FCC Measurement/Technical Report on

Industrial WLAN Access Point / Client
SCALANCE W700 / MSAX
MSAX65-W1-M12-E2

FCC ID: LYHMSAX65V1
IC: 267AA-MSAX65V1

Test Report Reference: MDE_SIEM_1911_FCC_01

Test Laboratory:
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D-PL-12140-01-01
D-PL-12140-01-02
D-PL-12140-01-03

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1 APPLIED STANDARDS AND TEST SUMMARY

1.1 APPLIED STANDARDS

Type of Authorization
Certification for an Intentional Radiator.

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 (10-1-20 Edition) and 15 (10-1-20 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

§ 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz

Note:
The tests were selected and performed with reference to the FCC Public Notice "Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under Section 15.247 of the FCC Rules, 558074 D01 15.247 Meas Guidance v05r02, 2019-04-02".

ANSI C63.10–2013 is applied.

1.2 FCC-IC CORRELATION TABLE

Correlation of measurement requirements for DTS (e.g. WLAN 2.4 GHz, BT LE) equipment from FCC and IC

DTS equipment

Measurement	FCC reference	IC reference
Conducted emissions on AC Mains	§ 15.207	RSS-Gen Issue 5: 8.8
Occupied bandwidth	§ 15.247 (a) (2)	RSS-247 Issue 2: 5.2 (a)
Peak conducted output power	§ 15.247 (b) (3), (4)	RSS-247 Issue 2: 5.4 (d)
Transmitter spurious RF conducted emissions	§ 15.247 (d)	RSS-Gen Issue 5: 6.13 / 8.9/8.10; RSS-247 Issue 2: 5.5
Transmitter spurious radiated emissions	§ 15.247 (d); § 15.209 (a)	RSS-Gen Issue 5: 6.13 / 8.9/8.10; RSS-247 Issue 2: 5.5
Band edge compliance	§ 15.247 (d)	RSS-247 Issue 2: 5.5
Power density	§ 15.247 (e)	RSS-247 Issue 2: 5.2 (b)
Antenna requirement	§ 15.203 / 15.204	RSS-Gen Issue 5: 8.3
Receiver spurious emissions	–	–

1.3 MEASUREMENT SUMMARY

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Occupied Bandwidth (6 dB)

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

OP-Mode	**Setup**	**Date**	**FCC**	**IC**
Radio Technology, Operating Frequency				
WLAN g (1 Mbit), high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), mid	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), mid	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, high	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, low	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, mid	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, high	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, low	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, mid	S01_AH01	2021-07-12	Passed	Passed
WLAN ax 20 MHz, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, low	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, mid	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, low	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, mid	S01_AH02	2021-10-26	Passed	Passed

Occupied Bandwidth (99%)
The measurement was performed according to ANSI C63.10 **Final Result**

OP-Mode	**Setup**	**Date**	**FCC**	**IC**
Radio Technology, Operating Frequency				
WLAN g (1 Mbit), high	S01_AH01	2021-07-12	N/A	Performed
WLAN g (1 Mbit), low	S01_AH01	2021-07-12	N/A	Performed
WLAN g (1 Mbit), mid	S01_AH01	2021-07-12	N/A	Performed
WLAN g (6 Mbit), high	S01_AH01	2021-07-12	N/A	Performed
WLAN g (6 Mbit), low	S01_AH01	2021-07-12	N/A	Performed
WLAN g (6 Mbit), mid	S01_AH01	2021-07-12	N/A	Performed
WLAN n 20 MHz, high	S01_AH01	2021-07-12	N/A	Performed
WLAN n 20 MHz, low	S01_AH01	2021-07-12	N/A	Performed
WLAN n 20 MHz, mid	S01_AH01	2021-07-12	N/A	Performed
WLAN n 40 MHz, high	S01_AH01	2021-07-12	N/A	Performed
WLAN n 40 MHz, low	S01_AH01	2021-07-12	N/A	Performed
WLAN n 40 MHz, mid	S01_AH01	2021-07-12	N/A	Performed
WLAN ax 20 MHz, high	S01_AH02	2021-10-26	N/A	Performed
WLAN ax 20 MHz, low	S01_AH02	2021-10-26	N/A	Performed
WLAN ax 20 MHz, mid	S01_AH02	2021-10-26	N/A	Performed
WLAN ax 40 MHz, high	S01_AH02	2021-10-26	N/A	Performed
WLAN ax 40 MHz, low	S01_AH02	2021-10-26	N/A	Performed
WLAN ax 40 MHz, mid	S01_AH02	2021-10-26	N/A	Performed

Peak Power Output

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

Conducted power settings for antenna gain ≤ 9.0 dBi (see chapter 4.6)

OP-Mode Radio Technology, Operating Frequency, Measurement method	Setup	Date	FCC	IC
WLAN g (1 Mbit), high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz MIMO, high, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, low, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, mid, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz MIMO, high, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, low, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, mid, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN ax 20 MHz MIMO, high, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz MIMO, mid, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz, high, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, low, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, mid, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz MIMO, high, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, low, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, mid, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, high, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, low, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, mid, conducted	S01_AH02	2021-10-26	Passed	Passed

Peak Power Output

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

Conducted power settings for antenna gain ≤ 14.0 dBi (see chapter 4.6)

OP-Mode Radio Technology, Operating Frequency, Measurement method	**Setup**	**Date**	**FCC**	**IC**
WLAN g (1 Mbit), high, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN g (1 Mbit), low, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN g (1 Mbit), mid, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), high, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN g (6 Mbit), low, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN g (6 Mbit), mid, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, low, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, mid, conducted	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz MIMO, high, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, low, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, mid, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, high, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN n 20 MHz, low, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN n 20 MHz, mid, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN n 40 MHz MIMO, high, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, low, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, mid, conducted	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, high, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN n 40 MHz, low, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN n 40 MHz, mid, conducted	S01_AH01	2021-09-16	Passed	Passed
WLAN ax 20 MHz MIMO, high, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz MIMO, mid, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz, high, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, low, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, mid, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz MIMO, high, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, low, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, mid, conducted	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, high, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, low, conducted	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, mid, conducted	S01_AH02	2021-10-26	Passed	Passed

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Spurious RF Conducted Emissions

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

OP-Mode Radio Technology, Operating Frequency	Setup	Date	FCC	IC
WLAN g (1 Mbit), high	S01_AH01	2021-07-14	Passed	Passed
WLAN g (1 Mbit), low	S01_AH01	2021-07-14	Passed	Passed
WLAN g (1 Mbit), mid	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit), high	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit), low	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit), mid	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, high	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, mid	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, high	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, mid	S01_AH01	2021-07-14	Passed	Passed
WLAN ax 20 MHz, high	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz, low	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz, mid	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, high	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, low	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, mid	S01_AH02	2021-10-28	Passed	Passed

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Transmitter Spurious Radiated Emissions

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

OP-Mode Radio Technology, Operating Frequency, Measurement range	Setup	Date	FCC	IC
WLAN g (1 Mbit) DIVERSITY, mid, 9 kHz - 30 MHz	S04_AJ01	2021-10-01	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, 30 MHz - 1 GHz	S04_AJ01	2021-09-30	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, low, 30 MHz - 1 GHz	S04_AJ01	2021-09-30	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, mid, 30 MHz - 1 GHz	S04_AJ01	2021-09-30	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, 1 GHz - 26 GHz	S04_AJ01	2021-07-06	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, low, 1 GHz - 26 GHz	S04_AJ01	2021-07-07	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, mid, 1 GHz - 26 GHz	S04_AJ01	2021-07-07	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, 1 GHz - 26 GHz Remark: up to 8 GHz	S04_AJ01	2021-07-08	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, low, 1 GHz - 26 GHz Remark: up to 8 GHz	S04_AJ01	2021-07-08	Passed	Passed
WLAN g WLAN g (6 Mbit) DIVERSITY, mid, 1 GHz - 26 GHz Remark: up to 8 GHz	S04_AJ01	2021-07-08	Passed	Passed
WLAN n 20 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S04_AJ01	2021-07-08	Passed	Passed
WLAN n 40 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S04_AJ01	2021-07-08	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, 1 GHz - 26 GHz Remark: only harmonics	S03_AJ01	2021-06-30	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, 1 GHz - 26 GHz Remark: only harmonics	S03_AJ01	2021-06-30	Passed	Passed
WLAN n 20 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S03_AJ01	2021-06-30	Passed	Passed
WLAN n 40 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S03_AJ01	2021-07-06	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, 1 GHz - 26 GHz Remark: only harmonics	S02_AJ01	2021-07-06	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, 1 GHz - 26 GHz Remark: only harmonics	S02_AJ01	2021-07-06	Passed	Passed
WLAN n 20 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S02_AJ01	2021-07-06	Passed	Passed
WLAN n 40 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S02_AJ01	2021-07-06	Passed	Passed
WLAN ax 20 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S04_AJ02	2021-12-29	Passed	Passed

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Transmitter Spurious Radiated Emissions

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

OP-Mode Radio Technology, Operating Frequency, Measurement range	Setup	Date	FCC	IC
WLAN ax 20 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S03_AJ02	2021-12-29	Passed	Passed
WLAN ax 20 MHz MIMO, high, 1 GHz - 26 GHz Remark: only harmonics	S02_AJ02	2021-12-29	Passed	Passed

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Band Edge Compliance Conducted

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

OP-Mode Radio Technology, Operating Frequency, Band Edge	Setup	Date	FCC	IC
WLAN g (1 Mbit), high, high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), low, low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, low, low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), high, high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), low, low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, high	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, low, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, high, high	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, low, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, high, high	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, low, low	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz MIMO, high, high	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, low, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, high, high	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, low, low	S01_AH01	2021-07-12	Passed	Passed
WLAN ax 20 MHz MIMO, high, high	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz MIMO, low, low	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 20 MHz, high, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, low, low	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz MIMO, high, high	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, low, low	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, high, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, low, low	S01_AH02	2021-10-26	Passed	Passed

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Band Edge Compliance Radiated

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

OP-Mode Radio Technology, Operating Frequency, Band Edge	Setup	Date	FCC	IC
WLAN g (1 Mbit) DIVERSITY, high, high	S04_AJ01	2021-07-08	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, high	S04_AJ01	2021-07-08	Passed	Passed
WLAN n 20 MHz MIMO, high, high	S04_AJ01	2021-07-08	Passed	Passed
WLAN n 40 MHz MIMO, high, high	S04_AJ01	2021-07-08	Passed	Passed
WLAN ax 20 MHz MIMO, high, high	S04_AJ02	2021-12-29	Passed	Passed
WLAN ax 40 MHz MIMO, high, high	S04_AJ02	2021-12-29	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, high	S03_AJ01	2021-06-30	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, high	S03_AJ01	2021-06-30	Passed	Passed
WLAN n 20 MHz MIMO, high, high	S03_AJ01	2021-06-30	Passed	Passed
WLAN n 40 MHz MIMO, high, high	S03_AJ01	2021-06-30	Passed	Passed
WLAN ax 20 MHz MIMO, high, high	S03_AJ02	2021-12-29	Passed	Passed
WLAN ax 40 MHz MIMO, high, high	S03_AJ02	2021-12-29	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high, high	S02_AJ01	2021-07-06	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high, high	S02_AJ01	2021-07-06	Passed	Passed
WLAN n 20 MHz MIMO, high, high	S02_AJ01	2021-07-06	Passed	Passed
WLAN n 40 MHz MIMO, high, high	S02_AJ01	2021-07-06	Passed	Passed
WLAN ax 20 MHz MIMO, high, high	S02_AJ02	2021-12-29	Passed	Passed
WLAN ax 40 MHz MIMO, high, high	S02_AJ02	2021-12-29	Passed	Passed

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Power Density

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

OP-Mode Radio Technology, Operating Frequency	Setup	Date	FCC	IC
WLAN g (1 Mbit), high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit), mid	S01_AH01	2021-07-12	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, high	S01_AH01	2021-07-14	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, low	S01_AH01	2021-07-14	Passed	Passed
WLAN g (1 Mbit) DIVERSITY, mid	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit), high	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), low	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit), mid	S01_AH01	2021-07-12	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, high	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, low	S01_AH01	2021-07-14	Passed	Passed
WLAN g (6 Mbit) DIVERSITY, mid	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, high	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz MIMO, mid	S01_AH01	2021-07-14	Passed	Passed
WLAN n 20 MHz, high	S01_AH01	2021-07-12	Passed	Passed
WLAN n 20 MHz, low	S01_AH01	2021-07-12	Passed	Passed

47 CFR CHAPTER I FCC PART 15 Subpart C §15.247 § 15.247 (e)

Power Density

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

OP-Mode	Setup	Date	FCC	IC
Radio Technology, Operating Frequency				
WLAN n 20 MHz, mid	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz MIMO, high	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, low	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz MIMO, mid	S01_AH01	2021-07-14	Passed	Passed
WLAN n 40 MHz, high	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, low	S01_AH01	2021-07-12	Passed	Passed
WLAN n 40 MHz, mid	S01_AH01	2021-07-12	Passed	Passed
WLAN ax 20 MHz MIMO, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz MIMO, low	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz MIMO, mid	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, low	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 20 MHz, mid	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz MIMO, high	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, low	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz MIMO, mid	S01_AH02	2021-10-28	Passed	Passed
WLAN ax 40 MHz, high	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, low	S01_AH02	2021-10-26	Passed	Passed
WLAN ax 40 MHz, mid	S01_AH02	2021-10-26	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	2022-01-03	--	valid
--	--	--	--

COMMENT: -

(responsible for accreditation scope)
Dipl.-Ing. Daniel Gall

(responsible for testing and report)
Dipl.-Ing. Marco Kullik

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

3 ADMINISTRATIVE DATA

3.1 TESTING LABORATORY

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

The test facility is accredited by the following accreditation organisation:

Laboratory accreditation no:	DAkkS D-PL-12140-01-01| -02 | -03
FCC Designation Number:	DE0015
FCC Test Firm Registration:	929146
ISED CAB Identifier	DE0007; ISED#: 3699A
Responsible for accreditation scope:	Dipl.-Ing. Daniel Gall
Report Template Version:	2020-06-15

3.2 PROJECT DATA

Responsible for testing and report:	Dipl.-Ing. Marco Kullik
Employees who performed the tests:	documented internally at 7Layers
Date of Report:	2022-01-03
Testing Period:	2021-07-06 to 2021-12-29

3.3 APPLICANT DATA

Company Name:	SIEMENS AG
Address:	Östliche Rheinbrückenstr. 50 76187 Karlsruhe Germany
Contact Person:	Dr. Malgorzata Janson

3.4 MANUFACTURER DATA

Company Name:	SIEMENS AG
Address:	76181 Karlsruhe Germany
Contact Person:	Mr. Kilian Löser

4 TEST OBJECT DATA

4.1 GENERAL EUT DESCRIPTION

Kind of Device product description	Industrial Access Point / Client
Product name	SCALANCE W700 / MSAX
Type	MSAX65-W1-M12-E2
Declared EUT data by the supplier	
Specific product description for the EUT	The MSAX65-W1-M12-E2 device is a wireless LAN access point / client for industrial applications supporting following WLAN modes and frequency bands: • 802.11 ax/ac/a/h/n Mode: 5.15 - 5.35 GHz and 5.47 - 5.85 GHz • 802.11 ax/b/g/n Mode: 2400 - 2483.5 MHz 2 N connectors are available for usage with external antennas. 2x2 MIMO operation is possible in both bands. Simultaneous operation of the device in both frequency bands is supported. Module may be used either as Master or as Client WLAN device. The device supports 10/100/1000 Mbit/s Ethernet. Additionally, the device features one digital input and one digital output signalling line, a configuration/licensing plug and a sleep timer. Supply power is 24Vdc, also PoE on the ethernet interface is available.
Voltage Type	DC
Voltage Level	24.0 V
Antenna Type	EUT has two permanent 50 Ohm antenna connectors. External antenna(s)
Antenna Gain	For the radiated tests of this test report the EUT was tested with the following antennas: • ANT795-6MN, gain = 6.0 dBi (in the 2.4 GHz ISM Band) • ANT795-6DC, gain = 9.0 dBi (in the 2.4 GHz ISM Band) • ANT792-8DN, gain = 14.0 dBi (in the 2.4 GHz ISM Band)
Tested Modulation Type	WLAN g (1 Mbit): DSSS WLAN g (6 Mbit): OFDM WLAN n (MCS0): OFDM WLAN ax (MCS0): OFDM
Number of Transmit Chains	2
Number of Receive Chains	2
Type of TX / RX Chains	symmetrical
Nominal Bandwidth	20 MHz, 40 MHz

EUT ports (connected cables during testing):	• Enclosure • DC port: cable length appr. 1.0m • Digital I/O port: cable length 2.0m (terminated with DIDO box), only for radiated tests • LAN port: cable length (shielded), appr. 3.0m, only for radiated tests • USB C service port: cable length, appr. 2.0m, only for conducted tests • 2 Antenna ports, N-connector, appr. 1.0 m & antenna
Tested data rates	WLAN g: 1 Mbit (corresponds to IEEE 802.11b mode), 6 Mbit WLAN n: MCS0 WLAN ax: MCS0
Special software used for testing	Test commands in command window interface of EUT with connection by USB C or LAN Port of EUT

4.2 EUT MAIN COMPONENTS

Sample Name	Sample Code	Description
EUT ah01	DE1039028ah01	
Sample Parameter	**Value**	
Serial No.	VPN4200423	
HW Version	02	
SW Version	V01.01.00	
Comment		

Sample Name	Sample Code	Description
EUT ah02	DE1039028ah02	
Sample Parameter	**Value**	
Serial No.	VPN4200423	
HW Version	02	
SW Version	V01.01.00	
Comment	Re-installation of software, ax-mode 2.4 GHz unlocked	

Sample Name	Sample Code	Description
EUT aj01	DE1039028aj01	
Sample Parameter	**Value**	
Serial No.	VPN4200421	
HW Version	02	
SW Version	V01.01.00	
Comment		

Sample Name	Sample Code	Description
EUT aj02	DE1039028aj02	
Sample Parameter	**Value**	
Serial No.	VPN4200421	
HW Version	02	
SW Version	V01.01.00	
Comment	Re-installation of software, ax-mode 2.4 GHz unlocked	

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

4.3 ANCILLARY EQUIPMENT

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

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

4.4 AUXILIARY EQUIPMENT

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

Device	**Details (Manufacturer, Type Model, HW, SW, S/N)**	**Description**
AC Adapter 65W RE05	Fujitsu Ltd., AC Adapter 65W RE05:A13-065N3A, -, -, 186907LS04	A13-065N3A
Laptop RE05	Fujitsu Ltd., Laptop RE05: Lifebook U758, -, -, DSAL009811	Lifebook U758
AUX104	Siemens, ANT795-6MN, -, -, -	Omni directional dipole antenna, linear polarisation, gain 6 dBi
AUX105	Siemens, ANT795-6MN, -, -, -	Omni directional dipole antenna, linear polarisation, gain 6 dBi
AUX102	Siemens, ANT795-6DC, -, -, -	Sector patch antenna, linear polarisation, gain 9 dBi
AUX103	Siemens, ANT795-6DC, -, -, -	Sector patch antenna, linear polarisation, gain 9 dBi
AUX100	Siemens, ANT792-8DN, -, -, -	Directed patch antenna, linear polarisation, gain 14 dBi
AUX101	Siemens, ANT792-8DN, -, -, -	Directed patch antenna, linear polarisation, gain 14 dBi
AUX14	, , -, - ,	RF-Cable (1m, n-connector)
AUX15	, , -, - ,	RF-Cable (1m, n-connector)
AUX55	Siemens, -, -, -, -	DEBUG BOX CLP
AUX2	Siemens, -, -, -, -	DI/DO Test box with cable

4.5 EUT SETUPS

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

Setup	Combination of EUTs	Description and Rationale
S04_AJ01	EUT aj01, AUX2, AUX14, AUX105, AUX15, AUX104,	Setup for Radiated Tests with Omni Directional Dipole Antenna, linear polarisation, gain 6 dB
S03_AJ01	EUT aj01, AUX2, AUX14, AUX103, AUX15, AUX102,	Setup for Radiated Tests with Sector Patch Antenna, linear polarisation, gain 9 dBi
S02_AJ01	EUT aj01, AUX2, AUX14, AUX101, AUX15, AUX100,	Setup for Radiated Tests with Directed Patch Antenna, linear polarisation, gain 14 dB
S01_AH01	EUT ah01, AUX55, AC Adapter 65W RE05, Laptop RE05	Setup for Conducted Tests
S04_AJ02	EUT aj01, AUX2, AUX14, AUX105, AUX15, AUX104,	Setup for Radiated Tests with Omni Directional Dipole Antenna, linear polarisation, gain 6 dB, ax-Mode
S03_AJ02	EUT aj01, AUX2, AUX14, AUX103, AUX15, AUX102,	Setup for Radiated Tests with Sector Patch Antenna, linear polarisation, gain 9 dBi, ax-Mode
S02_AJ02	EUT aj01, AUX2, AUX14, AUX101, AUX15, AUX100,	Setup for Radiated Tests with Directed Patch Antenna, linear polarisation, gain 14 dB, ax-Mode
S01_AH02	EUT ah01, AUX55, AC Adapter 65W RE05, Laptop RE05	Setup for Conducted Tests, ax-Mode

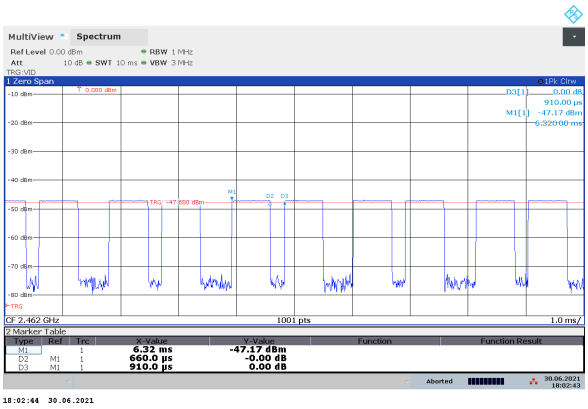
4.6 TEST CHANNELS / OUTPUT POWER / DUTY CYCLE

This chapter describes the channels, output power and duty cycle of the EUTs used for testing.

WLAN 20 MHz Test Channels:	2.4 GHz ISM 2400 - 2483.5 MHz			Antenna gain [dBi]
	low	mid	high	
Channel:	1	6	11	-
Frequency [MHz]	2412	2437	2462	-
Output Power per Chain SISO [dBm]	17	17	17	≤ 9
	12	12	12	≤ 14
Output Power per Chain MIMO [dBm]	17	17	17	≤ 9
	12	12	12	≤ 14

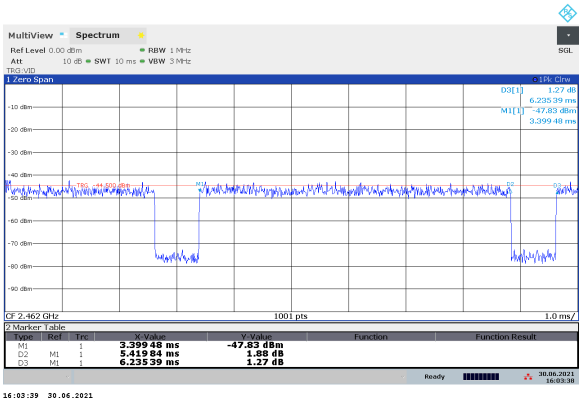
40 MHz Test Channels:	low	mid	high	Antenna gain [dBi]
Channel:	3	6	9	-
Frequency [MHz]	2422	2437	2452	-
Output Power per Chain SISO [dBm]	15	15	15	≤ 9
	10	10	10	≤ 14
Output Power per Chain MIMO [dBm]	15	15	15	≤ 9
	10	10	10	≤ 14

Duty Cycle			
Mode	BW		
	20 [MHz]	40 [MHz]	80 [MHz]
g (1 Mbit)	0.725	-	-
g (6 Mbit)	0.916	-	-
n	0.869	0.871	-
ax	0.872	0.859	-

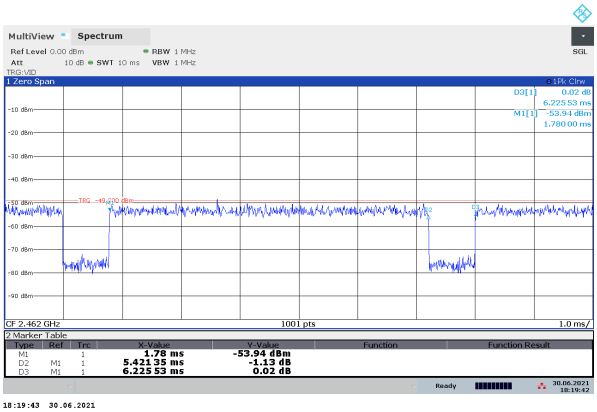


g-mode 1 Mbit

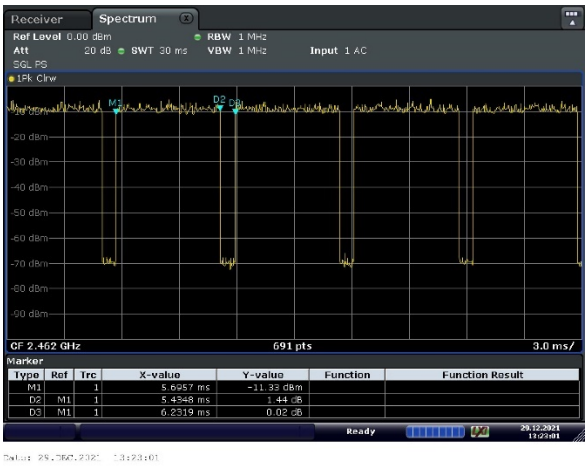
g-mode 6 Mbit



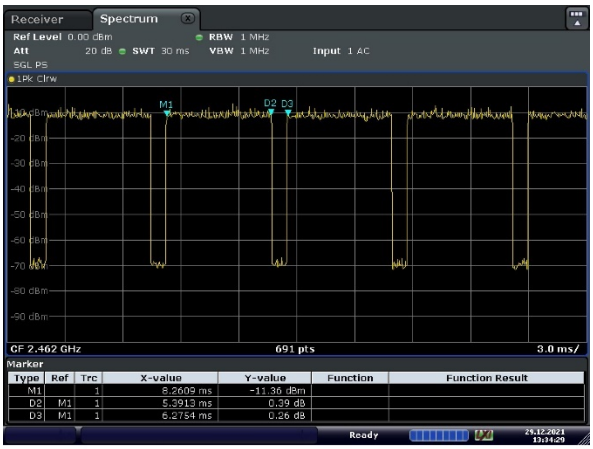
n-mode 20 MHz



n-mode 40 MHz



ax-mode 20 MHz



ax-mode 40 MHz

The duty cycles for the different WLAN mode are for SISO and DIVERSITY/MIMO identical.

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 OCCUPIED BANDWIDTH (6 DB)

Standard **FCC Part 15 Subpart C**

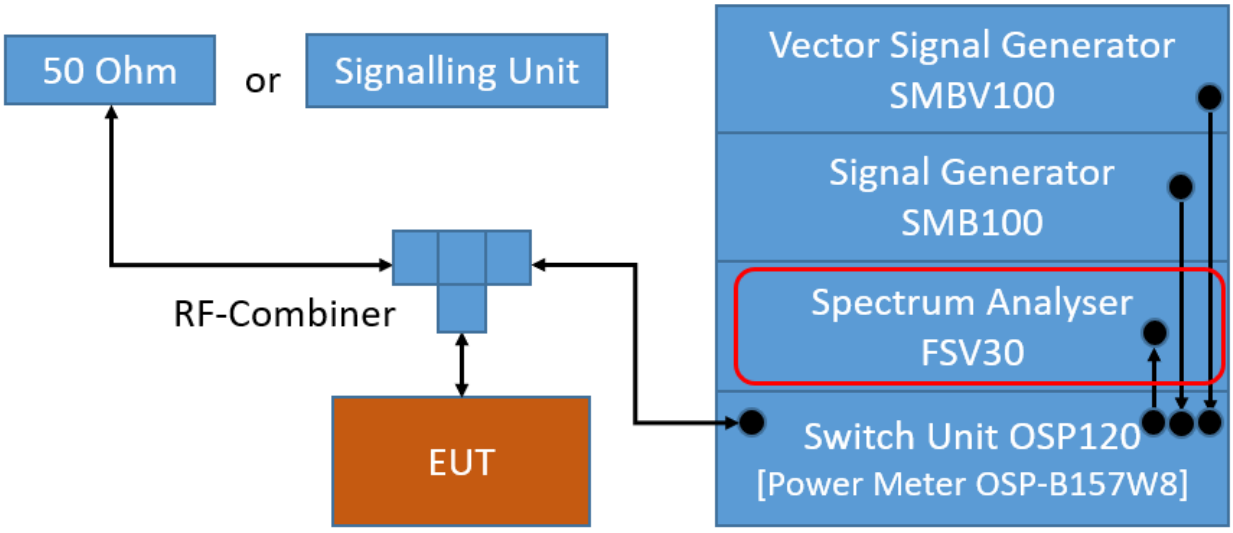
The test was performed according to:
ANSI C63.10

5.1.1 TEST DESCRIPTION

The Equipment Under Test (EUT) was set up to perform the occupied bandwidth measurements.
The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.
The results recorded were measured with the modulation which produce the worst-case (smallest) emission bandwidth.

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

Analyser settings:
- Resolution Bandwidth (RBW): 100 kHz
- Video Bandwidth (VBW): 300 kHz
- Span: Two times nominal bandwidth
- Trace: Maxhold
- Sweeps: Till stable (min. 500, max. 15000)
- Sweeptime: Auto
- Detector: Peak



TS8997; Channel Bandwidth

5.1.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart C, §15.247 (a) (2)
Systems using digital modulation techniques may operate in the 902-928 MHz and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.1.3 TEST PROTOCOL

Ambient temperature: 26 °C
Air Pressure: 920 hPa
Humidity: 47 %

WLAN g-Mode; 20 MHz; 1 Mbit/s

Band	Channel No.	Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
2.4 GHz ISM	1	2412	8.2	0.5	7.7
	6	2437	8.2	0.5	**7.7**
	11	2462	8.2	0.5	7.7

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

Band	Channel No.	Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
2.4 GHz ISM	1	2412	15.8	0.5	**15.3**
	6	2437	15.9	0.5	15.4
	11	2462	16.0	0.5	15.5

WLAN n-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
2.4 GHz ISM	1	2412	16.8	0.5	**16.3**
	6	2437	16.8	0.5	16.3
	11	2462	17.1	0.5	16.6

WLAN n-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
2.4 GHz ISM	3	2422	36.0	0.5	35.5
	6	2437	36.0	0.5	35.5
	9	2452	36.0	0.5	**35.5**

WLAN ax-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
2.4 GHz ISM	1	2412	18.6	0.5	18.1
	6	2437	18.5	0.5	**18.0**
	11	2462	18.5	0.5	18.0

WLAN ax-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]	Margin to Limit [MHz]
2.4 GHz ISM	3	2422	37.8	0.5	37.3
	6	2437	38.0	0.5	**37.5**
	9	2452	38.0	0.5	37.5

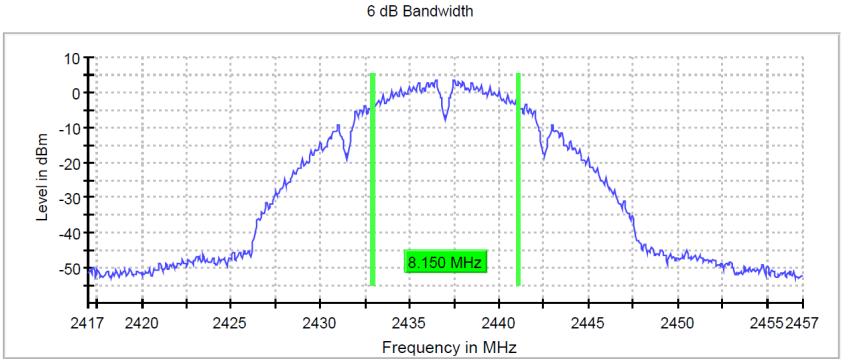
Remark: Please see next sub-clause for the measurement plot.

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

Radio Technology = WLAN g (1 Mbit), Operating Frequency = mid (S01_AH01)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2437.000000	8.150000	0.500000	---	2432.925000	2441.075000	3.4	PASS

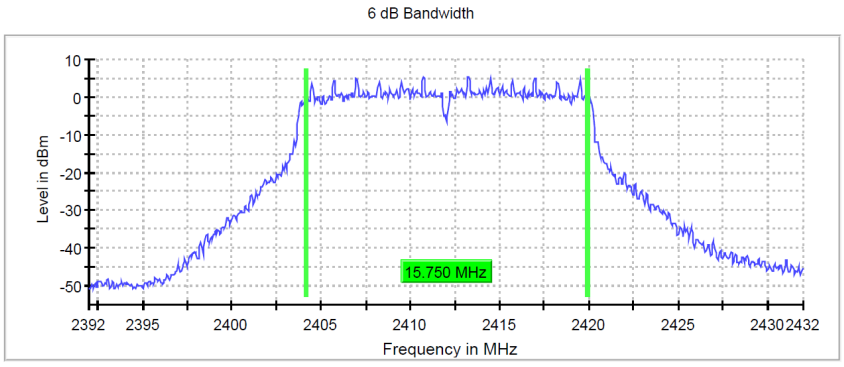


Setting	Instrument Value
Start Frequency	2.41700 GHz
Stop Frequency	2.45700 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
Sweeptime	56.836 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	11 / max. 150
Stable	5 / 5
Max Stable Difference	0.19 dB

Radio Technology = WLAN g (6 Mbit), Operating Frequency = low (S01_AH01)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2412.000000	15.750000	0.500000	---	2404.175000	2419.925000	5.4	PASS

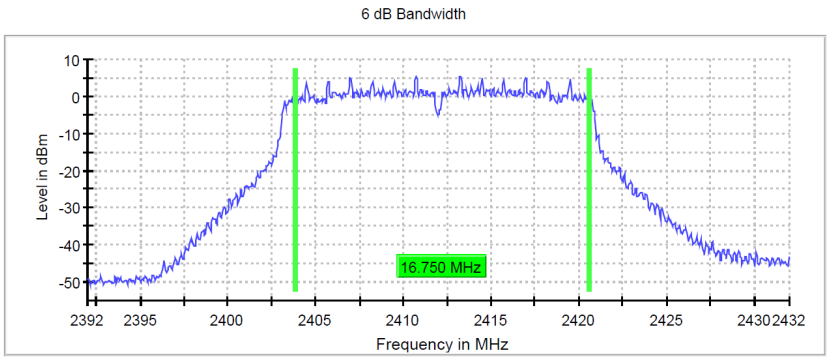


Setting	Instrument Value
Start Frequency	2.39200 GHz
Stop Frequency	2.43200 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
Sweeptime	56.836 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	49 / max. 150
Stable	5 / 5
Max Stable Difference	0.32 dB

Radio Technology = WLAN n 20 MHz, Operating Frequency = low (S01_AH01)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2412.000000	16.750000	0.500000	---	2403.825000	2420.575000	5.4	PASS

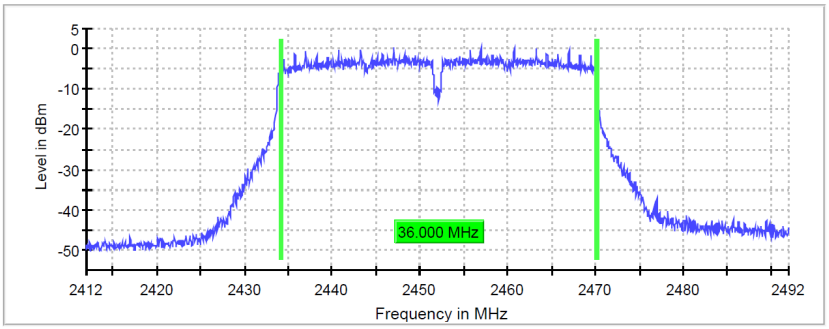


Setting	Instrument Value
Start Frequency	2.39200 GHz
Stop Frequency	2.43200 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
Sweeptime	56.836 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	69 / max. 150
Stable	5 / 5
Max Stable Difference	0.24 dB

Radio Technology = WLAN n 40 MHz, Operating Frequency = high (S01_AH01)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2452.000000	36.000000	0.500000	---	2434.175000	2470.175000	0.3	PASS

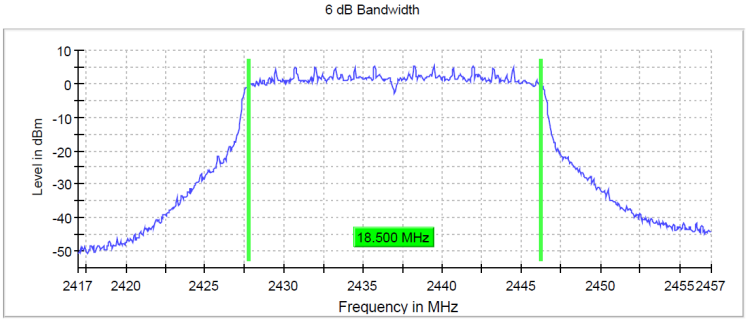


Setting	Instrument Value
Start Frequency	2.41200 GHz
Stop Frequency	2.49200 GHz
Span	80.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	1600
Sweeptime	94.727 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	98 / max. 150
Stable	5 / 5
Max Stable Difference	0.07 dB

Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid (S01_AH02)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2437.000000	18.500000	0.500000	---	2427.725000	2446.225000	5.4	PASS

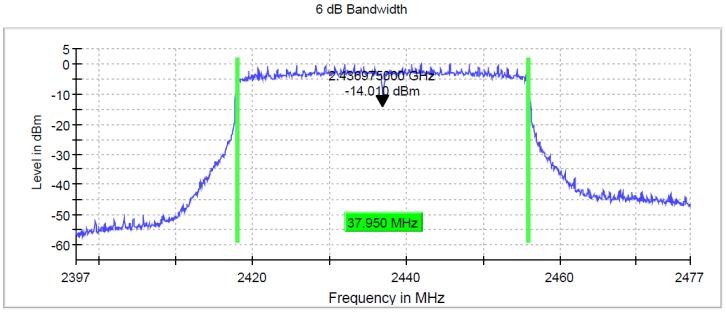


Setting	Instrument Value
Start Frequency	2.41700 GHz
Stop Frequency	2.45700 GHz
Span	40.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	800
Sweeptime	1.040 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	114 / max. 150
Stable	5 / 5
Max Stable Difference	0.38 dB

Radio Technology = WLAN ax 40 MHz, Operating Frequency = mid (S01_AH02)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2437.000000	37.950000	0.500000	---	2418.075000	2456.025000	0.1	PASS



Setting	Instrument Value
Start Frequency	2.39700 GHz
Stop Frequency	2.47700 GHz
Span	80.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
SweepPoints	1600
Sweeptime	1.600 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.50 dB
Run	126 / max. 150
Stable	5 / 5
Max Stable Difference	0.12 dB

5.1.5 TEST EQUIPMENT USED

- R&S TS8997

5.2 OCCUPIED BANDWIDTH (99%)

Standard **FCC Part 15 Subpart C**

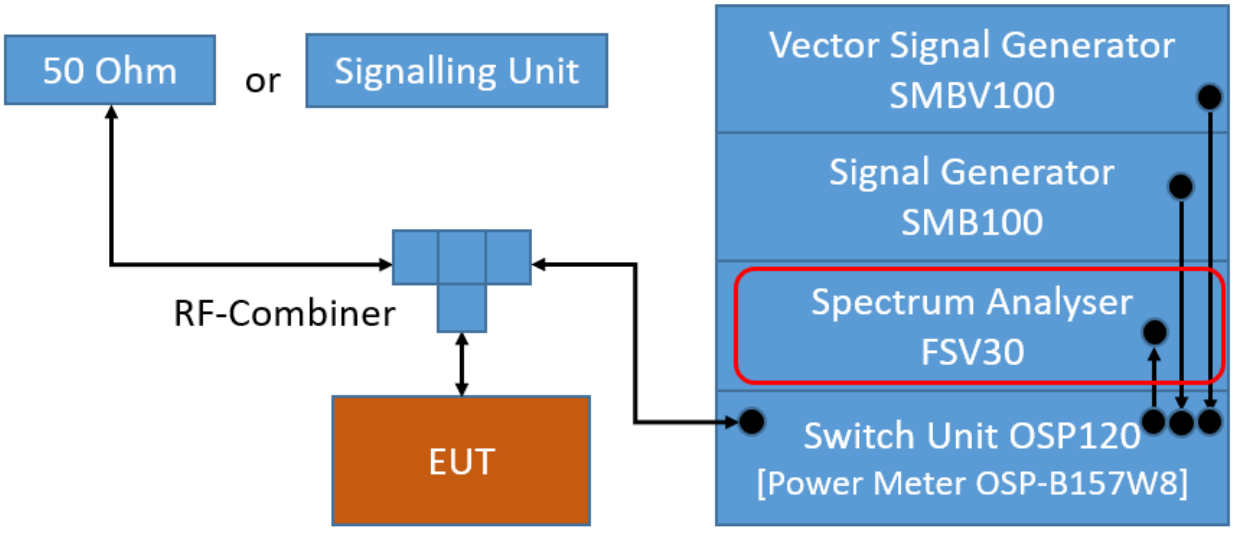
The test was performed according to:
ANSI C63.10

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

Analyser settings:
- Resolution Bandwidth (RBW): 1 to 5 % of the OBW
- Video Bandwidth (VBW): ≥ 3 times the RBW
- Span: 1.5 to 5 times the OBW
- Trace: Maxhold
- Sweeps: Till stable (min. 500, max. 75000)
- Sweeptime: Auto
- Detector: Peak



TS8997; Channel Bandwidth

5.2.2 TEST REQUIREMENTS / LIMITS

No applicable limit:

5.2.3 TEST PROTOCOL

Ambient temperature: 26 °C
Air Pressure: 920 hPa
Humidity: 47 %

WLAN g-Mode; 20 MHz; 1 Mbit/s

Band	Channel No.	Frequency [MHz]	99 % Bandwidth [MHz]
2.4 GHz ISM	1	2412	12.8
	6	2437	**12.9**
	11	2462	12.9

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

Band	Channel No.	Frequency [MHz]	99 % Bandwidth [MHz]
2.4 GHz ISM	1	2412	**16.4**
	6	2437	16.4
	11	2462	16.4

WLAN n-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	99 % Bandwidth [MHz]
2.4 GHz ISM	1	2412	17.6
	6	2437	**17.7**
	11	2462	17.6

WLAN n-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	99 % Bandwidth [MHz]
2.4 GHz ISM	3	2422	36.0
	6	2437	36.0
	9	2452	**36.0**

WLAN ax-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	99 % Bandwidth [MHz]
2.4 GHz ISM	1	2412	**18.9**
	6	2437	18.9
	11	2462	18.9

WLAN ax-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	99 % Bandwidth [MHz]
2.4 GHz ISM	3	2422	**37.8**
	6	2437	37.8
	9	2452	37.8

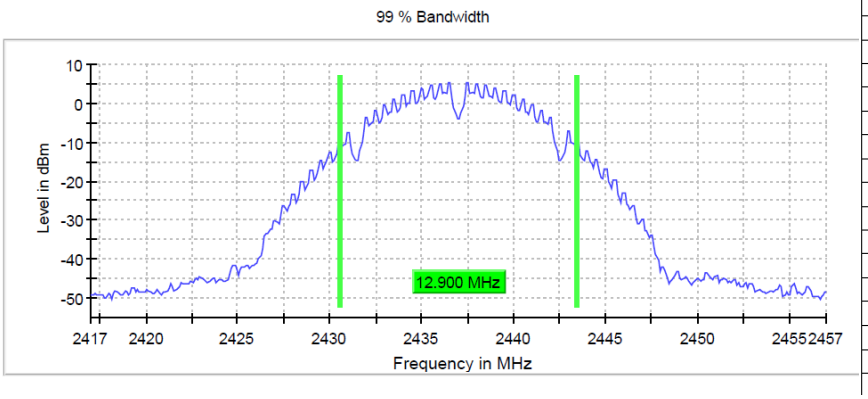
Remark: Please see next sub-clause for the measurement plot.

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

Radio Technology = WLAN g (1 Mbit), Operating Frequency = mid (S01_AH01)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2437.000000	12.900000	---	---	2430.550000	2443.450000	PASS

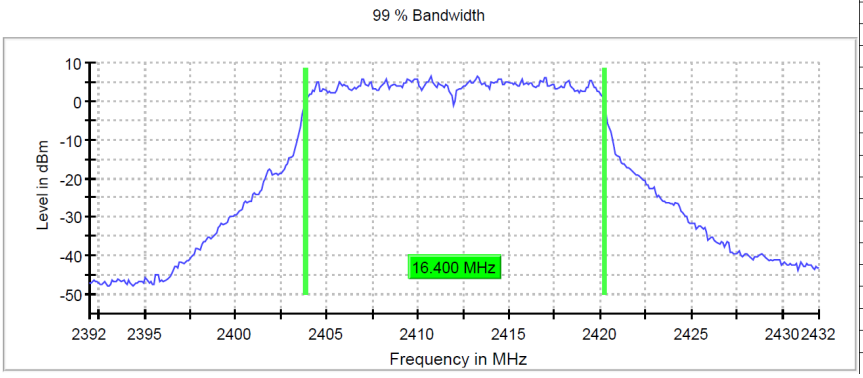


Setting	Instrument Value
Start Frequency	2.41700 GHz
Stop Frequency	2.45700 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
Sweeptime	28.477 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	6 / max. 150
Stable	3 / 3
Max Stable Difference	0.22 dB

Radio Technology = WLAN g (6 Mbit), Operating Frequency = low (S01_AH01)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2412.000000	16.400000	---	---	2403.850000	2420.250000	PASS

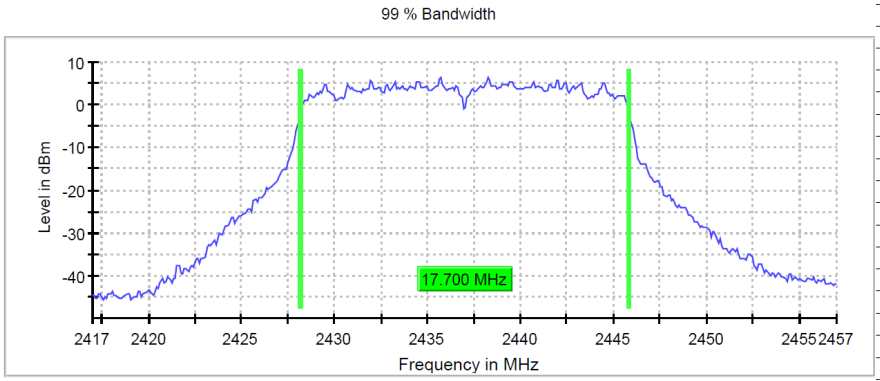


Setting	Instrument Value
Start Frequency	2.39200 GHz
Stop Frequency	2.43200 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
Sweeptime	28.477 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	30 / max. 150
Stable	3 / 3
Max Stable Difference	0.26 dB

Radio Technology = WLAN n 20 MHz, Operating Frequency = mid (S01_AH01)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2437.000000	17.700000	---	---	2428.150000	2445.850000	PASS

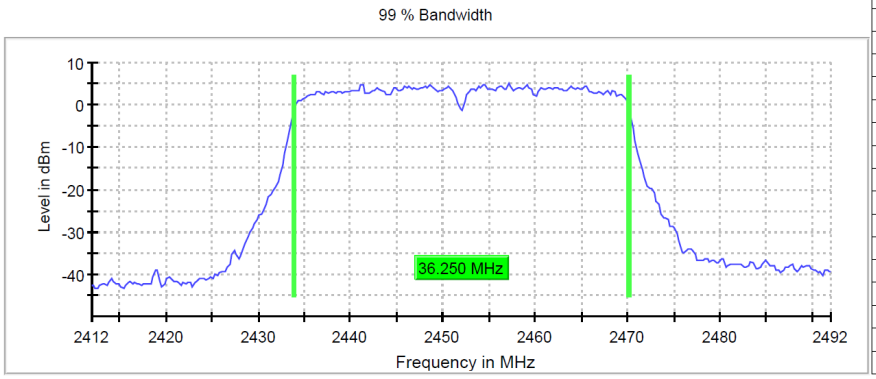


Setting	Instrument Value
Start Frequency	2.41700 GHz
Stop Frequency	2.45700 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
Sweeptime	28.477 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	47 / max. 150
Stable	3 / 3
Max Stable Difference	0.03 dB

Radio Technology = WLAN n 40 MHz, Operating Frequency = high (S01_AH01)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2452.000000	36.250000	---	---	2433.875000	2470.125000	PASS

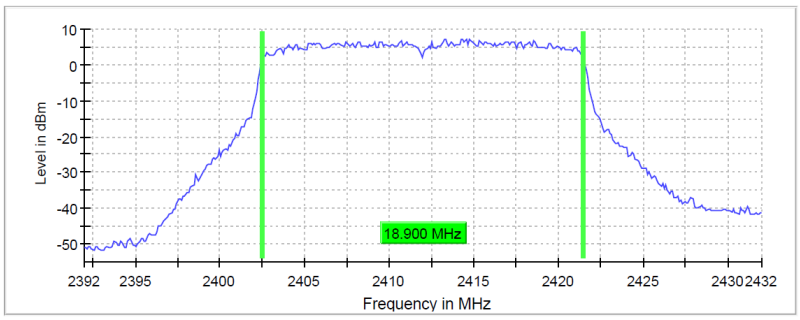


Setting	Instrument Value
Start Frequency	2.41200 GHz
Stop Frequency	2.49200 GHz
Span	80.000 MHz
RBW	500.000 kHz
VBW	2.000 MHz
SweepPoints	320
Sweeptime	18.906 µs
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	FFT
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	38 / max. 150
Stable	3 / 3
Max Stable Difference	0.27 dB

Radio Technology = WLAN ax 20 MHz, Operating Frequency = low (S01_AH02)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2412.000000	18.900000	---	---	2402.550000	2421.450000	PASS

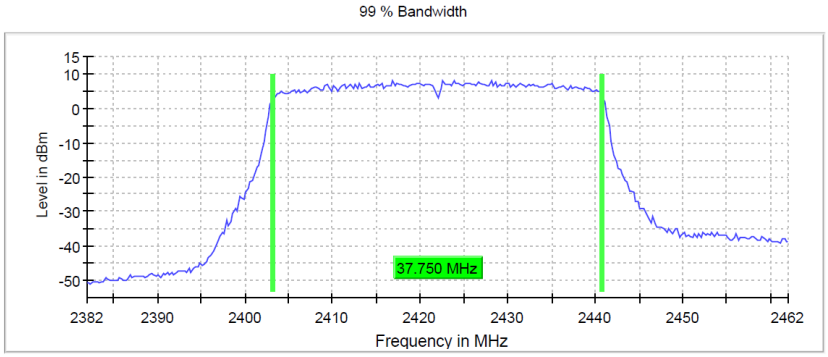


Setting	Instrument Value
Start Frequency	2.39200 GHz
Stop Frequency	2.43200 GHz
Span	40.000 MHz
RBW	200.000 kHz
VBW	1.000 MHz
SweepPoints	400
Sweeptime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	90 / max. 150
Stable	3 / 3
Max Stable Difference	0.02 dB

Radio Technology = WLAN ax 40 MHz, Operating Frequency = low (S01_AH02)

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2422.000000	37.750000	---	---	2403.125000	2440.875000	PASS



Setting	Instrument Value
Start Frequency	2.38200 GHz
Stop Frequency	2.46200 GHz
Span	80.000 MHz
RBW	500.000 kHz
VBW	2.000 MHz
SweepPoints	320
Sweeptime	1.000 ms
Reference Level	0.000 dBm
Attenuation	10.000 dB
Detector	MaxPeak
SweepCount	100
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	114 / max. 150
Stable	3 / 3
Max Stable Difference	0.00 dB

5.2.5 TEST EQUIPMENT USED

- R&S TS8997

5.3 PEAK POWER OUTPUT

Standard **FCC Part 15 Subpart C**

The test was performed according to:
ANSI C63.10

5.3.1 TEST DESCRIPTION

DTS EQUIPMENT:
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.

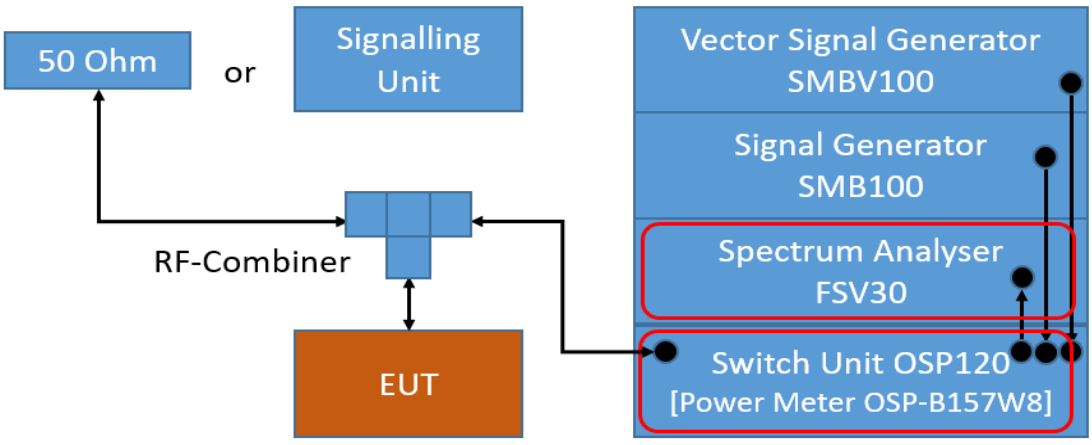
Maximum peak conducted output power (e.g. Bluetooth Low Energy):

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 reference level of the spectrum analyser was set higher than the output power of the EUT.

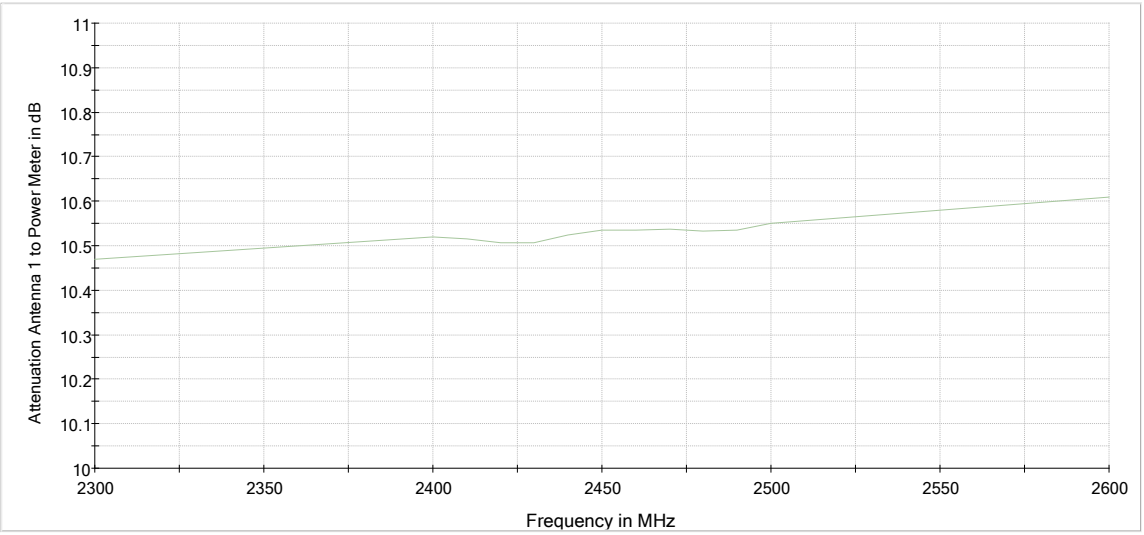
Analyser settings:
- Resolution Bandwidth (RBW): ≥ DTS bandwidth
- Video Bandwidth (VBW): ≥ 3 times RBW or maximum of analyzer
- Span: ≥ 3 times RBW
- Trace: Maxhold
- Sweeps: Till stable (min. 300, max. 15000)
- Sweeptime: Auto
- Detector: Peak

Maximum conducted average output power (e.g. WLAN):

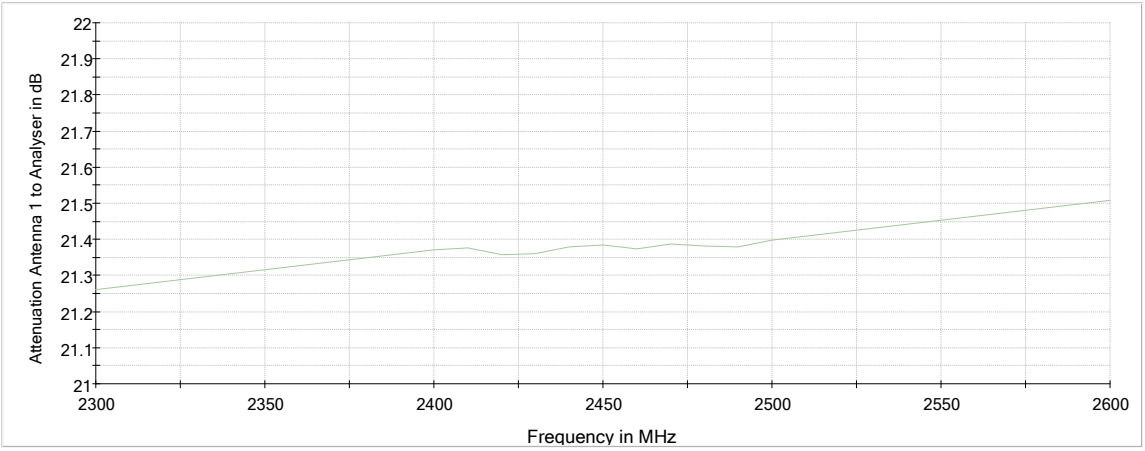
The EUT was connected to the test system as described in the block diagram below. The complete attenuation of the measurement path is known and considered.
Measurement is performed using the gated RF average power meter integrated in the OSP 120 module OSP-B157W8 with signal bandwidth >300 MHz.



TS8997; Output Power



Attenuation of the measurement path to Power Meter



Attenuation of the measurement path to Analyser

5.3.2 TEST REQUIREMENTS / LIMITS

DTS devices:
FCC Part 15, Subpart C, §15.247 (b) (3)
For systems using digital modulation techniques in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands: 1 watt.

==> Maximum conducted peak output power: 30 dBm (excluding antenna gain, if antennas with directional gains that do not exceed 6 dBi are used).

Frequency Hopping Systems:
FCC Part 15, Subpart C, §15.247 (b) (1)
For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

FCC Part 15, Subpart C, §15.247 (b) (2)
For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

Used conversion factor: Limit (dBm) = 10 log (Limit (W)/1mW)

5.3.3 TEST PROTOCOL

Ambient temperature: 26 °C
Air Pressure: 1001 hPa
Humidity: 51 %

With power settings for antenna gain ≤ 9.0 dBi
(please see chapter 4.6)

WLAN g-Mode; 20 MHz; 1 Mbit/s

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	13.6	27.0	13.4	22.6
	6	2437	13.4	27.0	13.6	22.4
	11	2462	13.1	27.0	13.9	22.1

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

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	16.3	27.0	10.7	25.3
	6	2437	16.2	27.0	10.8	25.2
	11	2462	16.3	27.0	10.8	25.3

WLAN n-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	15.9	27.0	11.1	24.9
	6	2437	15.7	27.0	11.3	24.7
	11	2462	15.8	27.0	11.2	24.8

WLAN n-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	3	2422	14.6	27.0	12.4	23.6
	6	2437	14.4	27.0	12.6	23.4
	9	2452	14.5	27.0	12.5	23.5

WLAN ax-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	15.7	27.0	11.3	24.7
	6	2437	15.6	27.0	11.4	24.6
	11	2462	15.7	27.0	11.3	24.7

WLAN ax-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	3	2422	14.1	27.0	12.9	23.1
	6	2437	13.8	27.0	13.2	22.8
	9	2452	14.0	27.0	13.0	23.0

WLAN g-Mode; 20 MHz; 1 Mbit/s; DIVERSITY

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	16.5	27.0	10.5	25.5
	6	2437	16.4	27.0	10.6	25.4
	11	2462	16.3	27.0	10.7	25.3

WLAN g-Mode; 20 MHz; 6 Mbit/s; DIVERSITY

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	19.4	27.0	7.6	28.4
	6	2437	19.2	27.0	7.8	28.2
	11	2462	19.3	27.0	7.7	28.3

WLAN n-Mode; 20 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	1	2412	19.0	27.0	8.0	28.0
	6	2437	18.7	27.0	8.3	27.7
	11	2462	18.9	27.0	8.1	27.9

WLAN n-Mode; 40 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	3	2422	17.6	27.0	9.4	26.6
	6	2437	17.3	27.0	9.7	26.3
	9	2452	17.6	27.0	9.4	26.6

WLAN ax-Mode; 20 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	1	2412	19.1	27.0	7.9	28.1
	6	2437	18.7	27.0	8.3	27.7
	11	2462	18.9	27.0	8.1	27.9

WLAN ax-Mode; 40 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	3	2422	17.4	27.0	9.6	26.4
	6	2437	17.0	27.0	10.0	26.0
	9	2452	17.3	27.0	9.7	26.3

With power settings for antenna gain ≤ 14.0 dBi
(please see chapter 4.6)

WLAN g-Mode; 20 MHz; 1 Mbit/s

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	8.5	22.0	13.5	22.7
	6	2437	8.3	22.0	13.7	22.5
	11	2462	8.5	22.0	13.5	22.7

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

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	11.6	22.0	10.4	25.8
	6	2437	11.4	22.0	10.6	25.6
	11	2462	11.4	22.0	10.6	25.6

WLAN n-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	11.2	22.0	10.8	25.4
	6	2437	11.0	22.0	11.0	25.2
	11	2462	11.0	22.0	11.0	25.2

WLAN n-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	3	2422	9.8	22.0	12.2	24.0
	6	2437	9.5	22.0	12.5	23.7
	9	2452	9.7	22.0	12.3	23.9

WLAN ax-Mode; 20 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	11.0	22.0	11.0	25.2
	6	2437	10.8	22.0	11.2	25.0
	11	2462	10.8	22.0	11.2	25.0

WLAN ax-Mode; 40 MHz; MCS0

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	3	2422	9.4	22.0	12.6	23.6
	6	2437	9.1	22.0	12.9	23.3
	9	2452	9.3	22.0	12.7	23.5

WLAN g-Mode; 20 MHz; 1 Mbit/s; DIVERSITY

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	11.3	22.0	10.7	25.5
	6	2437	11.2	22.0	10.8	25.4
	11	2462	11.3	22.0	10.7	25.5

WLAN g-Mode; 20 MHz; 6 Mbit/s; DIVERSITY

Band	Channel No.	Frequency [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	E.I.R.P [dBm]
2.4 GHz ISM	1	2412	14.4	22.0	7.6	28.6
	6	2437	14.2	22.0	7.8	28.4
	11	2462	14.3	22.0	7.7	28.5

WLAN n-Mode; 20 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	1	2412	14.1	22.0	7.9	28.3
	6	2437	13.9	22.0	8.1	28.1
	11	2462	14.0	22.0	8.0	28.2

WLAN n-Mode; 40 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	3	2422	12.3	22.0	9.7	26.5
	6	2437	12.7	22.0	9.3	26.9
	9	2452	12.6	22.0	9.4	26.8

WLAN ax-Mode; 20 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	1	2412	14.0	22.0	8.0	28.2
	6	2437	13.7	22.0	8.3	27.9
	11	2462	13.9	22.0	8.1	28.1

WLAN ax-Mode; 40 MHz; MCS0; MIMO

Band	Ch. No.	Freq. [MHz]	Maximum Average Power [dBm]	Limit [dBm]	Margin to Limit [dB]	EIRP [dBm]
2.4 GHz ISM	3	2422	12.4	22.0	9.6	26.6
	6	2437	12.0	22.0	10.0	26.2
	9	2452	12.3	22.0	9.7	26.5

Remark:

- Conducted limits are reduced according the antenna gain which is bigger than 6 dBi.
- No plots are provided for WLAN measurements since measurement is performed with power meter(s).

5.3.4 TEST EQUIPMENT USED

- R&S TS8997

5.4 SPURIOUS RF CONDUCTED EMISSIONS

Standard **FCC Part 15 Subpart C**

The test was performed according to:
ANSI C63.10

5.4.1 TEST DESCRIPTION

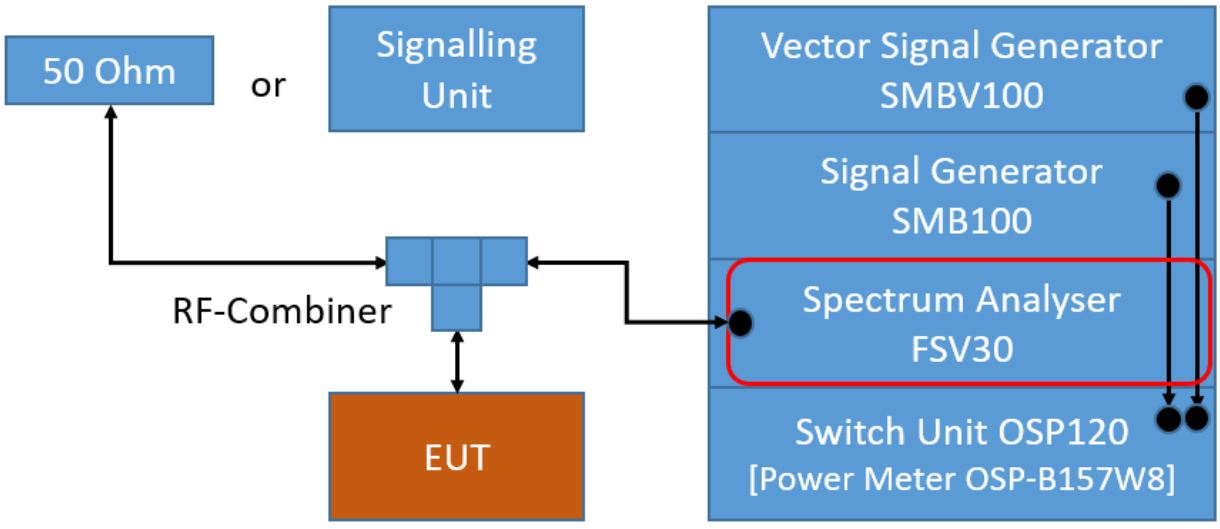
The Equipment Under Test (EUT) was set up to perform the spurious emissions measurements.

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

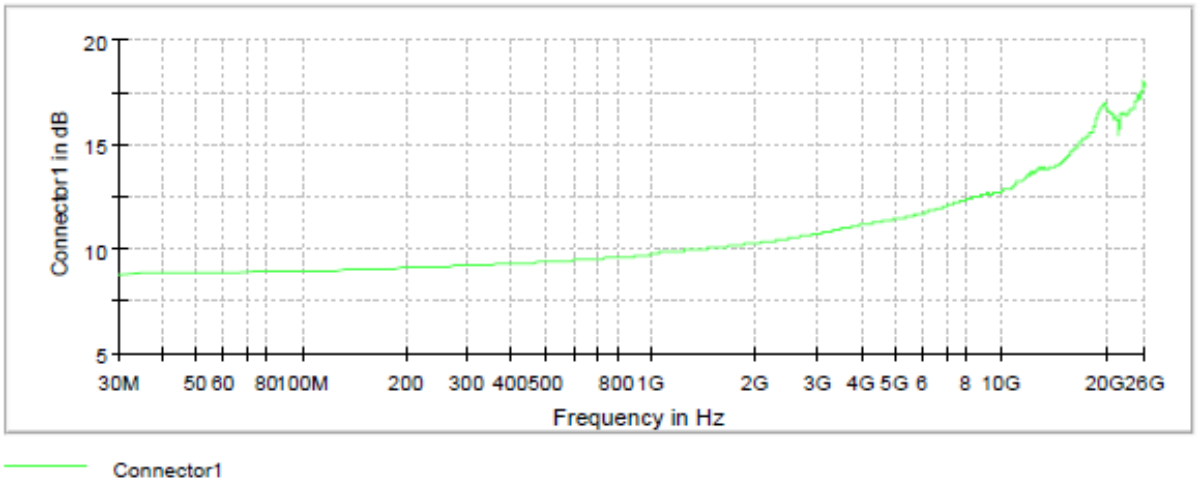
Analyser settings:

- Frequency range: 30 – 26000 MHz
- Resolution Bandwidth (RBW): 100 kHz
- Video Bandwidth (VBW): 300 kHz
- Trace: Maxhold
- Sweeps: Till Stable (max. 120)
- Sweep Time: Auto
- Detector: Peak

The reference value for the measurement of the spurious RF conducted emissions is determined during the test "band edge compliance conducted". This value is used to calculate the 20 dBc or 30 dBc limit.



TS8997; Spurious RF Conducted Emissions



Attenuation of the measurement part

5.4.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart C, §15.247 (c)
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.4.3 TEST PROTOCOL

Ambient temperature: 26 °C
Air Pressure: 1001 hPa
Humidity: 51 %

WLAN g-Mode; 20 MHz; 1 Mbit/s

Channel No	Channel Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBm]	Detector	RBW [kHz]	Ref. Level [dBm]	Limit [dBm]	Margin to Limit [dB]
1	2412	2395.0	-48.7	PEAK	100	5.0	-25.0	23.7
6	2437	25985.0	-49.4	PEAK	100	5.0	-25.0	24.4
11	2462	25965.0	-48.0	PEAK	100	3.0	-27.0	21.0

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

Channel No	Channel Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBm]	Detector	RBW [kHz]	Ref. Level [dBm]	Limit [dBm]	Margin to Limit [dB]
1	2412	2395.0	-31.7	PEAK	100	5.3	-24.7	7.0
6	2437	2565.4	-49.2	PEAK	100	5.3	-24.7	24.5
11	2462	2488.5	-49.9	PEAK	100	5.3	-24.7	25.2

WLAN n-Mode; 20 MHz; MCS0

Channel No	Channel Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBm]	Detector	RBW [kHz]	Ref. Level [dBm]	Limit [dBm]	Margin to Limit [dB]
1	2412	2395.0	-26.6	PEAK	100	4.6	-25.4	1.2
6	2437	25735.2	-48.9	PEAK	100	5.0	-25.0	23.9
11	2462	2488.5	-47.1	PEAK	100	5.1	-24.9	22.2

WLAN n-Mode; 40 MHz; MCS0

Channel No	Channel Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBm]	Detector	RBW [kHz]	Ref. Level [dBm]	Limit [dBm]	Margin to Limit [dB]
3	2422	2395.0	-35.2	PEAK	100	0.4	-29.6	5.6
6	2437	2488.5	-47.9	PEAK	100	0.3	-29.7	18.2
9	2452	2488.5	-42.7	PEAK	100	0.2	-29.8	12.9

WLAN ax-Mode; 20 MHz; MCS0

Channel No	Channel Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBm]	Detector	RBW [kHz]	Ref. Level [dBm]	Limit [dBm]	Margin to Limit [dB]
1	2412	2508.5	-32.0	PEAK	100	2.5	-27.5	4.5
6	2437	23976.24	-58.5	PEAK	100	1.3	-28.7	28.7
11	2462	25985.0	-38.5	PEAK	100	1.9	-28.1	10.4

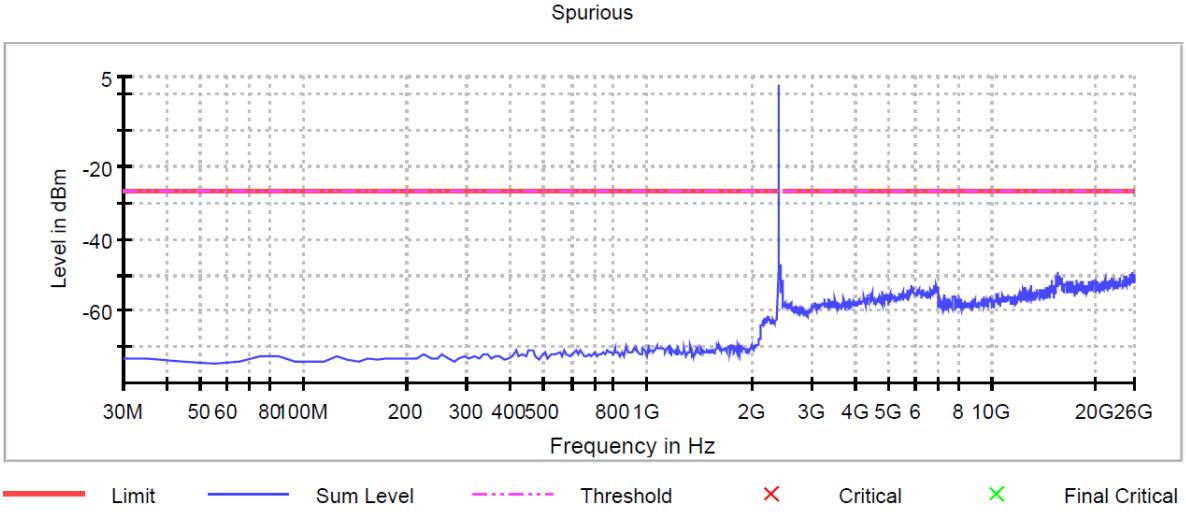
WLAN ax-Mode; 40 MHz; MCS0

Channel No	Channel Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBm]	Detector	RBW [kHz]	Ref. Level [dBm]	Limit [dBm]	Margin to Limit [dB]
3	2422	2395.0	-36.4	PEAK	100	0.5	-29.5	6.8
6	2437	2488.5	-50.0	PEAK	100	-1.5	-31.5	18.6
9	2452	2488.5	-41-4	PEAK	100	-2.8	-32.8	8.6

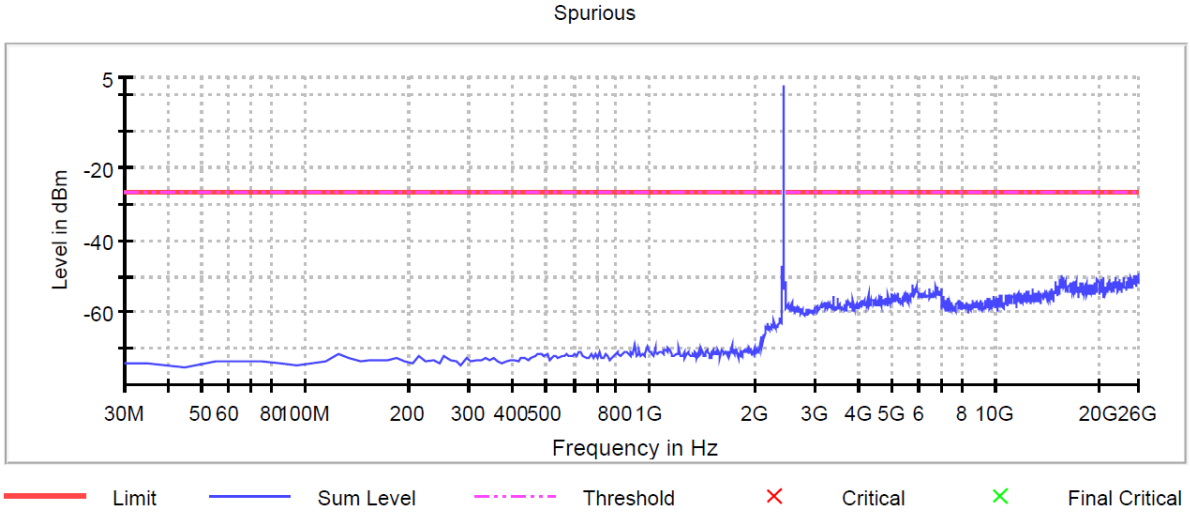
Remark: Please see next sub-clause for the measurement plot.

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

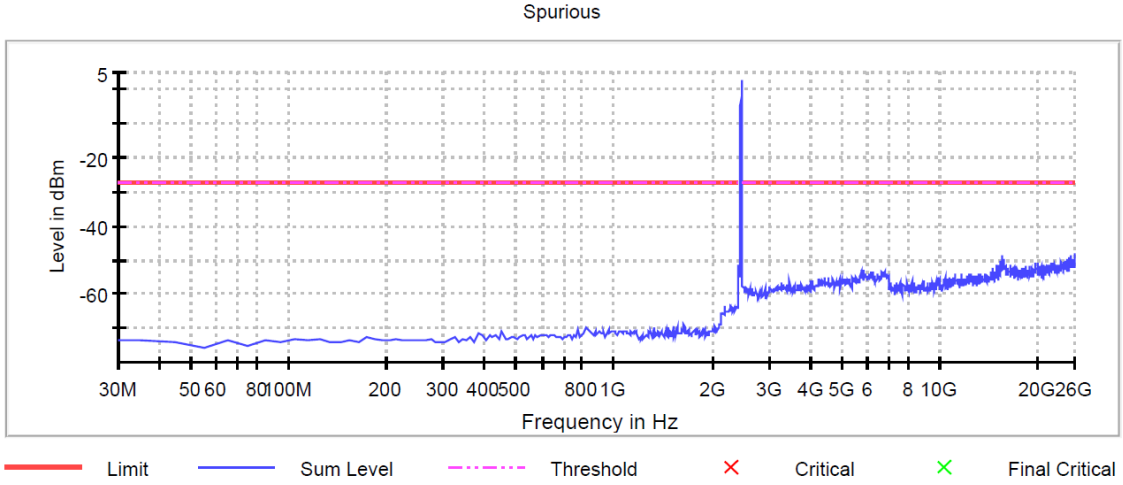
Radio Technology = WLAN g (1 Mbit), Operating Frequency = low (S01_AH01)



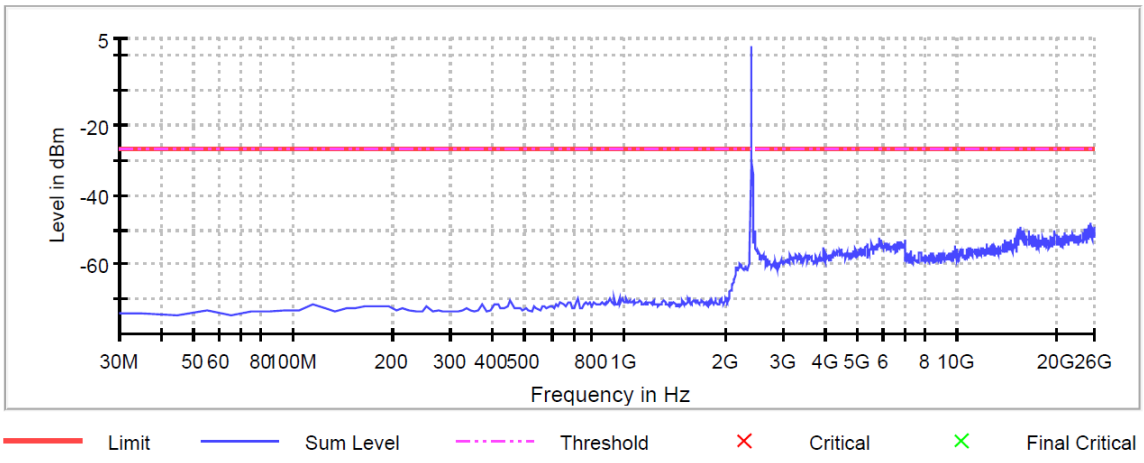
Radio Technology = WLAN g (1 Mbit), Operating Frequency = mid (S01_AH01)



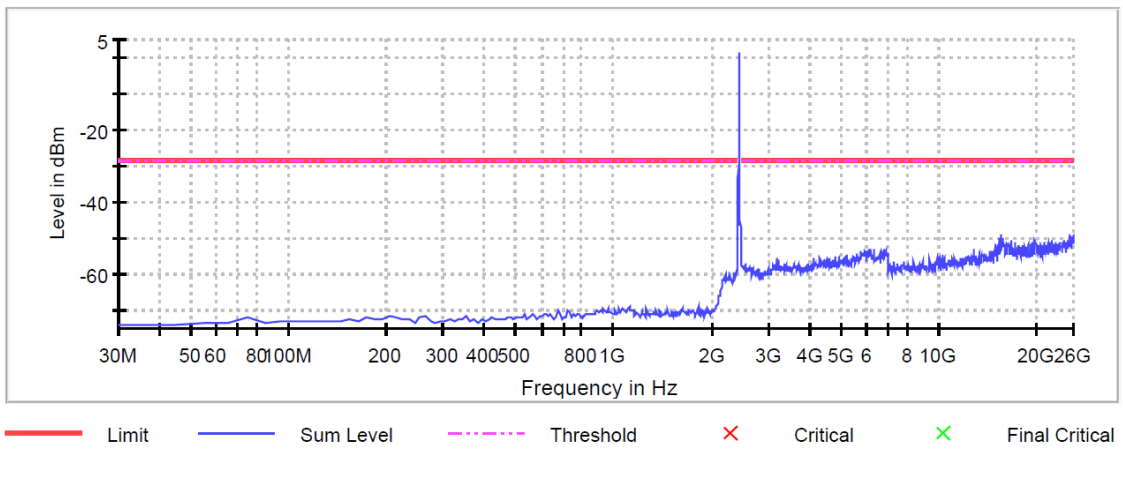
Radio Technology = WLAN g (1 Mbit), Operating Frequency = high (S01_AH01)



Radio Technology = WLAN g (6 Mbit), Operating Frequency = low (S01_AH01)

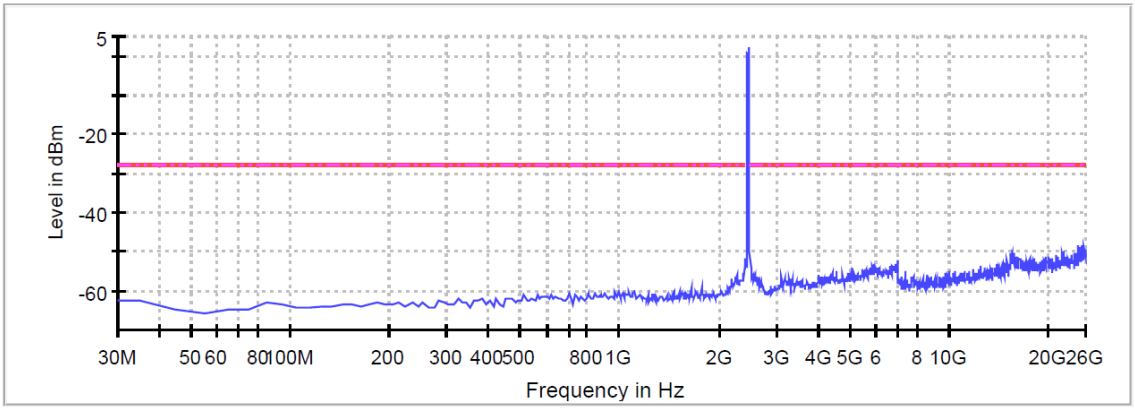


Radio Technology = WLAN g (6 Mbit), Operating Frequency = mid (S01_AH01)



Radio Technology = WLAN g (6 Mbit), Operating Frequency = high (S01_AH01)

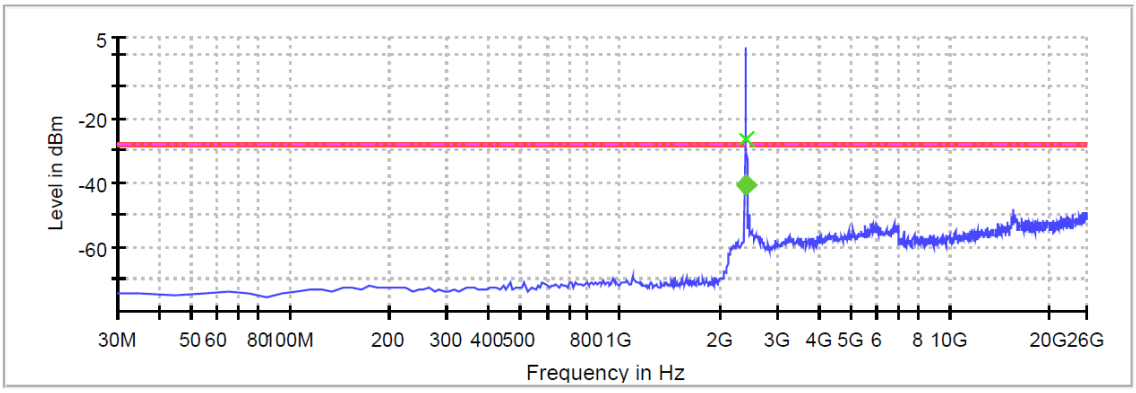
Spurious



Limit Sum Level Threshold Critical Final Critical

Radio Technology = WLAN n 20 MHz, Operating Frequency = low (S01_AH01)

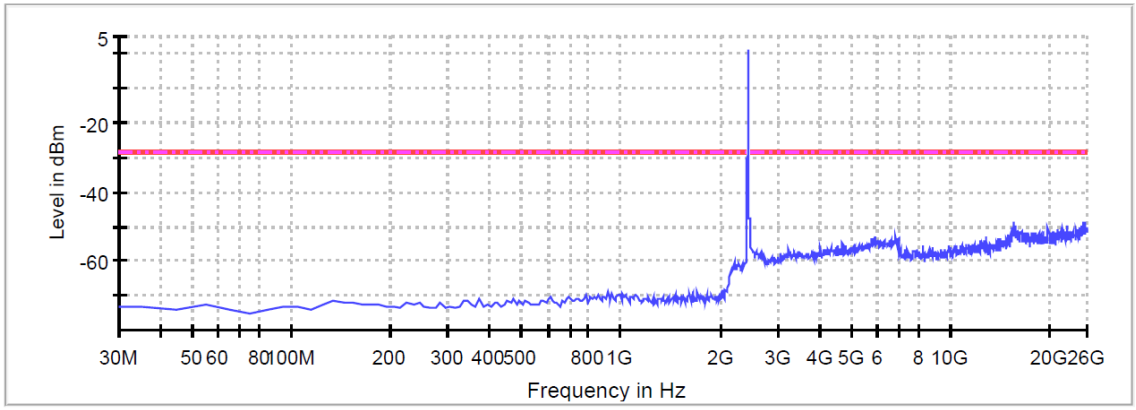
Spurious



Limit Sum Level Threshold Critical
Final Critical Fail Pass

Radio Technology = WLAN n 20 MHz, Operating Frequency = mid (S01_AH01)

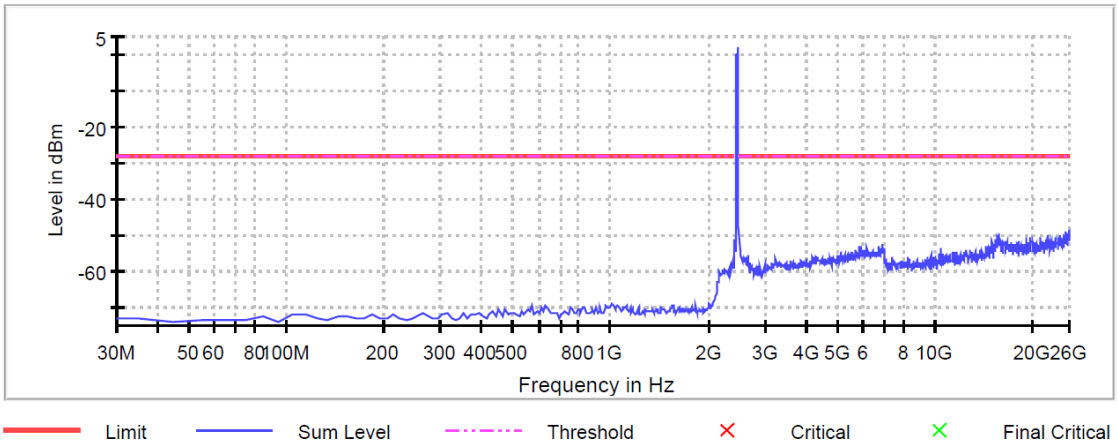
Spurious



Limit Sum Level Threshold Critical Final Critical

Radio Technology = WLAN n 20 MHz, Operating Frequency = high (S01_AH01)

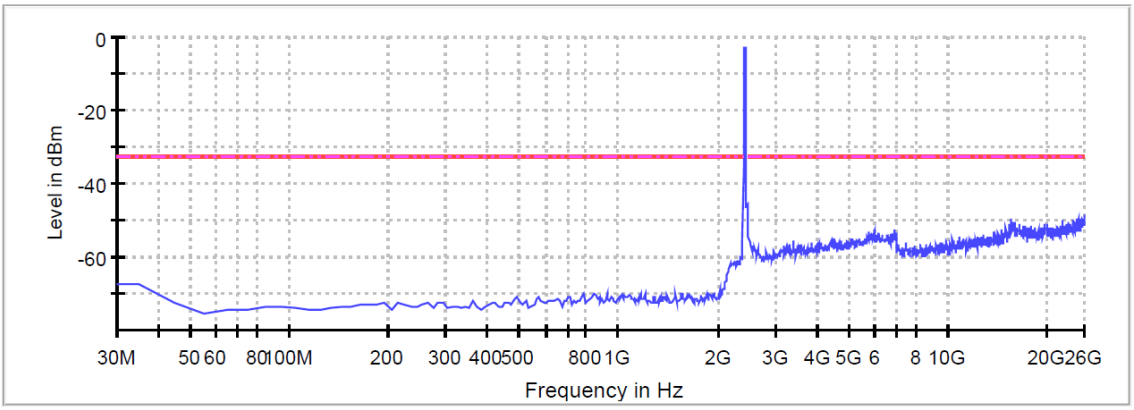
Spurious



Limit Sum Level Threshold Critical Final Critical

Radio Technology = WLAN n 40 MHz, Operating Frequency = low (S01_AH01)

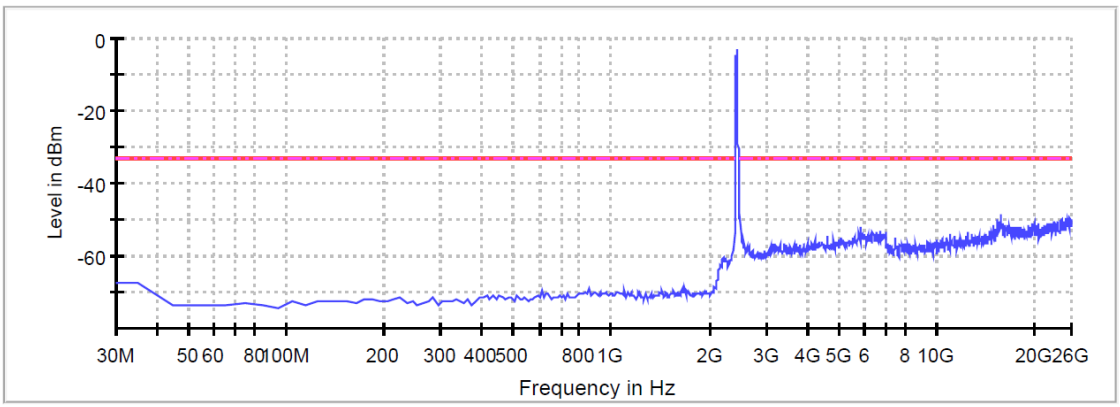
Spurious



Limit Sum Level Threshold Critical Final Critical

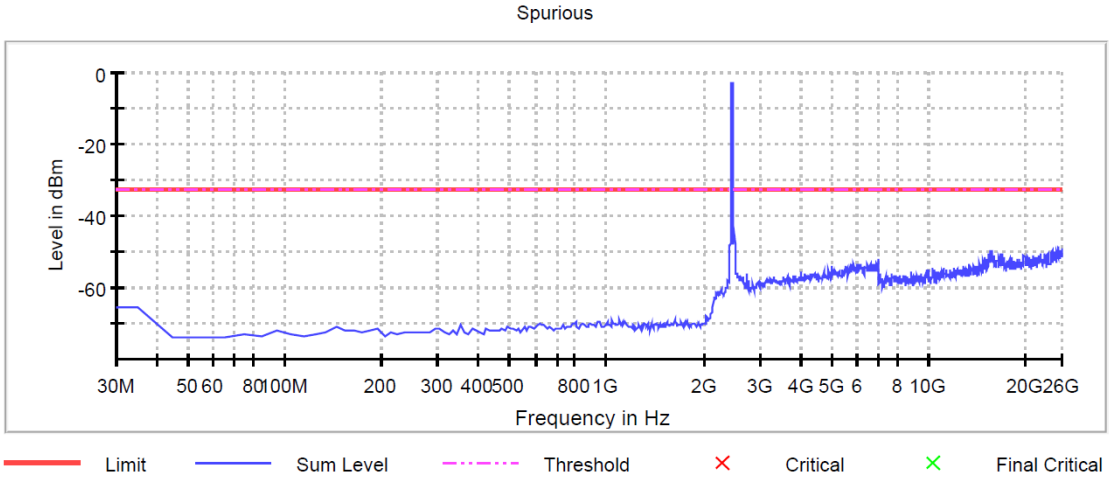
Radio Technology = WLAN n 40 MHz, Operating Frequency = mid (S01_AH01)

Spurious

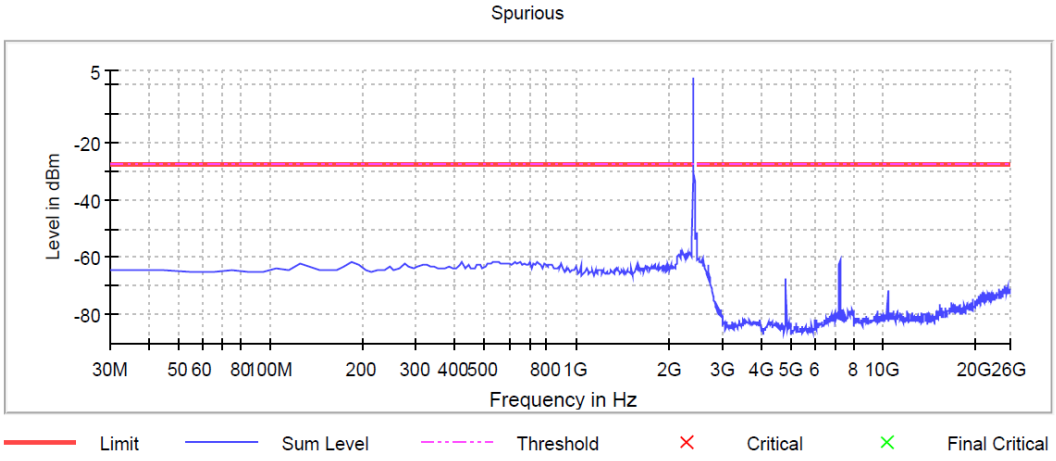


Limit Sum Level Threshold Critical Final Critical

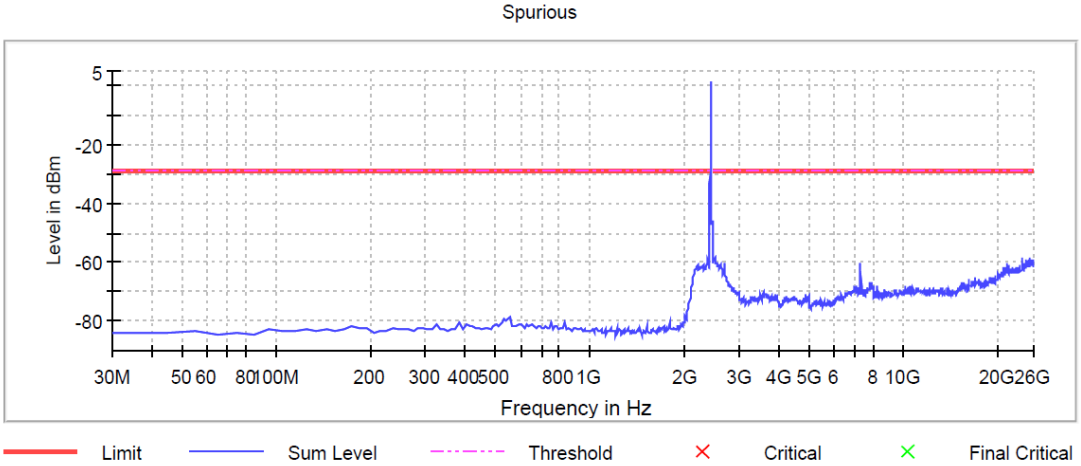
Radio Technology = WLAN n 40 MHz, Operating Frequency = high (S01_AH01)



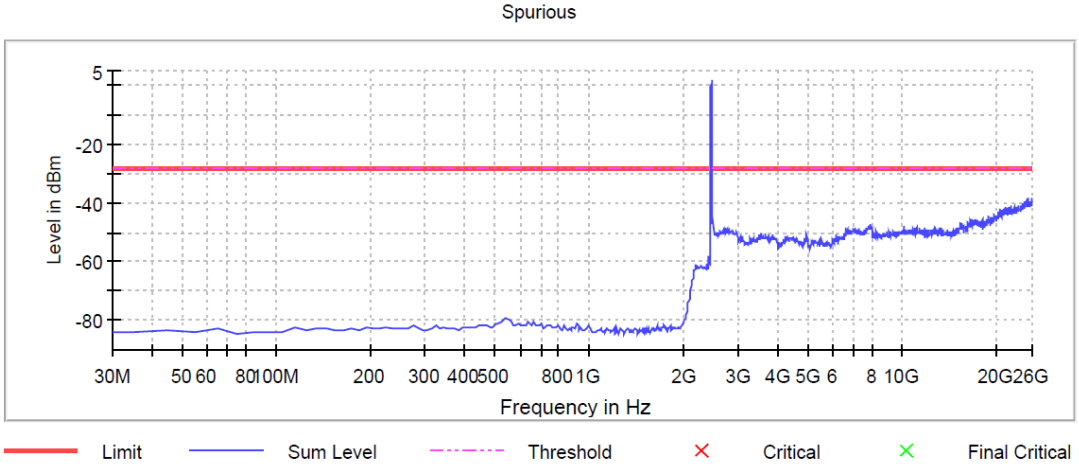
Radio Technology = WLAN ax 20 MHz, Operating Frequency = low (S01_AH02)



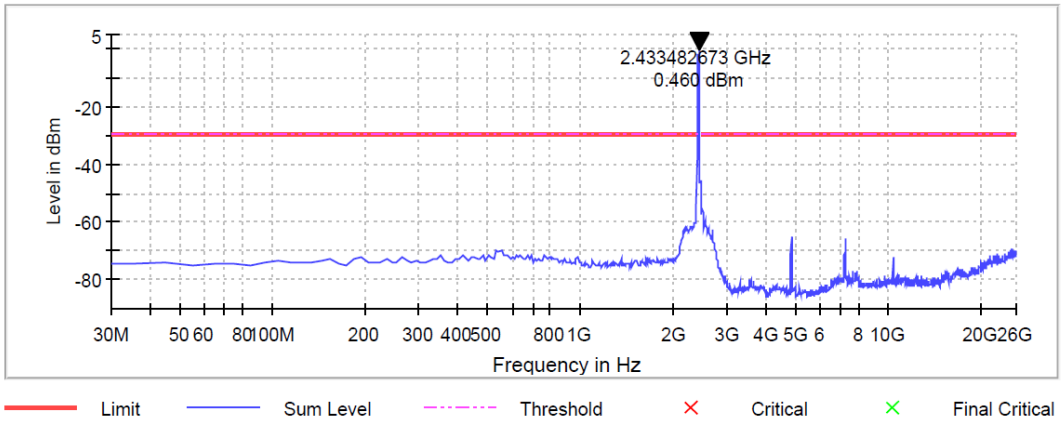
Radio Technology = WLAN ax 20 MHz, Operating Frequency = mid (S01_AH02)



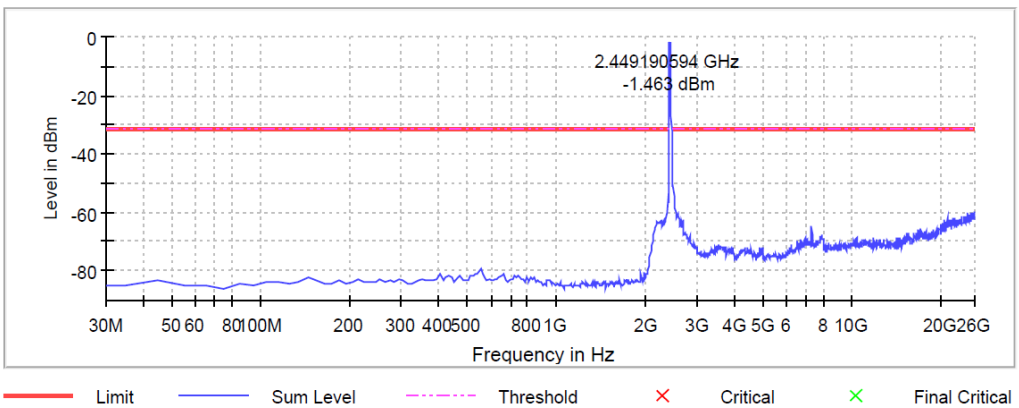
Radio Technology = WLAN ax 20 MHz, Operating Frequency = high (S01_AH02)



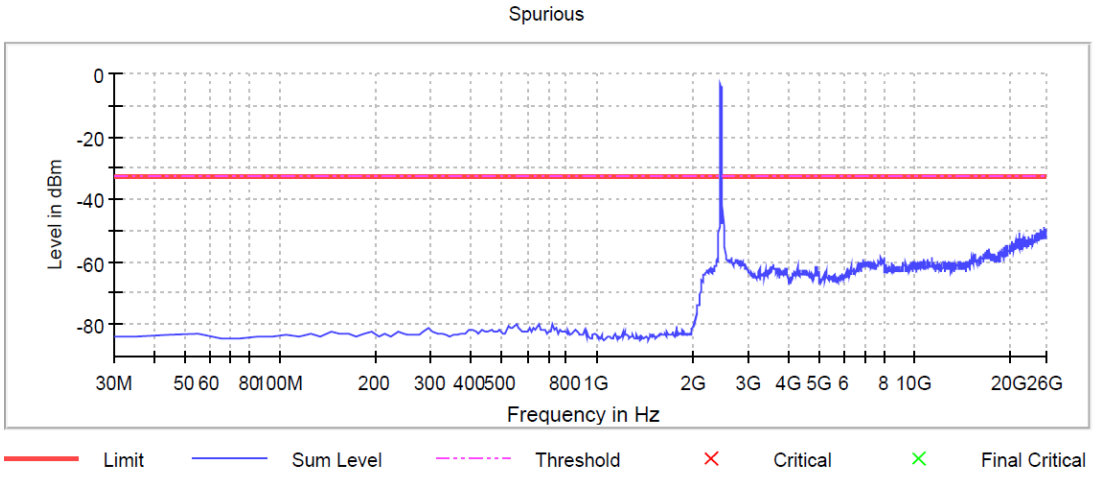
Radio Technology = WLAN ax 40 MHz, Operating Frequency = low (S01_AH02)



Radio Technology = WLAN ax 40 MHz, Operating Frequency = mid (S01_AH02)



Radio Technology = WLAN ax 40 MHz, Operating Frequency = high (S01_AH02)



5.4.5 TEST EQUIPMENT USED

- R&S TS8997

5.5 TRANSMITTER SPURIOUS RADIATED EMISSIONS

Standard **FCC Part 15 Subpart C**

The test was performed according to:
ANSI C63.10

5.5.1 TEST DESCRIPTION

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:

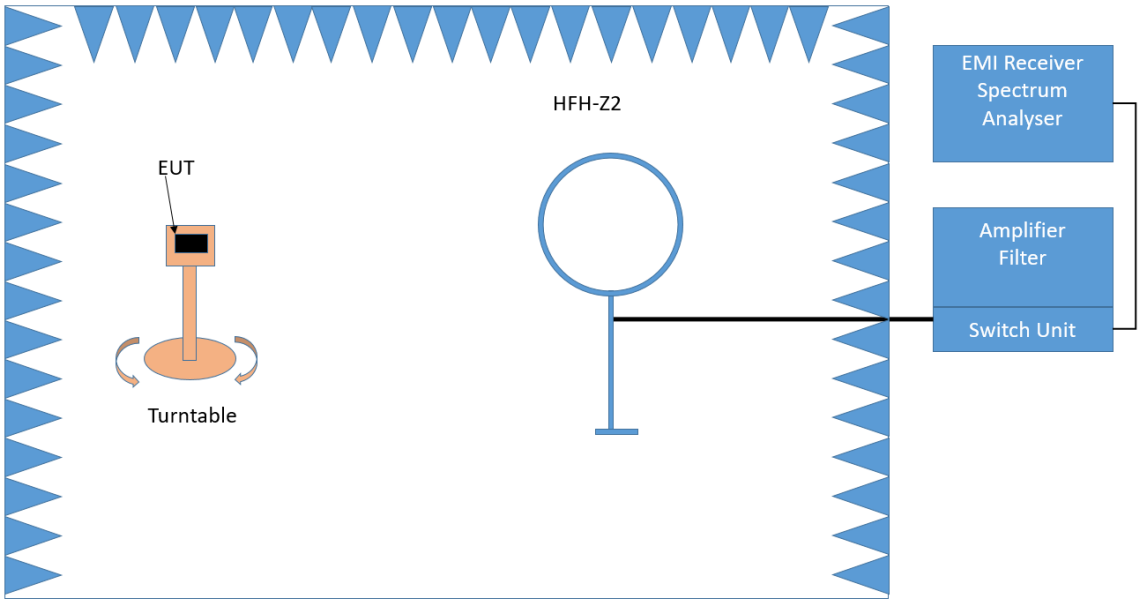
- < 30 MHz: Chapter 6.4
- 30 MHz – 1 GHz: Chapter 6.5
- > 1 GHZ: Chapter 6.6 (procedure according 6.6.5 used)

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
- Antenna height: 1 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)

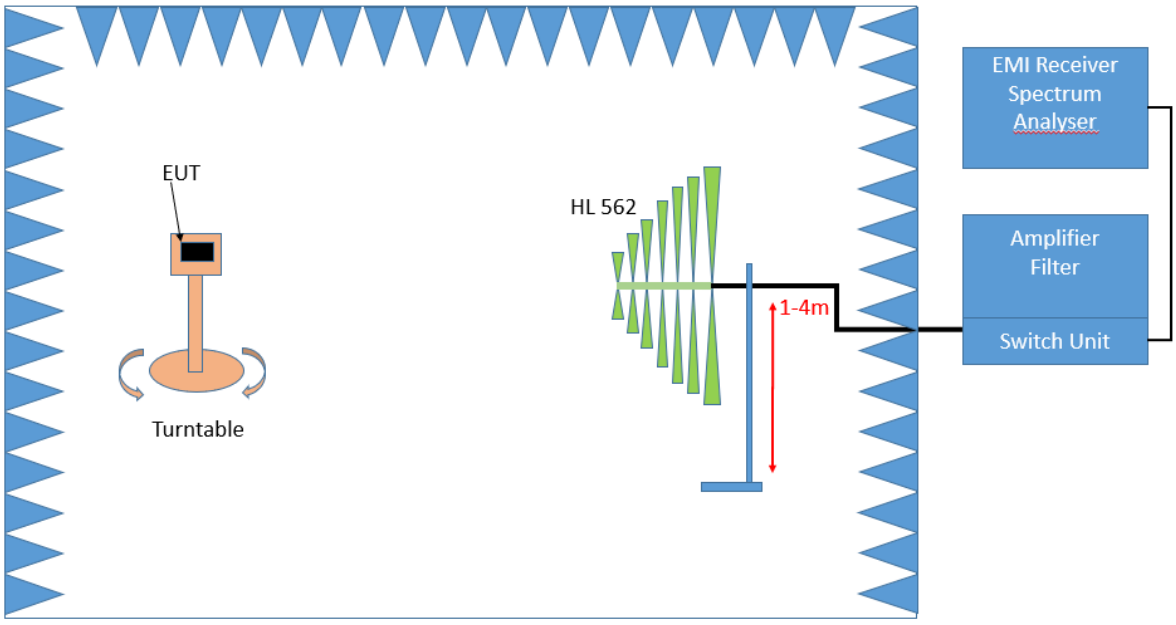
Intention of this step is, to determine the radiated EMI-profile of the EUT. Afterwards the relevant emissions for the final measurement are identified.

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.

- Detector: Quasi-Peak (9 kHz – 150 kHz, Peak / Average 150 kHz- 30 MHz)
- Frequency range: 0.009 – 30 MHz
- Frequency steps: measurement at frequencies detected in step 1
- IF–Bandwidth: 0.2 - 10 kHz
- Measuring time / Frequency step: 1 s

2. Measurement above 30 MHz and up to 1 GHz



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

Step 1: Preliminary scan

This is a preliminary test to identify the highest amplitudes relative to the limit.
Settings for step 1:
- Antenna distance: 3 m
- Detector: Peak-Maxhold / Quasipeak (FFT-based)
- Frequency range: 30 – 1000 MHz
- Frequency steps: 30 kHz
- IF–Bandwidth: 120 kHz
- Measuring time / Frequency step: 100 ms
- Turntable angle range: –180° to 90°

- Turntable step size: 90°
- Height variation range: 1 – 4 m
- Height variation step size: 1.5 m
- Polarisation: Horizontal + Vertical

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

Step 2: Adjustment measurement

In this step the accuracy of the turntable azimuth and antenna height will be improved. This is necessary to find out the maximum value of every frequency.

For each frequency, which was determined the turntable azimuth and antenna height will be adjusted. The turntable azimuth will slowly vary by ± 45° around this value. 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 ± 100 cm around the antenna height determined. During this action, the value of emission is also continuously measured. The antenna height of the highest emission will also be recorded and adjusted.

- Detector: Peak – Maxhold
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 120 kHz
- Measuring time: 100 ms
- Turntable angle range: 360 °
- Height variation range:1 – 4 m
- Antenna Polarisation: max. value determined in step 1

Step 3: Final measurement with QP detector

With the settings determined in step 2, the final measurement will be performed:

EMI receiver settings for step 3:

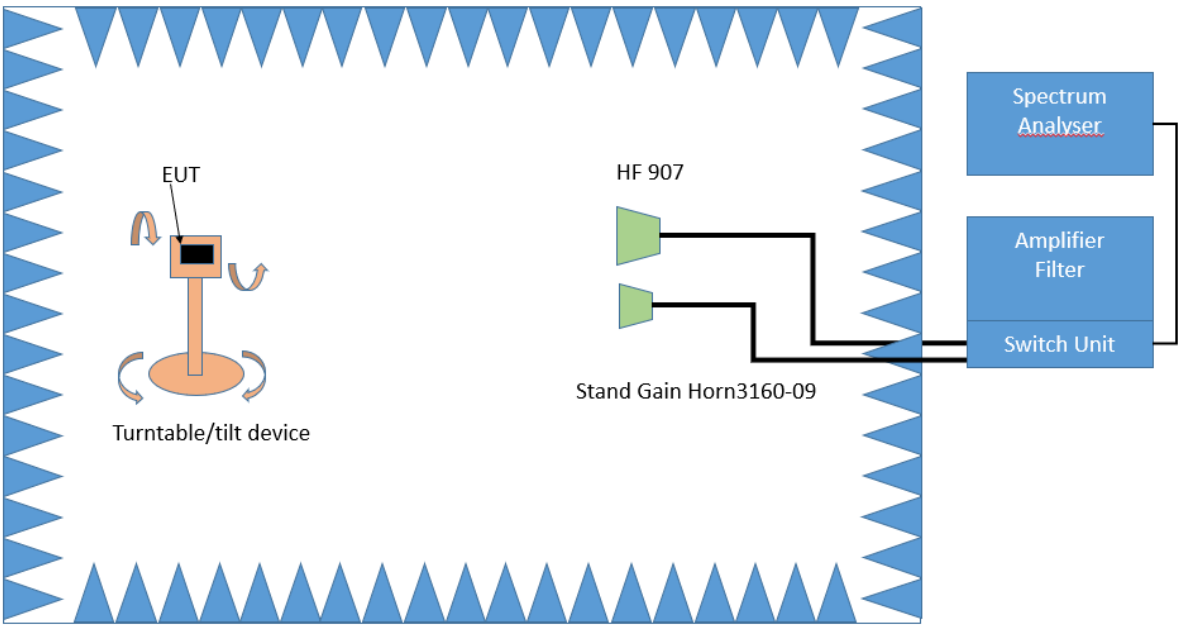
- Detector: Quasi-Peak (< 1 GHz)
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 120 kHz
- Measuring time: 1 s

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

Above 1 GHz:

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

3. Measurement above 1 GHz



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

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

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

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

5.5.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart C, §15.247 (d)
... In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

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

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

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

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

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

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

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

5.5.3 TEST PROTOCOL

Ambient temperature: 21–27 °C
Air Pressure: 990–1026 hPa
Humidity: 18–48 %

S04_AJ01
WLAN g-Mode; 20 MHz; 1 Mbit/s; DIVERSITY
Applied duty cycle correction (AV): 2.8 dB

Ch. No.	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
1	2412	-	-	-	-	-	-	-
6	2437	2376.8	46.1	AV	1000	54.0	7.9	RB
6	2437	2386.4	57.7	PEAK	1000	74.0	16.3	RB
6	2437	2494.0	47.2	AV	1000	54.0	6.8	RB
6	2437	2498.7	58.0	PEAK	1000	74.0	16.0	RB
6	2437	2868.1	58.9	PEAK	1000	74.0	15.1	RB
6	2437	2890.1	47.2	AV	1000	54.0	6.8	RB
6	2437	15600.6	55.7	PEAK	1000	74.0	18.3	RB
6	2437	15606.6	44.3	AV	1000	54.0	9.7	RB
11	2462	2483.7	53.6	AV	1000	54.0	0.4	RB
11	2462	2484.9	64.3	PEAK	1000	74.0	9.7	RB
11	2462	2800.7	46.4	AV	1000	54.0	7.6	RB
11	2462	2800.9	57.4	PEAK	1000	74.0	16.6	RB
11	2462	7383.8	55.6	PEAK	1000	74.0	18.4	RB
11	2462	7384.6	42.4	AV	1000	54.0	11.6	RB
11	2462	14480.2	52.6	PEAK	1000	74.0	21.4	RB
11	2462	14492.7	42.5	AV	1000	54.0	11.5	RB
11	2462	15599.6	44.3	AV	1000	54.0	9.7	RB
11	2462	15603.7	54.3	PEAK	1000	74.0	19.7	RB
11	2462	17806.4	48.8	AV	1000	54.0	5.2	RB
11	2462	17806.4	59.5	PEAK	1000	74.0	14.5	RB

WLAN g-Mode; 20 MHz; 6 Mbit/s; DIVERSITY
Applied duty cycle correction (AV): 0.8 dB

Ch. No.	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
1	2412	2484.7	45.0	AV	1000	54.0	9.0	RB
1	2412	2484.7	58.0	PEAK	1000	74.0	16.0	RB
1	2412	2799.4	44.6	AV	1000	54.0	9.4	RB
1	2412	2799.6	57.4	PEAK	1000	74.0	16.6	RB
6	2437	2484.1	45.2	AV	1000	54.0	8.8	RB
6	2437	2484.2	58.3	PEAK	1000	74.0	15.7	RB
6	2437	2849.2	45.0	AV	1000	54.0	9.0	RB
6	2437	2849.8	58.7	PEAK	1000	74.0	15.3	RB
11	2462	2389.4	57.0	PEAK	1000	74.0	17.0	RB
11	2462	2389.5	44.0	AV	1000	54.0	10.0	RB
11	2462	2483.7	51.2	AV	1000	54.0	2.8	RB
11	2462	2484.2	66.2	PEAK	1000	74.0	7.8	RB
11	2462	2870.6	59.1	PEAK	1000	74.0	14.9	RB
11	2462	2871.4	45.1	AV	1000	54.0	8.9	RB
11	2462	7383.4	41.7	AV	1000	54.0	12.3	RB
11	2462	7384.5	56.6	PEAK	1000	74.0	17.4	RB

WLAN n-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.2 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2386.4	46.4	PEAK	1000	74.0	27.6	RB
11	2462	2388.9	44.4	AV	1000	54.0	9.6	RB
11	2462	2483.6	52.2	AV	1000	54.0	1.8	RB
11	2462	2483.7	66.5	PEAK	1000	74.0	7.5	RB
11	2462	7382.9	56.3	PEAK	1000	74.0	17.7	RB
11	2462	7384.2	40.6	AV	1000	54.0	13.4	RB
11	2462	14490.0	40.8	AV	1000	54.0	13.2	RB
11	2462	14492.0	53.7	PEAK	1000	74.0	20.3	RB

WLAN n-Mode; 40 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.3 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
9	2452	2389.7	44.7	AV	1000	54.0	9.3	RB
9	2452	2389.7	57.6	PEAK	1000	74.0	16.4	RB
9	2452	2483.9	52.6	AV	1000	54.0	1.4	RB
9	2452	2486.2	71.0	PEAK	1000	74.0	3.0	RB
9	2452	14474.5	40.9	AV	1000	54.0	13.1	RB
9	2452	14477.0	52.4	PEAK	1000	74.0	21.6	RB

WLAN ax-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.2 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2484.0	46.5	AV	1000	54.0	7.5	RB
11	2462	2484.0	70.2	PEAK	1000	74.0	3.8	RB

S03_AJ01
WLAN g-Mode; 20 MHz; 1 Mbit/s; DIVERSITY
Applied duty cycle correction (AV): 2.8 dB

Ch. No.	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2484.7	52.1	AV	1000	54.0	1.9	RB
11	2462	2484.8	57.2	PEAK	1000	74.0	16.8	RB
11	2462	4924.0	51.8	AV	1000	54.0	3.2	RB
11	2462	4924.0	59.9	PEAK	1000	74.0	14.1	RB

WLAN g-Mode; 20 MHz; 6 Mbit/s; DIVERSITY
Applied duty cycle correction (AV): 0.8 dB

Ch. No.	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2483.5	68.6	PEAK	1000	74.0	5.4	RB
11	2462	2483.6	52.9	AV	1000	54.0	1.1	RB
11	2462	4925.7	46.1	AV	1000	54.0	7.9	RB
11	2462	4925.9	62.7	PEAK	1000	74.0	11.3	RB

WLAN n-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.2 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2483.5	69.7	PEAK	1000	74.0	4.3	RB
11	2462	2484.5	53.8	AV	1000	54.0	0.2	RB
11	2462	4926.1	45.5	AV	1000	54.0	8.5	RB
11	2462	4927.4	61.5	PEAK	1000	74.0	12.5	RB

WLAN n-Mode; 40 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.3 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
9	2452	2483.7	53.8	AV	1000	54.0	0.2	RB
9	2452	2483.8	69.3	PEAK	1000	74.0	4.7	RB

WLAN ax-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.2 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2483.5	53.9	AV	1000	54.0	0.2	RB
11	2462	2483.5	70.7	PEAK	1000	74.0	3.3	RB
11	2462	4916.4	44.8	AV	1000	54.0	10.2	RB
11	2462	4926.8	61.6	PEAK	1000	74.0	12.4	RB

S02_AJ01
WLAN g-Mode; 20 MHz; 1 Mbit/s; DIVERSITY
Applied duty cycle correction (AV): 2.8
dB

Ch. No.	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	-	-	-	-	-	-	

For results at the upper band edge, please see chapter 5.7.3

WLAN g-Mode; 20 MHz; 6 Mbit/s; DIVERSITY
Applied duty cycle correction (AV): 0.8 dB

Ch. No.	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	-	-	-	-	-	-	

For results at the upper band edge, please see chapter 5.7.3

WLAN n-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.2 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2389.2	57.4	PEAK	1000	74.0	16.6	RB
11	2462	2389.5	44.0	AV	1000	54.0	10.0	RB
11	2462	2484.1	44.8	AV	1000	54.0	9.2	RB
11	2462	2487.4	67.6	PEAK	1000	74.0	6.4	RB

WLAN n-Mode; 40 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.3 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
9	2452	2387.3	45.2	AV	1000	54.0	8.8	RB
9	2452	2389.5	57.8	PEAK	1000	74.0	16.2	RB
9	2452	2483.5	52.3	AV	1000	54.0	1.7	RB
9	2452	2483.5	68.4	PEAK	1000	74.0	5.6	RB

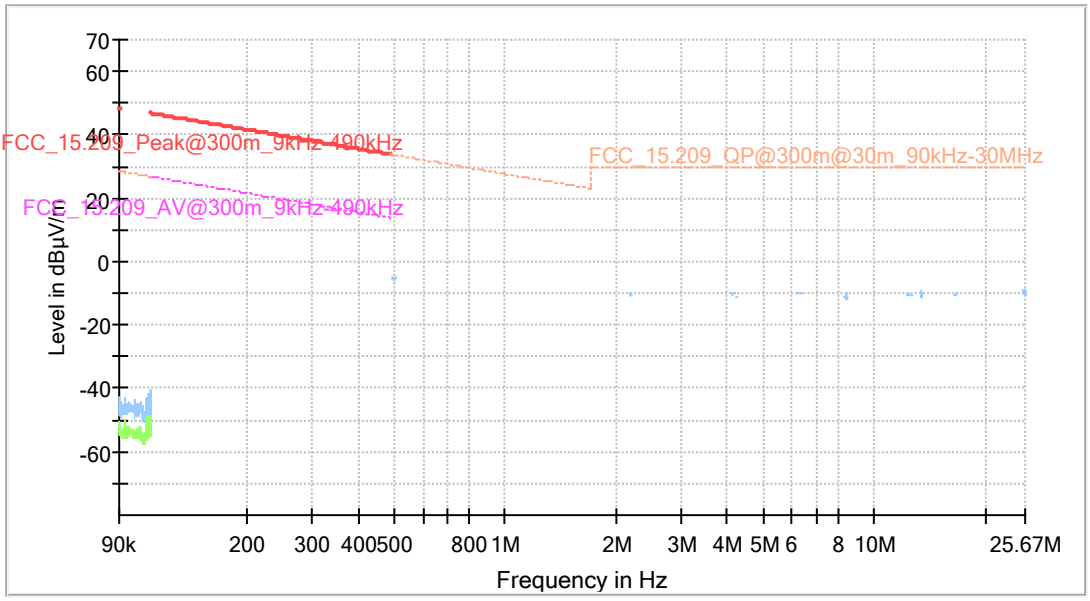
WLAN ax-Mode; 20 MHz; MCS0; MIMO
Applied duty cycle correction (AV): 1.2 dB

Ch. No	Ch. Center Freq. [MHz]	Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detec-tor	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]	Limit Type
11	2462	2483.5	53.4	AV	1000	54.0	0.6	RB
11	2462	2483.7	68.7	PEAK	1000	74.0	5.3	RB

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 g (1 Mbit) DIVERSITY, Operating Frequency = mid,
Measurement range = 9 kHz – 30 MHz
(S04_AJ01)



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Azimuth (deg)	Corr. (dB/m)
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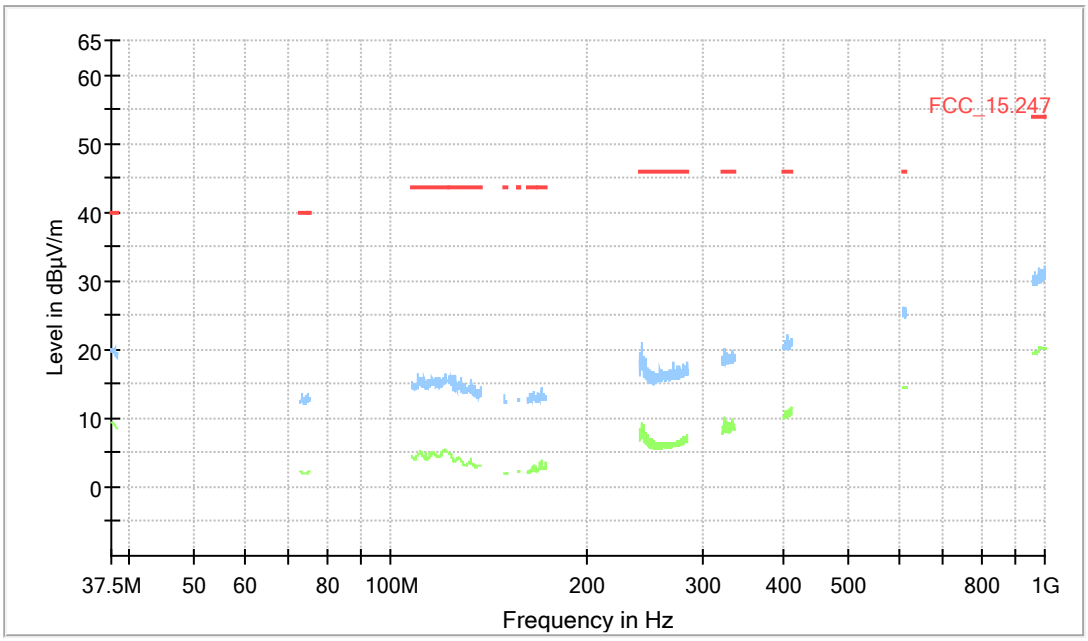
Radio Technology = WLAN g (1 Mbit) DIVERSITY, Operating Frequency = low,
Measurement range = 30 MHz – 1 GHz
(S04_AJ01)



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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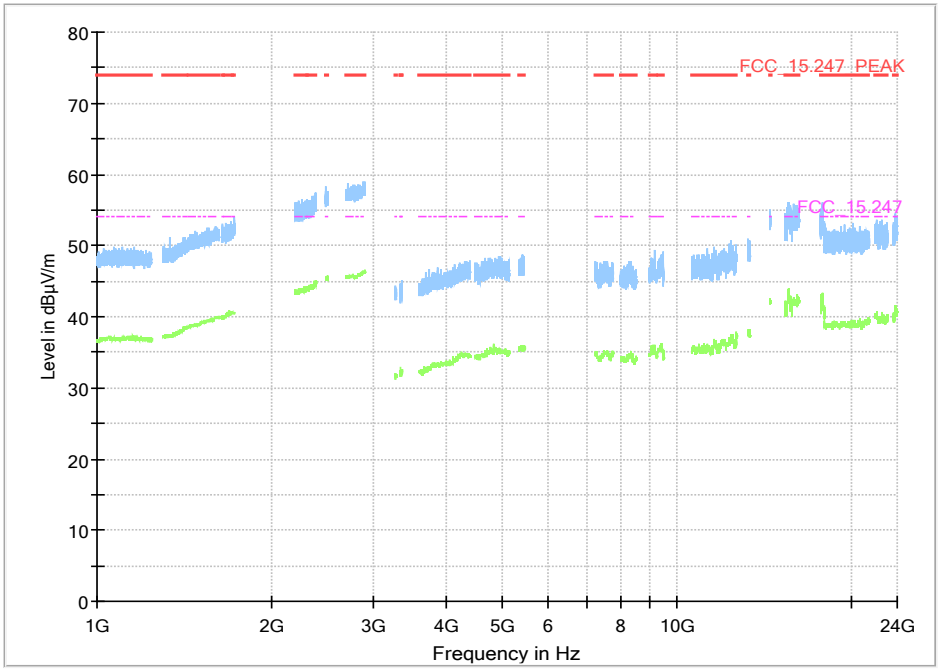
Radio Technology = WLAN g (1 Mbit) DIVERSITY, Operating Frequency = low,
Measurement range = 1 GHz - 26 GHz
(S04_AJ01)



Final_Result

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