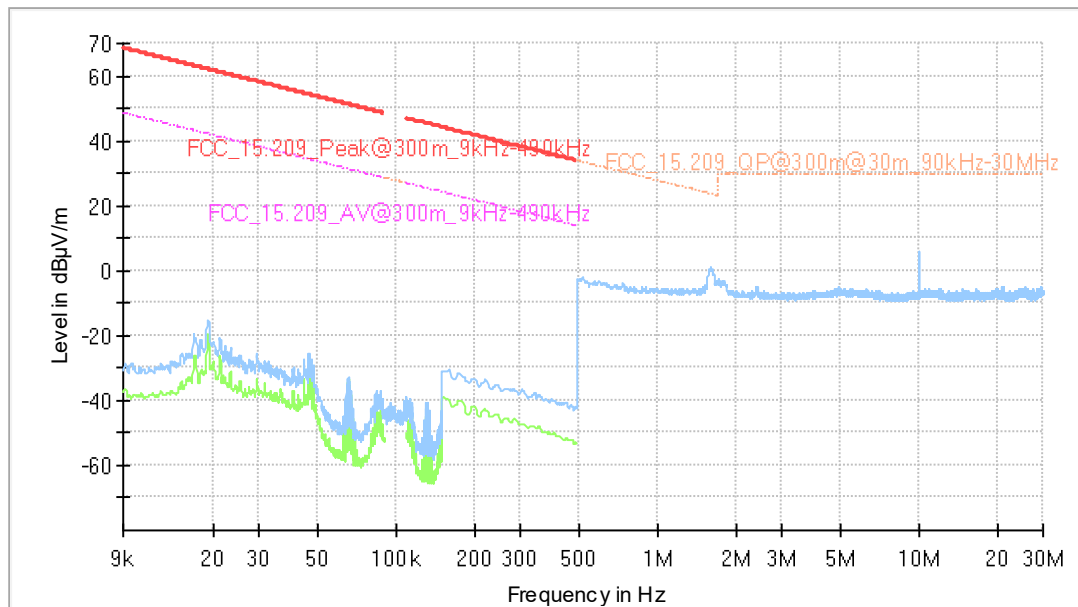
### Final\_Result

| 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        | ---              | 48.0         | 68.20          | 20.19       | 1000.0          | 1000.000        | 150.0       | H   | 88.0          | -9.0            | 17.0         |
| 5924.787        | 59.7             | ---          | 88.20          | 28.48       | 1000.0          | 1000.000        | 150.0       | H   | 88.0          | -9.0            | 17.0         |

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
29.275GHz – 30.275GHz, Subband = U-NII-5  
(S02\_AG03)



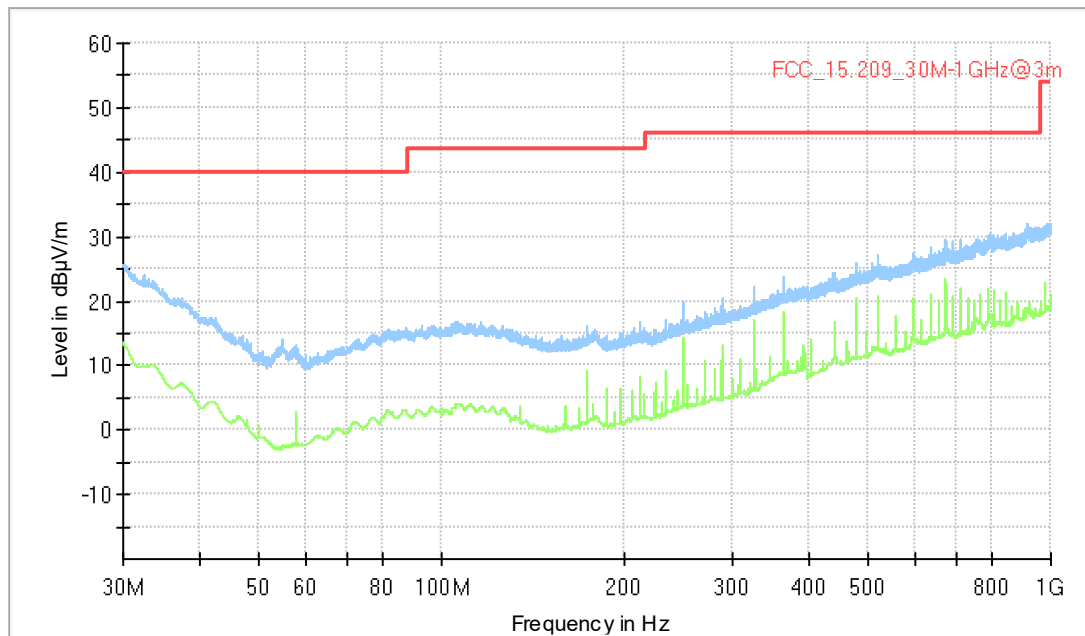
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-5 (S02\_AG03)



### Final\_Result

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

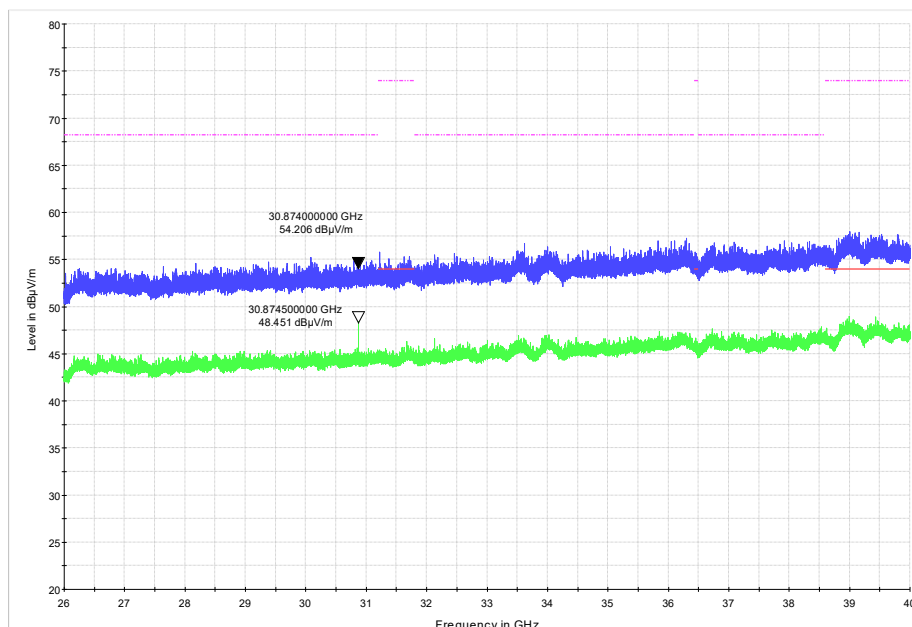
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
30MHz - 1GHz, Subband = U-NII-5  
(S02\_AG03)



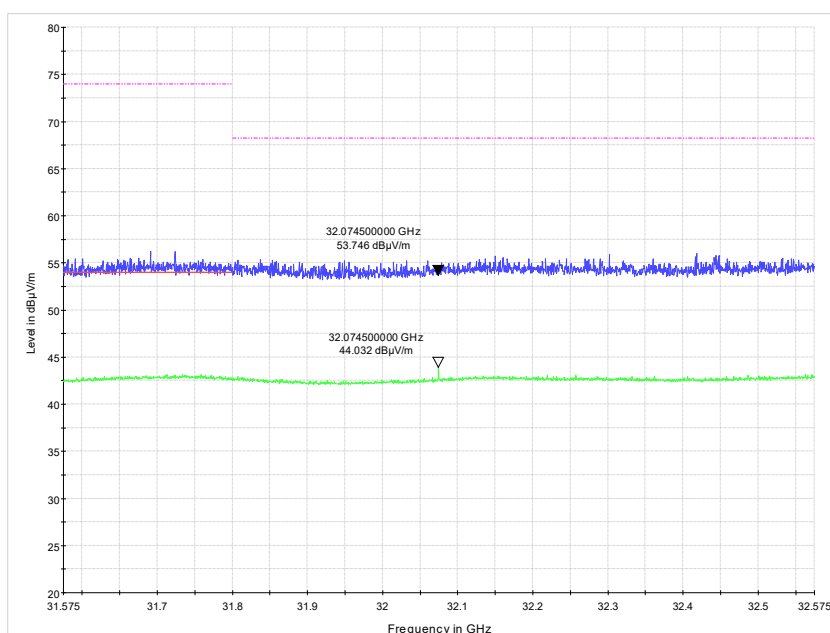
#### Final\_Result

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

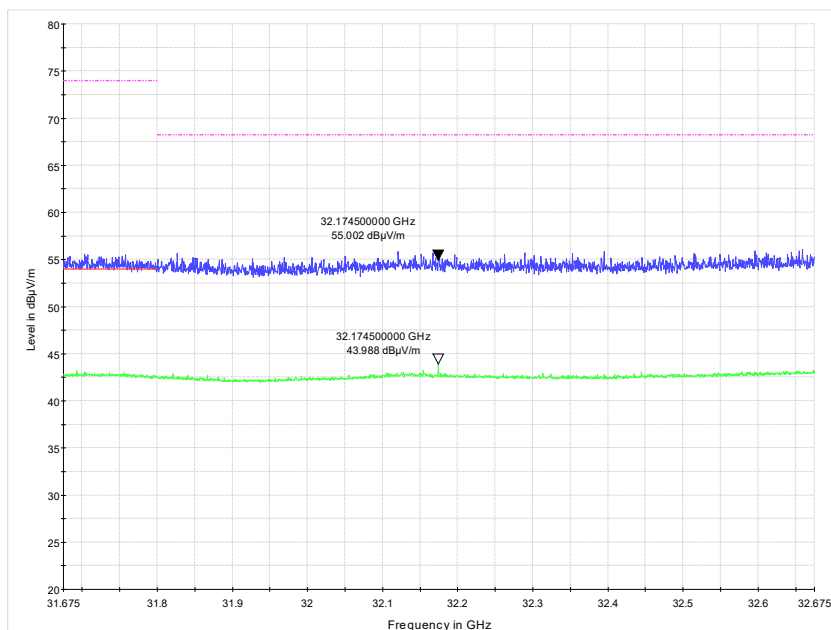
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-5  
(S02\_AG03)



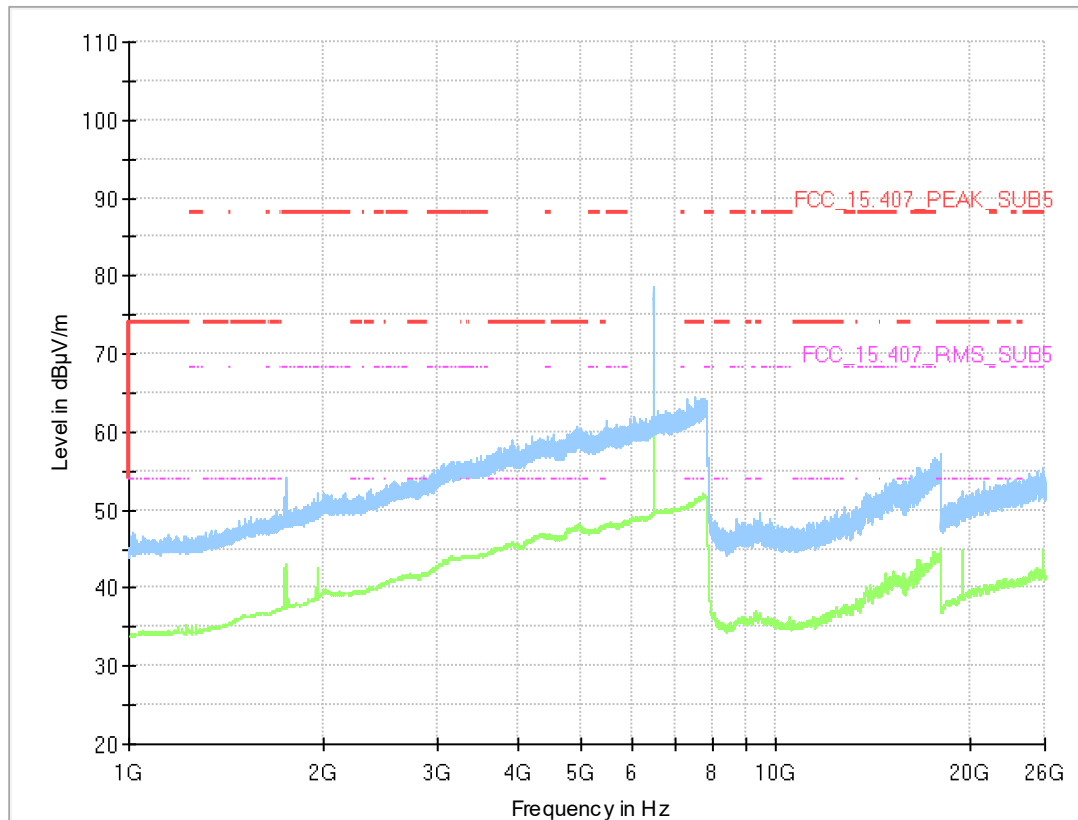
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
31.575GHz - 32.575GHz, Subband = U-NII-5  
(S02\_AG03)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
31.675GHz – 32.675GHz, Subband = U-NII-6  
(S02\_AG03)



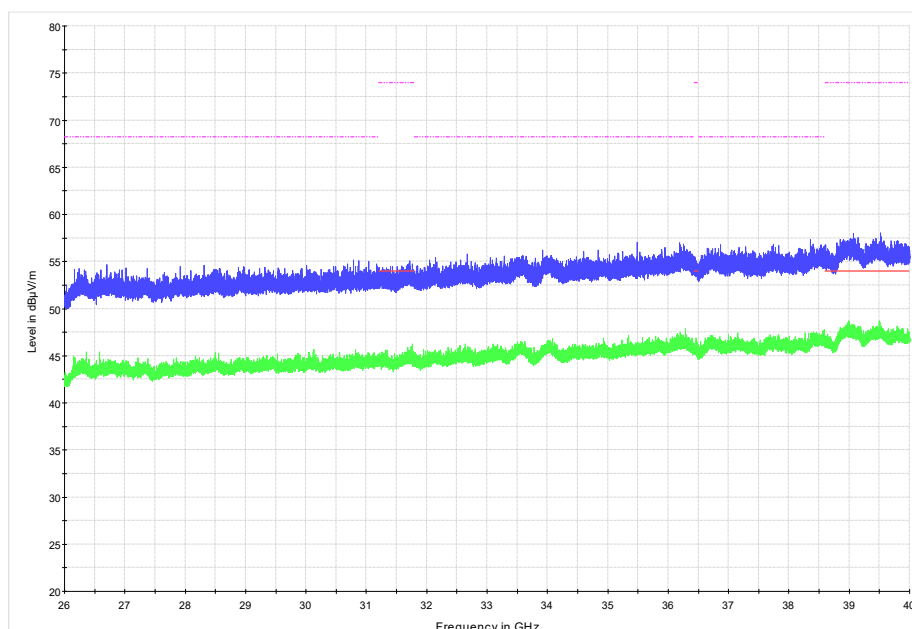
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-6 (S02\_AG03)



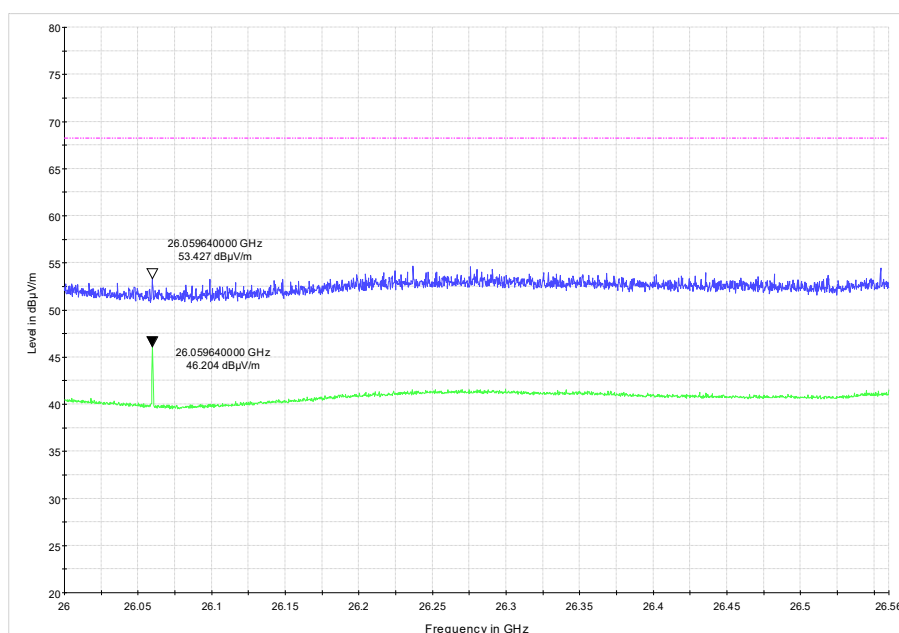
#### Final\_Result

| 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) |
|-----------------|------------------|--------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|--------------|
| ---             | ---              | ---          | ---            | ---         | ---             | ---             | ---         | --- | ---           | ---             | ---          |

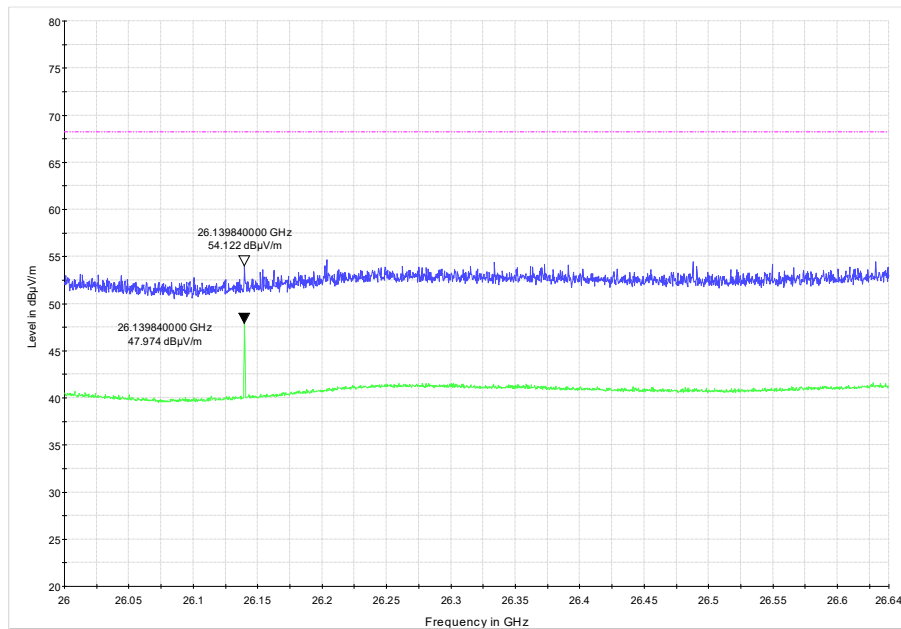
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-6  
(S02\_AG03)



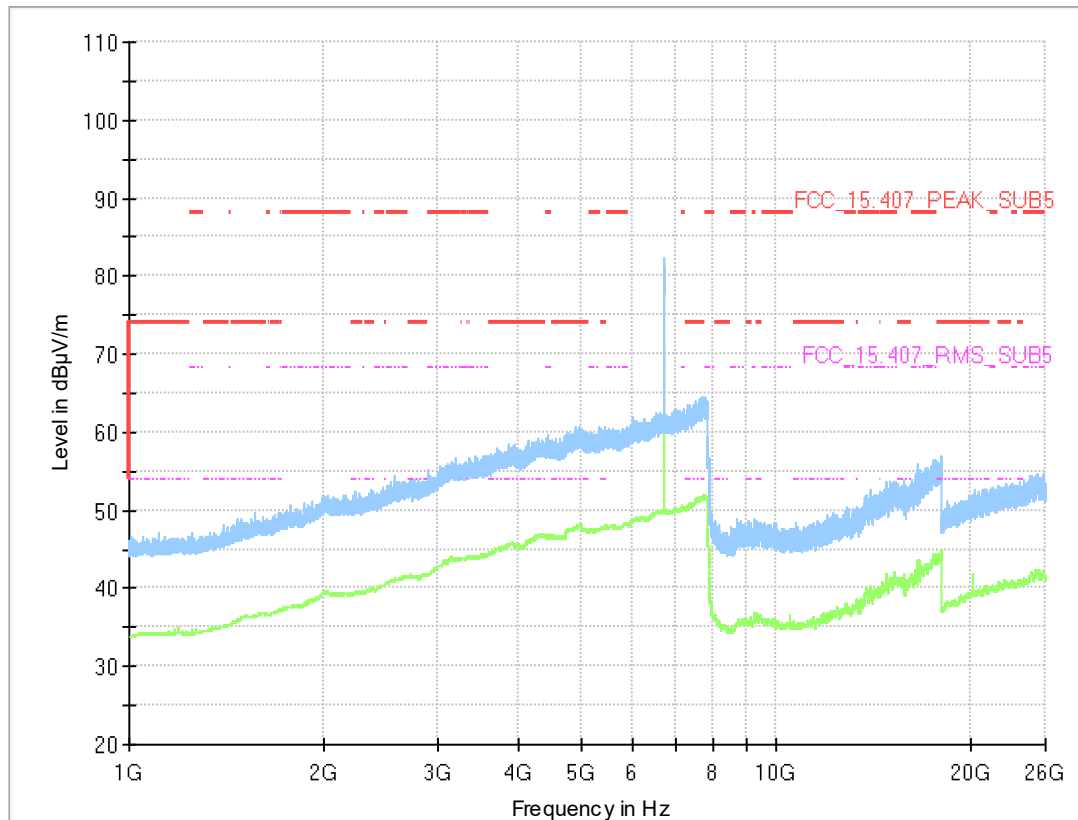
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high, Measurement range =  
26GHz - 26.56GHz, Subband = U-NII-6  
(S02\_AG03)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
26GHz – 26.64GHz, Subband = U-NII-7  
(S02\_AG03)



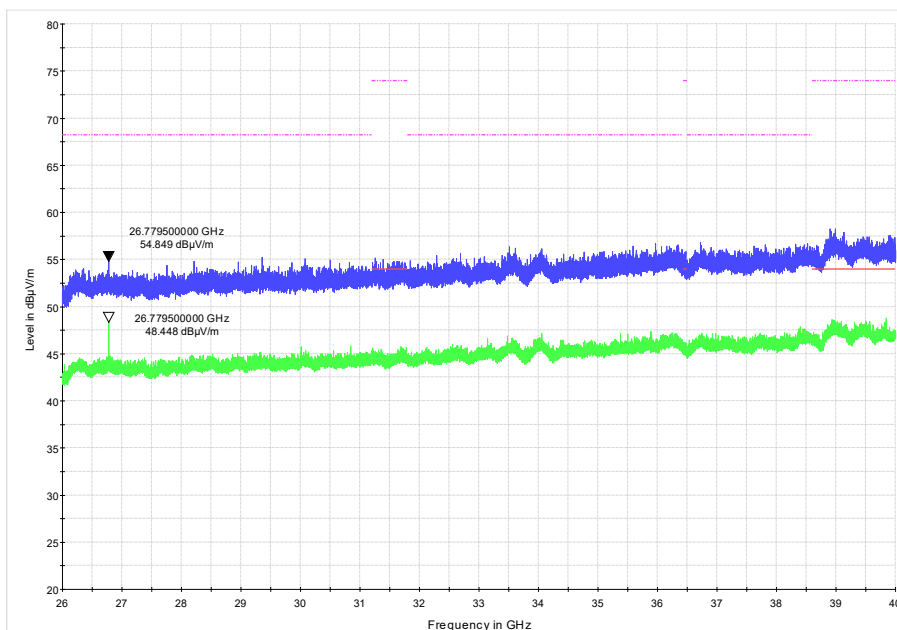
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 1GHz - 26GHz, Subband = U-NII-7 (S02\_AG03)



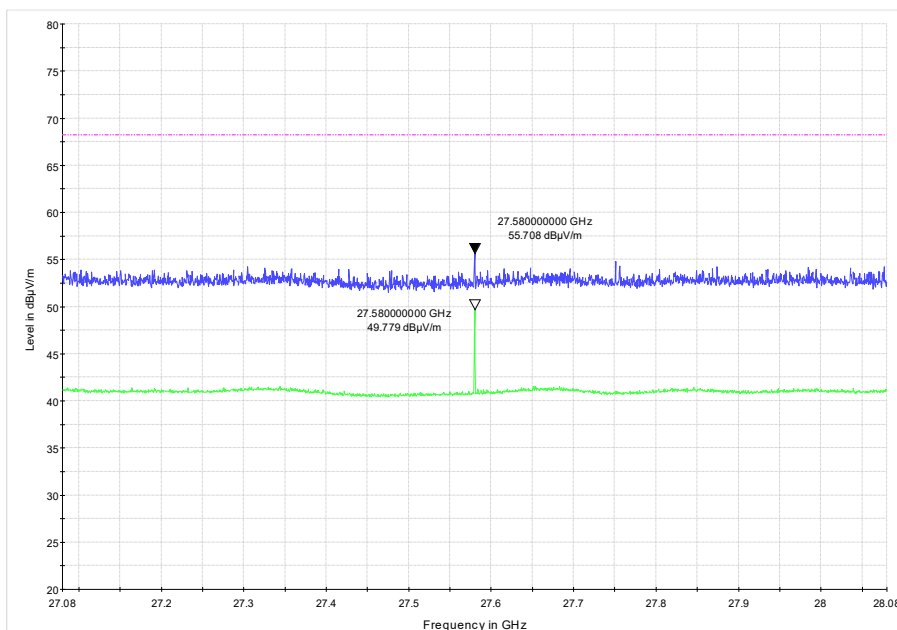
#### Final Result

| 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) |
|-----------------|------------------|--------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|--------------|
| ---             | ---              | ---          | ---            | ---         | ---             | ---             | ---         | --- | ---           | ---             | ---          |

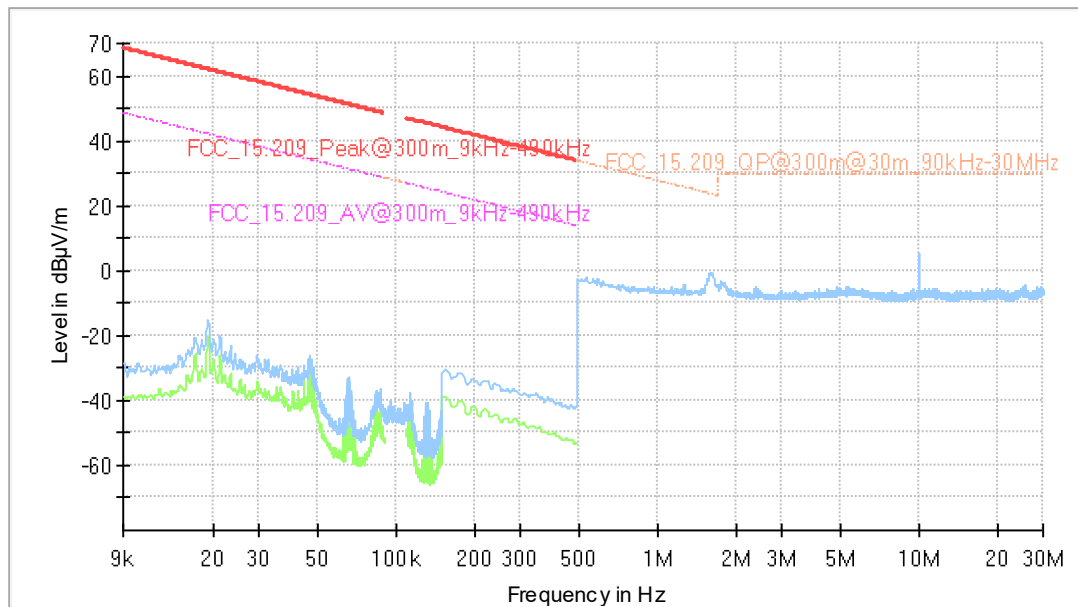
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-7  
(S02\_AG03)



Radio Technology = WLAN ax 20 MHz, Operating Frequency = low, Measurement range =  
27.08GHz – 28.08GHz, Subband = U-NII-8  
(S02\_AG03)



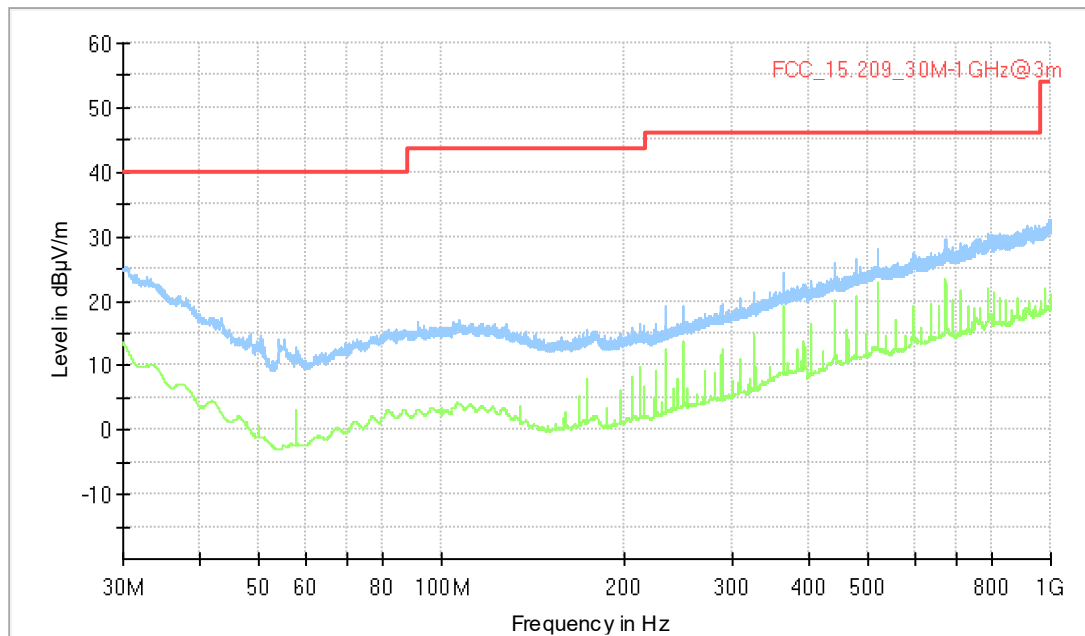
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range = 9kHz - 30MHz, Subband = U-NII-8 (S02\_AG03)



### 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) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|---------------|--------------|
| ---             | ---              | ---              | ---            | ---         | ---             | ---             | ---         | ---           | ---          |

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
30MHz - 1GHz, Subband = U-NII-8  
(S02\_AG03)



#### Final\_Result

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

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid, Measurement range =  
26GHz - 40GHz, Subband = U-NII-8  
(S02\_AG03)

