

EMI-TEST REPORT

- FCC Part 15.407, 5150-5250 MHz, indoor, RSS247 -

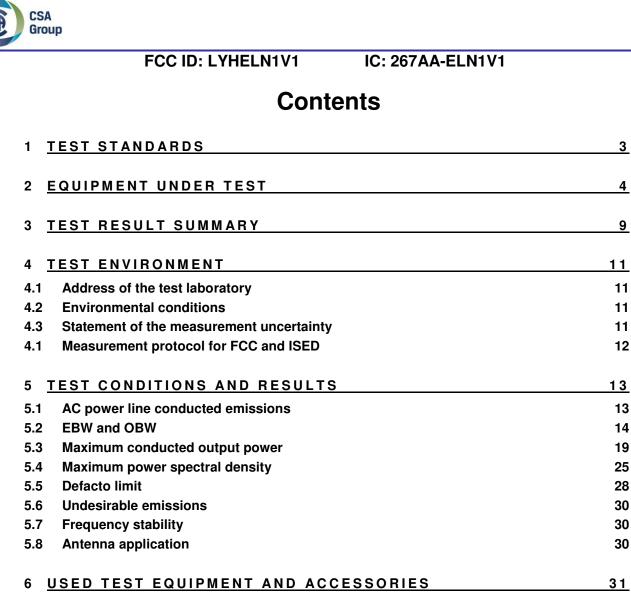
| Type / Model Name | : SCALANCE W700 / ELN | | | | | | |
|--|--|--|--|--|--|--|--|
| Product Description | : Industrial WLAN access point | | | | | | |
| Applicant | : Siemens AG, Industrial Automation Division | | | | | | |
| Address | : Gleiwitzer Strasse 555 | | | | | | |
| | 90475 NUERNBERG, GERMANY | | | | | | |
| Manufacturer Address | Siemens AG, Sensors & Communication Oestliche Rheinbrueckenstrasse 50 76187 KARLSRUHE, GERMANY | | | | | | |
| Licence holder | : Siemens AG, Industrial Automation Division | | | | | | |
| Address | : Gleiwitzer Strasse 555 | | | | | | |
| | 90475 NUERNBERG, GERMANY | | | | | | |
| Test Result according to the stallisted in clause 1 test standards: | Indards POSITIVE | | | | | | |

| Test Report No. : | T40580-03-01HS | 18. May 2016 |
|-------------------|-----------------|---------------|
| | 140300-00-01110 | Date of issue |



The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

CSA Group Bayern GmbH Ohmstrasse 1-4 • 94342 STRASSKIRCHEN • GERMANY Tel.: +49(0)9424-94810 • Fax: +49(0)9424-9481440 File No. T40580-03-01HS, page 1 of 31



ATTACHMENT A as separate supplement



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1 TEST STANDARDS

The tests were performed according to following standards:

| FCC Rules and Regulations Part 15, Subpart Part 15, Subpart A, Section 15.31 | a A - General (September 2015) Measurement standards |
|--|--|
| Part 15, Subpart A, Section 15.33 | Frequency range of radiated measurements |
| Part 15, Subpart A, Section 15.35 | Measurement detector functions and bandwidths |
| FCC Rules and Regulations Part 15, Subpart Part 15, Subpart C, Section 15.203 | t C - Intentional Radiators (September 2015) Antenna requirement |
| Part 15, Subpart C, Section 15.204 | External radio frequency power amplifiers and antenna modifications |
| Part 15, Subpart C, Section 15.205 | Restricted bands of operation |
| Part 15, Subpart C, Section 15.207 | Conducted limits |
| Part 15, Subpart C, Section 15.209 | Radiated emission limits, general requirements |
| Part 15, Subpart C, Section 15.212 | Modular transmitters |
| FCC Rules and Regulations Part 15, Subpart | E – Unlicensed National Information Infrastructure Devices (December 2015) |
| Part 15, Subpart E, Section 15.407 | Operation within the bands 5.15 - 5.25 GHz, 5.25 - 5.35 GHz, 5.47 - 5.725 GHz and 5.725 - 5.85 GHz |
| ANSI C63.10: 2013 | Testing Unlicensed Wireless Devices |
| ETSI TR 100 028 V1.3.1: 2001-03 | Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the Measurement of Mobile Radio Equipment Characteristics—Part 1 and Part 2 |
| KDB 789033 D02 v01r02 | Guidance for compliance Testing of U-NII devices, April 8, 2016. |

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2 EQUIPMENT UNDER TEST

2.1 Photo documentation of the EUT – Detailed photos see ATTACHMENT A

2.2 General remarks:

The EUT is fully tested and approved according the "old Rules". This test report shall show the further compliance to the "new Rules" under the premise that no operating parameter of the EUT are changed (No change in output power). Spurious emissions stay the same as under the "old Rules" and are already documented with the test report T35625-05-04HS by mikes testing partners. Therefore, the output power and the PSD are re-measured under the "new rules".

2.3 Equipment category

WLAN - AP

2.4 Short description of the equipment under test (EUT)

The EUT is a 1-Port WLAN-access point for cap rail applications. The EUT provides a menu to choose the channel for data transmission, the connected antenna and the length of the antenna cable. The AP is compatible with 802.11a/b/g, 802.11n Standard. It supports the 2.4 GHz and 5 GHz frequency band.

| Number of tested samples: | 1 |
|---------------------------|------------|
| Serial number: | VPH1126493 |
| Firmware version: | V5.2.0 |

EUT configuration:

(The CDF filled by the applicant can be viewed at the test laboratory.)

2.5 Variants of the EUT

| Variant | Device-Name | WLAN-Interfaces | LAN connector | Antenna Ports | Order numbers |
|---------|--------------|-----------------|---------------|---------------|--|
| 1/01 | | 1 | D 145 | 1 | 6GK5721-1FC00-xxxx |
| V01 | ELN-W1-RJ-E1 | I | RJ45 | I | 6GK5722-1FC00-xxxx 6GK5761-1FC00-xxxx |

2.6 Operation frequency and channel plan

The operating frequency is 5150 MHz to 5250 MHz.

Channel plan:

Channel plan WLAN Standard 802.11a/n, HT20:

| Channel | Frequency (MHz) |
|---------|-----------------|
| 36 | 5180 |
| 40 | 5200 |
| 44 | 5220 |
| 48 | 5240 |



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HT40 mode:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | | | |
|--|-----------------|---------|-----------------|--|--|--|
| 36up | 5190 | 40down | 5190 | | | |
| 44up | 5230 | 48down | 5230 | | | |
| Note: The marked frequencies are determined for final testing. | | | | | | |

d frequencies are determined for final testing.

2.7 Transmit operating modes

The module use OFDM modulation and is capable to provide following data rates:

- 54, 48, 36, 24, 18, 12, 9, 6 Mbps - 802.11a
- 802.11n HT20, MCS 0 - 15
- 802.11n HT40, MCS 0 - 15

HT20

MCS parameters for mandatory 20 MHz, NSS = 1, NES = 1

| MOG | 1100 | | | | | | | Data rate (Mb/s) | |
|--------------|--|-----|---------------------------------------|-----------------|-----|-------------------|-------------------|------------------|-------------------------|
| MCS Index | Modulation | R | N _{BPSCS} (i _{SS}) | N _{SD} | NSP | N _{CBPS} | N _{DBPS} | 800 ns GI | 400 ns GI (see NOTE) |
| 0 | BPSK | 1/2 | 1 | 52 | 4 | 52 | 26 | 6.5 | 7.2 |
| 1 | QPSK | 1/2 | 2 | 52 | 4 | 104 | 52 | 13.0 | 14.4 |
| 2 | QPSK | 3/4 | 2 | 52 | 4 | 104 | 78 | 19.5 | 21.7 |
| 3 | 16-QAM | 1/2 | 4 | 52 | 4 | 208 | 104 | 26.0 | 28.9 |
| 4 | 16-QAM | 3/4 | 4 | 52 | 4 | 208 | 156 | 39.0 | 43.3 |
| 5 | 64-QAM | 2/3 | б | 52 | 4 | 312 | 208 | 52.0 | 57.8 |
| 6 | 64-QAM | 3/4 | б | 52 | 4 | 312 | 234 | 58.5 | 65.0 |
| 7 | 64-QAM | 5/6 | б | 52 | 4 | 312 | 260 | 65.0 | 72.2 |
| NOTE-S | NOTE—Support of 400 ns GI is optional on transmit and receive. | | | | | | | | |

MCS parameters for optional 20 MHz, NSS = 2, NES = 1, EQM

| 100 | | | | | | | | Data rate (Mb/s) | |
|--------------|--|-----|--------------------------|-----------------|-----|-------------------|-------------------|------------------|-------------------------|
| MCS Index | Modulation | R | N _{BPSCS} (iss) | N _{SD} | NSP | N _{CBPS} | N _{DBPS} | 800 ns GI | 400 ns GI (see NOTE) |
| 8 | BPSK | 1/2 | 1 | 52 | 4 | 104 | 52 | 13.0 | 14.4 |
| 9 | QPSK | 1/2 | 2 | 52 | 4 | 208 | 104 | 26.0 | 28.9 |
| 10 | QPSK | 3/4 | 2 | 52 | 4 | 208 | 156 | 39.0 | 43.3 |
| 11 | 16-QAM | 1/2 | 4 | 52 | 4 | 416 | 208 | 52.0 | 57.8 |
| 12 | 16-QAM | 3/4 | 4 | 52 | 4 | 416 | 312 | 78.0 | 86.7 |
| 13 | 64-QAM | 2/3 | 6 | 52 | 4 | 624 | 416 | 104.0 | 115.6 |
| 14 | 64-QAM | 3/4 | 6 | 52 | 4 | 624 | 468 | 117.0 | 130.0 |
| 15 | 64-QAM | 5/6 | 6 | 52 | 4 | 624 | 520 | 130.0 | 144.4 |
| NOTE-T | NOTE—The 400 ns GI rate values are rounded to 1 decimal place. | | | | | | | | |

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HT40

MCS parameters for optional 40 MHz, NSS = 1, NES = 1

| MCS | MCS | | | | | | N _{DBPS} | Data rate (Mb/s) | |
|-------|------------|-----|---------------------------------------|-----------------|-----------------|-------------------|-------------------|------------------|-----------|
| Index | Modulation | R | N _{BPSCS} (i _{SS}) | N _{SD} | N _{SP} | N _{CBPS} | | 800 ns GI | 400 ns GI |
| 0 | BPSK | 1/2 | 1 | 108 | б | 108 | 54 | 13.5 | 15.0 |
| 1 | QPSK | 1/2 | 2 | 108 | б | 216 | 108 | 27.0 | 30.0 |
| 2 | QPSK | 3/4 | 2 | 108 | б | 216 | 162 | 40.5 | 45.0 |
| 3 | 16-QAM | 1/2 | 4 | 108 | б | 432 | 216 | 54.0 | 60.0 |
| 4 | 16-QAM | 3/4 | 4 | 108 | б | 432 | 324 | 81.0 | 90.0 |
| 5 | 64-QAM | 2/3 | 6 | 108 | 6 | 648 | 432 | 108.0 | 120.0 |
| б | 64-QAM | 3/4 | 6 | 108 | б | 648 | 486 | 121.5 | 135.0 |
| 7 | 64-QAM | 5/6 | 6 | 108 | 6 | 648 | 540 | 135.0 | 150.0 |

MCS parameters for optional 40 MHz, NSS = 2, NES = 1, EQM

| MCS | Modulation | odulation R | N (3.) | N | N N | N | N | Data rate (Mb/s) | |
|-------|------------|-------------|---------------------------------------|-----------------|-----------------|-------------------|-------------------|------------------|-----------|
| Index | Modulation | ĸ | N _{BPSCS} (i _{SS}) | N _{SD} | N _{SP} | N _{CBPS} | N _{DBPS} | 800 ns GI | 400 ns GI |
| 8 | BPSK | 1/2 | 1 | 108 | б | 216 | 108 | 27.0 | 30.0 |
| 9 | QPSK | 1/2 | 2 | 108 | б | 432 | 216 | 54.0 | 60.0 |
| 10 | QPSK | 3/4 | 2 | 108 | б | 432 | 324 | 81.0 | 90.0 |
| 11 | 16-QAM | 1/2 | 4 | 108 | б | 864 | 432 | 108.0 | 120.0 |
| 12 | 16-QAM | 3/4 | 4 | 108 | 6 | 864 | 648 | 162.0 | 180.0 |
| 13 | 64-QAM | 2/3 | 6 | 108 | 6 | 1296 | 864 | 216.0 | 240.0 |
| 14 | 64-QAM | 3/4 | 6 | 108 | б | 1296 | 972 | 243.0 | 270.0 |
| 15 | 64-QAM | 5/6 | 6 | 108 | б | 1296 | 1080 | 270.0 | 300.0 |

| Symbol | Explanation |
|---------------------|---|
| N _{SS} | Number of spatial streams |
| R | Coding rate |
| NBPSC | Number of coded bits per single carrier (total across spatial streams) |
| $N_{BPSCS}(i_{SS})$ | Number of coded bits per single carrier for each spatial stream, $i_{\rm SS}=1,,N_{\rm SS}$ |
| N_{SD} | Number of complex data numbers per spatial stream per OFDM symbol |
| NSP | Number of pilot values per OFDM symbol |
| N _{CBPS} | Number of coded bits per OFDM symbol |
| N _{DBPS} | Number of data bits per OFDM symbol |
| N_{ES} | Number of BCC encoders for the DATA field |
| NTBPS | Total bits per subcarrier |

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2.8 Antenna

Antennas intended for use are classified into 3 gain groups: Antennas 0 to 6 dBi

- Antenna gain group 1:
- Antenna gain group 2: _
- Antennas 6 to 9 dBi Antennas 9 to 14 dBi
- Antenna gain group 3:

| Number | Manufacturer Number | Characteristic | Model number | Connector | Frequency | Gain 5GHz | Cable | effective Gain | Group |
|--------|---------------------|----------------|------------------|------------|-------------|-----------|-----------|----------------|----------|
| Number | | Onaracteristic | | Connector | (GHz) | (dBi) | loss (dB) | 5 GHz (dBi) | Group |
| 1 | 6GK5793-8DK00-0AA0 | Directed | ANT 793-8DK | 2xN-female | 5 GHz | 23 | 8.8 | 14.2 | 9-14 dBi |
| 2 | 6GK5793-8DJ00-0AA0 | Directed | ANT 793-8DJ | 2xN-female | 5 GHz | 18 | 4.4 | 13.6 | 9-14 dBi |
| 3 | 6GK5793-8DL00-0AA0 | Directed | ANT793-8DL | 2xN-female | 2.4 + 5 | 14 | 0 | 14 | 9-14 dBi |
| 4 | 6GK5793-8DP00-0AA0 | Directed | ANT793-8DP | N-female | 5 GHz | 13.5 | 0 | 13.5 | 9-14 dBi |
| 5 | 6GK5795-6DC00-0AA0 | Wide angle | ANT 795-6DC | N-female | 2.4 + 5 GHz | 9 | 0 | 9 | 6-9 dBi |
| 6 | 6GK5793-6DG00-0AA0 | Wide angle | ANT793-6DG | 2xN-female | 5 GHz | 9 | 0 | 9 | 6-9 dBi |
| 7 | 6GK5795-6MN10-0AA6 | Omni | ANT 795-6MN | N-female | 2.4 + 5 GHz | 8 | 0 | 8 | 6-9 dBi |
| 8 | 6GK5795-6MP00-0AA0 | Omni | ANT795-6MP | N-female | 2.4 + 5 GHz | 7 | 0 | 7 | 6-9 dBi |
| 9 | 6GK5896-6MM00-0AA0 | Omni | ANT896-6MM | QMA-female | 2.4 + 5 GHz | 7 | 0 | 7 | 6-9 dBi |
| 10 | 6GK5 793-4MN00-0AA6 | Omni | ANT 793-4MN | N-female | 5 GHz | 6 | 0 | 6 | 0-6 dBi |
| 11 | 6GK5795-4MD00-0AA3 | Omni | ANT795-4MD | N-male | 2.4 + 5 GHz | 5 | 0 | 5 | 0-6 dBi |
| 12 | 6GK5795-4MC00-0AA3 | Omni | ANT795-4MC | N-male | 2.4 + 5 GHz | 5 | 0 | 5 | 0-6 dBi |
| 13 | 6GK5795-4MA00-0AA3 | Omni | ANT 795-4MA | R-SMA male | 2.4 + 5 GHz | 5 | 0 | 5 | 0-6 dBi |
| 14 | 6GK5793-6MN00-0AA6 | Omni | ANT 793-6MN | N-female | 5 GHz | 5 | 0 | 5 | 0-6 dBi |
| 15 | 6GK5795-4MX00-0AA0 | Omni | ANT795-4MX | N-male | 2.4 + 5 GHz | 2 | 0 | 2 | 0-6 dBi |
| 16 | 6XV1875-2D | Omni | IWLAN Rcoax 1/2" | N-female | 5 GHz | 0 | 0 | 0 | 0-6 dBi |

Note: The directed antenna number 2 may be used only with minimum 5 m antenna cable, Type 6XV 1875-5CH50 with cable loss 4.4 dB at 5.7 GHz.

The directed antenna number 1 may be used only with minimum 10 m antenna cable, Type 6XV 1875-5CN10 with cable loss 8.8 dB at 5.7 GHz.

2.9 Power supply system utilised

Power supply voltage, Vnom : 100 - 120 VAC

2.10 Peripheral devices and interface cables

The following peripheral devices and interface cables are connected during the measurements:

| - | LAN cable, 3m | Model : CAT5 |
|---|------------------------|-------------------|
| - | Power supply cable, 1m | Model : Self-made |
| - | | Model : |

2.11 Determination of worst case conditions for final measurement

Measurements are made in all three orthogonal axes and the settings of the EUT are changed to locate at which position and at what setting of the EUT produce the maximum of the emissions. The tests are carried out in the following frequency band:

5150 - 5250 MHz

Preliminary tests are performed to find the worst-case mode from all possible combinations between available modulations and data rates. The maximum output power depends on used data rate. The EUT is controlled for several tests with special test software used for testing only where continuous signals are needed. For the tests, a max possible duty cycle (x) is set.

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Following channels and test modes are selected for the final test as listed below:

| WLAN | Available channel | Tested channels | Power setting | Modulation | Modulation type | Data rate |
|---------------|----------------------|-----------------|---------------|------------|--------------------|---------------------|
| 802.11a | 36 to 48 | 36, 44, 48 | P20, P14, P9 | OFDM | BPSK | 6 Mbps |
| 802.11n; HT20 | 36 to 48 | 36, 44, 48 | P20, P14, P9 | OFDM | BPSK | MCS0 (BW=20 MHz) |
| 802.11n; HT40 | 36up to 44up | 36up, 44up | P20, P14, P9 | OFDM | BPSK | MCS8 (BW=40 MHz) |

- TX continuous mode, 802.11a

- TX continuous mode, 802.11n

2.11.1 Test jig

No test jig is used.

2.11.2 Test software

Test software is used to set TX continuous in device service mode. Power, channel and modulation (data rate) setting is done via network interface which is available for professional settings.



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3 TEST RESULT SUMMARY

UNII device using the operating band 5150 MHz - 5250 MHz:

| FCC Rule Part (new rules) | FCC Rule Part (old rules) | Description | Result |
|------------------------------|------------------------------|-----------------------------------|------------|
| 15.407(b)(6) | 15.207(a) | AC power line conducted emissions | Not tested |
| 15.407(a)(5) | 15.407(a) | EBW 26 dB | passed |
| 15.407(a)(1) | 15.407(a) | Maximum conducted output power | passed |
| 15.407(a)(1) | 15.407(a) | Maximum conducted PSD | passed |
| 15.407(b)(1) | 15.407(b) | Undesirable emissions | Not tested |
| 15.407(b)(7) | 15.205(a) | Emissions in restricted bands | Not tested |
| 15.407(a) | 15.407(a) | Antenna requirement | passed |
| 15.407(g) | 15.407(g) | Frequency stability | Not tested |

| RSS Rule Part (new rules) | RSS Rule Part (old rules) | Description | Result |
|------------------------------|------------------------------|--|------------|
| RSS-Gen, 8.8 | RSS Gen, 7.2.4. | AC power line conducted emissions | Not tested |
| RSS247, 6.2.1(1) | RSS210, A9.2 | Maximum conducted output power | passed |
| RSS247, 6.2.1(2) | RSS210, A9.2 | Unwanted emission, radiated | Not tested |
| RSS-Gen, 8.9 | RSS-Gen, 7.2.2 | Unwanted emissions in restricted bands | Not tested |
| RSS247, 6.2.1(1) | RSS210, A9.2 | Maximum power spectral density | passed |
| RSS-Gen, 6.10 | RSS-Gen, 4.5 | Pulsed operation | Not tested |
| RSS-Gen, 6.6 | RSS-Gen, 7.1.2 | Antenna requirement | passed |
| RSS-Gen, 6.11 | RSS-Gen, 7.2.6 | Transmitter frequency stability | Not tested |
| RSS-Gen, 6.6 | RSS210, A9.2 | 99 % Bandwidth | passed |
| RSS 102, 2.5.2 | RSS 102, 2.5.2 | MPE | Not tested |

The mentioned new RSS Rule Parts in the above table are related to: RSS Gen, Issue 4, November 2014 RSS 247, Issue 1, May 2015 RSS 102, Issue 4, March 2015

The mentioned old RSS Rule Parts in the above table are related to: RSS Gen, Issue 3, December 2010 RSS 210, Issue 8, December 2010 RSS 102, Issue 4, March 2010



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3.1 Final assessment

The equipment under test fulfills the EMI requirements cited in clause 1 test standards.

Date of receipt of test sample

: acc. to storage records

Testing commenced on

: 13 April 2016

Testing concluded on

: 02 May 2016

Checked by:

K. Gegez

Klaus Gegenfurtner I confirm the correctness and Integrity of this document 2016.05.18 11:38:27 +02'00'

Klaus Gegenfurtner Teamleader Radio Tested by:

Um/

Hermann Smetana I am the author of this document 2016.05.18 10:25:54 +02'00'

Hermann Smetana Radio Team

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4 TEST ENVIRONMENT

4.1 Address of the test laboratory

CSA Group Bayern GmbH Ohmstrasse 1-4 94342 STRASSKIRCHEN GERMANY

4.2 Environmental conditions

During the measurement, the environmental conditions were within the listed ranges:

 Temperature:
 15-35 °C

 Humidity:
 30-60 %

Atmospheric pressure: 86-106 kPa

4.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. It is noted that the expanded measurement uncertainty corresponds to the measurement results from the standard measurement uncertainty multiplied by the coverage factor k = 2. The true value is located in the corresponding interval with a probability of 95 % The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 / 11.2003 "Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements" and is documented in the quality system acc. to DIN EN ISO/IEC 17025. For all measurements shown in this report, the measurement uncertainty of the test laboratory, CSA Group Bayern GmbH, is below the measurement uncertainty as defined by CISPR. Therefore, no special measures must be taken into consideration with regard to the limits according to CISPR. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

| Measurement uncertainty table | | | | | |
|---|-----------------------|--|--|--|--|
| Measurement output power, conducted | ±1.5 dB | | | | |
| Measurement PSD, conducted | ±1.5 dB | | | | |
| Measurement spurious emissions, conducted | ±3.0 dB | | | | |
| Measurement spurious emissions, radiated | ±6.0 dB | | | | |
| Measurement frequency | ±1 x 10 ⁻⁶ | | | | |



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4.1 Measurement protocol for FCC and ISED

4.1.1 General information

4.1.1.1 <u>Test methodology</u>

Conducted and radiated disturbance testing is performed according to the procedures set out by the International Special Committee on Radio Interference (CISPR) Publication 22, European Standard EN 55022 as shown under section 1 of this report.

The open area test site is a listed under the Canadian Test-Sites File-No:

IC 3009A-1

In compliance with RSS 247 testing for RSS compliance may be achieved by following the procedures set out in ANSI C63.10 and applying the CISPR 22 limits.

4.1.1.2 Justification

The equipment under test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral using the appropriate impedance characteristic or left without termination. Where appropriate, cables are manually manipulated with respect to each other thus obtaining maximum disturbances from the unit.

4.1.1.3 Details of test procedures

The test methods used comply with CISPR Publication 22, EN 55022 - "Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement" and with ANSI C63.10 - "American national standard of procedures for compliance testing of unlicensed wireless devices". In compliance with 47 CFR Part 15 Subpart A, Section 15.38 testing for FCC compliance may be achieved by following the procedures set out in ANSI C63.10 and applying the CISPR 22 limits.



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5 TEST CONDITIONS AND RESULTS

5.1 AC power line conducted emissions

For test instruments and accessories used, see section 6 Part A 4.

5.1.1 Description of the test location

Test location: NONE

Remarks: This measurement is already documented in the test report T35625-00-04HS.



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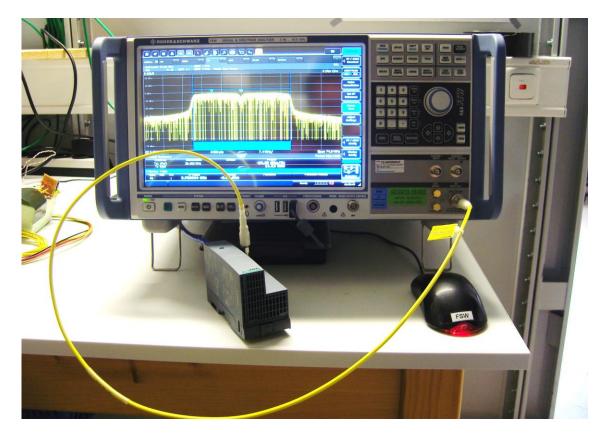
5.2 EBW and OBW

For test instruments and accessories used see section 6 Part MB.

5.2.1 Description of the test location

Test location: AREA 4

5.2.2 Photo documentation of the test set-up



5.2.3 Applicable standard

According to FCC Part 15E, Section 15.407(a)(5):

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less.

5.2.4 Description of Measurement

The bandwidth is measured conducted using a spectrum analyser and following the procedures according the OET 789033, item C. The spectrum analyser function "n-dB-down" is used to determine the bandwidth. For the OBW the analyser function "OBW" is used to determine the bandwidth. The procedures according the OET 789033, item D are followed in this case.

Spectrum analyser settings occupied bandwidth: For 20 MHz channels: RBW: 200 kHz, VBW: 1 MHz, Detector

VBW: 2 MHz,

Detector: Peak, Detector: Peak, Trace mode: max hold;

Trace mode: max hold;

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For 40 MHz channels:

RBW: 500 kHz,

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5.2.5 Test result

| 802.11a mode | | | |
|--------------|---------------------|--------------------|---------|
| Channel | Centre frequency | 26 dB bandwidth | 99% OBW |
| | (MHz) | | (MHz) |
| CH36 | CH36 5180 | | 17.244 |
| CH40 5200 | | 22.190 | 17.211 |
| CH48 5240 | | 22.530 | 17.189 |

802.11n mode, HT 20, Port1:

| 002.111111000 | | | |
|---------------|---------------------|--------------------|---------|
| Channel | Centre frequency | 26 dB bandwidth | 99% OBW |
| | (MHz) | (MHz) | (MHz) |
| CH36 | 5180 | 22.900 | 18.238 |
| CH40 | 5200 | 22.690 | 18.201 |
| CH48 5240 | | 22.800 | 18.138 |

802.11n mode, HT 40, Port1:

| Channel | Centre frequency | 26 dB bandwidth | 99% OBW |
|---------|---------------------|--------------------|---------|
| | (MHz) | (MHz) | (MHz) |
| CH36up | 5190 | 45.910 | 36.567 |
| CH44up | 5230 | 43.950 | 36.432 |

Remarks:

s: For detailed test results please see the following test protocols. No limit is defined for EBW and

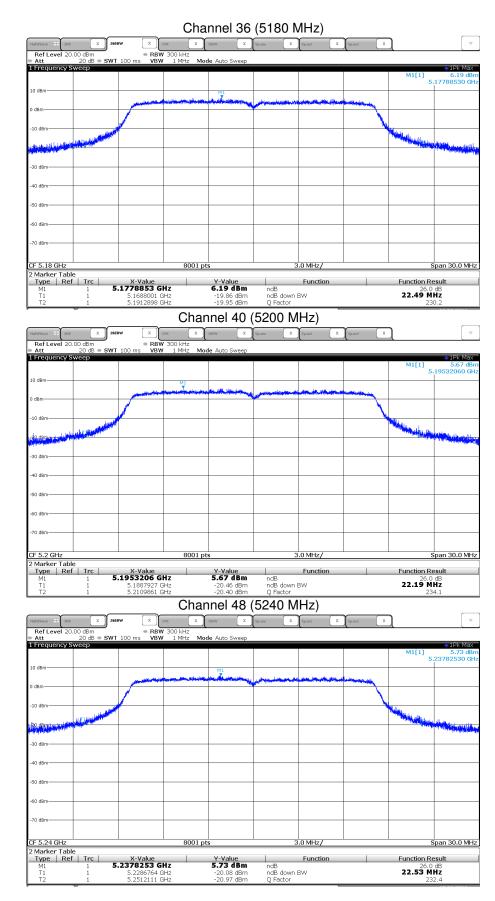
OBW.



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5.2.6 Test protocol EBW 26dB





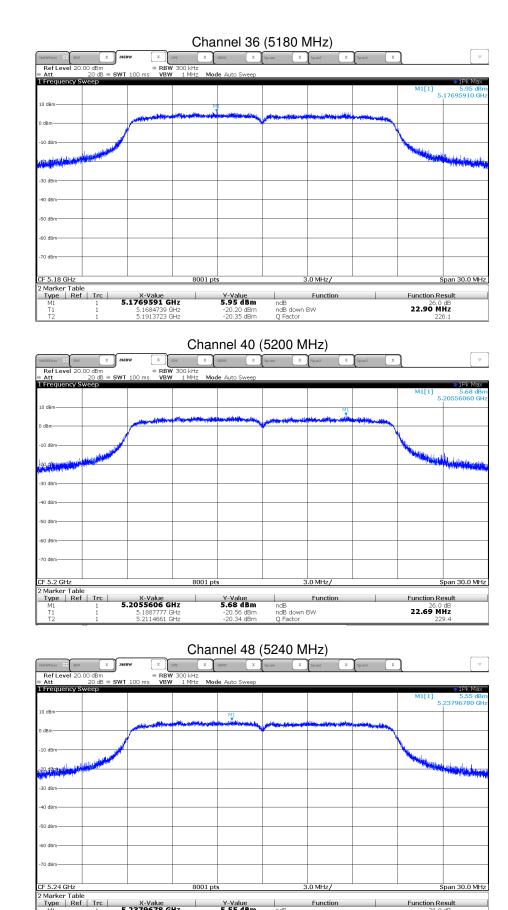
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HT20:

FCC ID: LYHELN1V1

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ndB ndB down BW Q Factor

Y-Value 5.55 dBm

-20.60 dBr -20.59 dBr

X-Value 5.2379678 GHz

5.2285977 GHz 5.2514023 GHz

Function

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Function Result

22.80 MHz

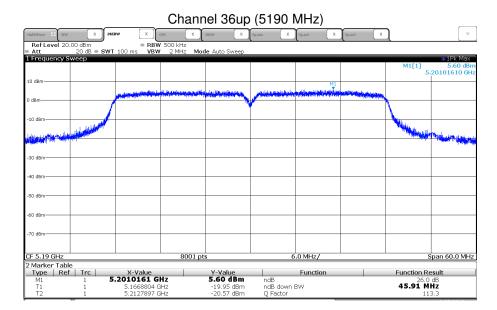
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CSA Group



Channel 44up (5230 MHz)

| MultiView 🔠 BW | X 266 | 8W X | IPC X | ови 🗶 | Sp.um X | Sp.m2 X | Sp.m3 | ן | _ ▽ |
|----------------------|--|---|-----------------------------------|----------------------------|-----------------------------------|--|---|---|--------------|
| Ref Level 20. Att | | | 500 kHz | a Auto Curren | | | | | |
| Att 1 Frequency S | 20 dB SWT weep | IUU ms VBW | 2 MHz Moo | e Auto Sweep | | | | | 1Pk Max |
| | | | | | | | | M1[1] | 6.24 dBm |
| | | | | | | | | 5. | 21947130 GHz |
| 10 dBm | | | MI | | | | | | |
| | | | والغابين فأكافحون أدور فبأو يساعه | alley in the second second | and which the state of the second | a the state of the | And the state of the | | |
| 0 dBm | - | A CONTRACTOR OF | | | | | a standard a | | |
| | | | | | | | | <u>۱</u> | |
| -10 dBm | | | | | | | | - North | |
| | and the second second | | | | | | | The second se | |
| THE REAL PROPERTY OF | A DATE OF THE OWNER | | | | | | | NA SHE | Multur |
| Billion Barrier | | | | | | | | | A STREET |
| -30 dBm | | | | | | | | | |
| | | | | | | | | | |
| -40 dBm | | | | | | | | | |
| | | | | | | | | | |
| -50 dBm | | | | | | | | | |
| | | | | | | | | | |
| -60 dBm | | | | | | | | | |
| -00 0011 | | | | | | | | | |
| -70 dBm | | | | | | | | | |
| -70 ubiii | | | | | | | | | |
| | | | | | | | | | |
| CF 5.23 GHz | | | 8001 pt | s | 6 | .0 MHz/ | | 5 | pan 60.0 MHz |
| 2 Marker Tabl | | | | | | | | | |
| Type Ref | | X-Value .2194713 GI | | Y-Value 6.24 dBm | ndB | Function | | Function Re | |
| M1 T1 | 1 3 | 5.2080427 G | | -19.96 dBm | ndB ndB down I | BW | | 26.0 43.95 M | ab Hz |
| T2 | î | 5.2519948 G | | -19.88 dBm | Q Factor | | | 11 | |



IC: 267AA-ELN1V1

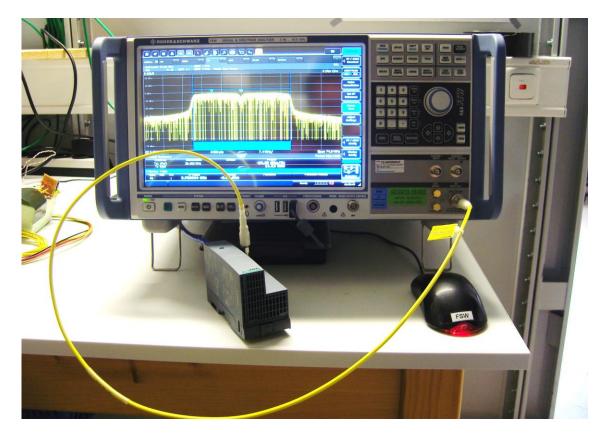
5.3 Maximum conducted output power

For test instruments and accessories used see section 6 Part CPC 3.

5.3.1 Description of the test location

Test location: AREA 4

5.3.2 Photo documentation of the test set-up



5.3.3 Applicable standard

According to FCC Part 15E, Section 15.407(a)(1)(ii): For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

According to ISED RSS247 6.2.1 (1):

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

5.3.4 Description of Measurement

The maximum conducted output power is measured using a spectrum analyser with the function "integrated band power measurement" following the procedure set out in KDB 789033 D02, item C f) Method SA-3. The EUT is set in TX continuous mode while measuring. The resulting values are listed in the following tables.

Spectrum analyser settings: RBW: 1 MHz, VBW: 3 MHz, Number of points: 6401, Sweep time: see table,

Detector: RMS (power averaging), Trace mode: max hold; Band power function;

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| Modulation | Burst time T | Sweep points | Max sweep time analyser |
|---------------|--------------|--------------|-------------------------|
| | (ms) | | (s) |
| 802.11a | 2.031 | 6401 | 13.0 |
| 802.11n, HT20 | 0.893 | 6401 | 5.7 |
| 802.11n, HT40 | 0.321 | 6401 | 2.1 |

5.3.5 Test result

Raw data as representative for all one Port measurements, used for 802.11a:

| | A1 [P9] | A1 [P14] | A1 [P20] |
|------|---------|----------|----------|
| | (dBm) | (dBm) | (dBm) |
| | _ | - | |
| CH36 | 4.22 | 10.87 | 13.23 |
| | | | |
| CH40 | 4.10 | 11.62 | 13.22 |
| | | | |
| CH48 | 3.75 | 10.71 | 12.86 |

Calculation of the total output power:

| 802.11a, 6 Mbps, 1TX | | Test results conducted | | | | |
|-----------------------------------|-----------------|------------------------|------------------|----------------|--------------------|--|
| Port 1 | A [P9] (dBm) | A [P14] (dBm) | A [P20] (dBm) | Limit (dBm) | Min Margin (dB) | |
| Lowest frequency: CH36 | | | | | | |
| T _{nom} V _{nom} | 8.1 | 11.9 | 14.2 | 30.0 | -15.8 | |
| Middle frequency: CH40 | | | | | | |
| T _{nom} V _{nom} | 8.0 | 12.6 | 14.2 | 30.0 | -15.8 | |
| Highest frequency: CH48 | | | | | | |
| T _{nom} V _{nom} | 7.7 | 11.7 | 13.9 | 30.0 | -16.1 | |

Note. An insertion loss of 1.0 dB at 5200 MHz for measurement cable at P14 and P20 is taken into account. An insertion loss of 3.9 dB at P9 for measurement cable and switch is taken into account.

| HT20, MCS0, 1TX | | Test results conducted | | | | |
|-----------------------|------------------|------------------------|------------------|------------------|----------------|--------------------|
| | | | 100 | | | |
| Port 1 | | A [P9] (dBm) | A [P14] (dBm) | A [P20] (dBm) | Limit (dBm) | Min Margin (dB) |
| Lowest frequency: CH | -136 | (0211) | (0.811) | ((())) | (0211) | (0.2) |
| T _{nom} | V _{nom} | 8.1 | 12.1 | 13.6 | 30.0 | -16.4 |
| Middle frequency: CH | 140 | | | | | |
| T _{nom} | V _{nom} | 7.9 | 11.8 | 13.8 | 30.0 | -16.2 |
| Highest frequency: CH | | | | | | |
| T _{nom} | V _{nom} | 7.5 | 11.2 | 13.5 | 30.0 | -16.5 |

| HT40, MCS8, 1TX | Test results conducted | | | | | |
|-----------------------------------|------------------------|------------------|------------------|----------------|--------------------|--|
| Port 1 | A [P9] (dBm) | A [P14] (dBm) | A [P20] (dBm) | Limit (dBm) | Min Margin (dB) | |
| Lowest frequency: CH36up | | | | | | |
| T _{nom} V _{nom} | 6.2 | 10.5 | 12.5 | 30.0 | -17.5 | |
| Highest frequency: CH44up | | | | | | |
| T _{nom} V _{nom} | 6.1 | 10.6 | 12.7 | 30.0 | -17.3 | |

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Maximum conducted power limit according to FCC Part 15E, Section 15.407(a):

| Frequency | Maximum conducted power limit | | | | |
|-------------|-------------------------------|--------|--|--|--|
| (MHz) | (dBm) | (Watt) | | | |
| 5150 - 5250 | 30 | 1.0 | | | |

5.3.6 Calculation of the maximum EIRP

| Calculation of maximum EIRP | | | | | | | | | |
|-----------------------------|-------|--|-------|-------|-------|------|--|--|--|
| Port 1 | P set | P set Ant gain Amax EIRPmax Limit Margin | | | | | | | |
| 802.11a | | (dBi) | (dBm) | (dBm) | (dBm) | (dB) | | | |
| Antenna group 1 | P20 | 6 | 14.2 | 20.2 | 22.4 | -2.2 | | | |
| Antenna group 2 | P14 | 9 | 12.6 | 21.6 | 22.4 | -0.7 | | | |
| Antenna group 3 | P9 | 14.2 | 8.1 | 22.3 | 22.4 | 0.0 | | | |

| Calculation of maximum EIRP | | | | | | | | | |
|-----------------------------|-------|--|-------|-------|-------|------|--|--|--|
| Port 1 | P set | set Ant gain Amax EIRPmax Limit Margin | | | | | | | |
| 802.11n, HT20 | | (dBi) | (dBm) | (dBm) | (dBm) | (dB) | | | |
| Antenna group 1 | P20 | 6 | 13.8 | 19.8 | 22.6 | -2.8 | | | |
| Antenna group 2 | P14 | 9 | 12.1 | 21.1 | 22.6 | -1.5 | | | |
| Antenna group 3 | P9 | 14.2 | 8.1 | 22.3 | 22.6 | -0.3 | | | |

| Calculation of maximum EIRP | | | | | | | | | |
|-----------------------------|-------|--|-------|-------|-------|------|--|--|--|
| Port 1 | P set | Piset Antigain Amax EIRPmax Limit Margir | | | | | | | |
| 802.11n, HT40 | | (dBi) | (dBm) | (dBm) | (dBm) | (dB) | | | |
| Antenna group 1 | P20 | 6 | 12.7 | 18.7 | 23.0 | -4.3 | | | |
| Antenna group 2 | P14 | 9 | 10.6 | 19.6 | 23.0 | -3.4 | | | |
| Antenna group 3 | P9 | 14.2 | 6.2 | 20.4 | 23.0 | -2.6 | | | |

Maximum EIRP power limit according to RSS247, 6.2.1(1):

The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.

| Frequency | EIRP limit | | | | | |
|-----------|-----------------------|-------|-------|--|--|--|
| (MHz) | | (dBm) | (dBm) | | | |
| | Legacy, 10 + 10log(B) | 22.4 | 23 | | | |
| 5150-5250 | HT20, 10 + 10log(B) | 22.6 | 23 | | | |
| | HT40, 10 + 10log(B) | 25.6 | 23 | | | |

Note: For application under RSS247 indoor use is permitted only.

The requirements are **FULFILLED**.

Remarks:

For detailed test results please see the following test protocols.

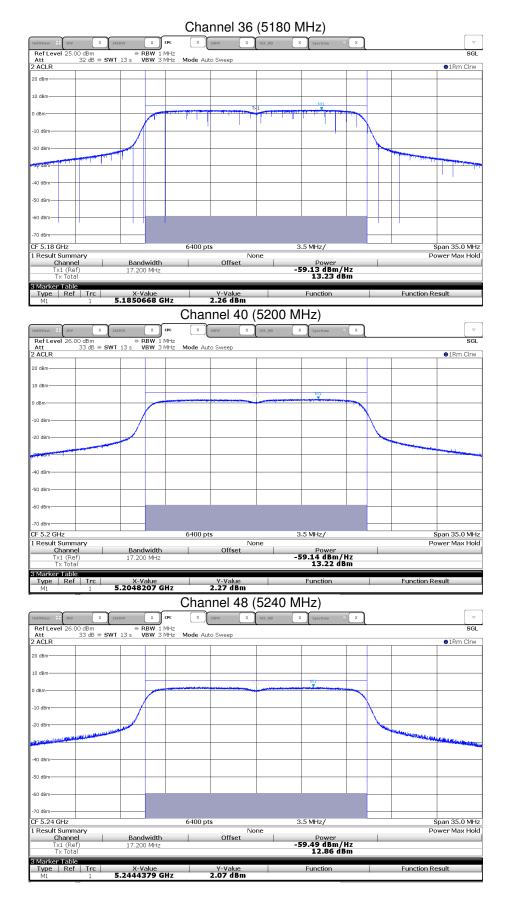
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5.3.7 Test protocol maximum conducted output power

801.11a, P20:



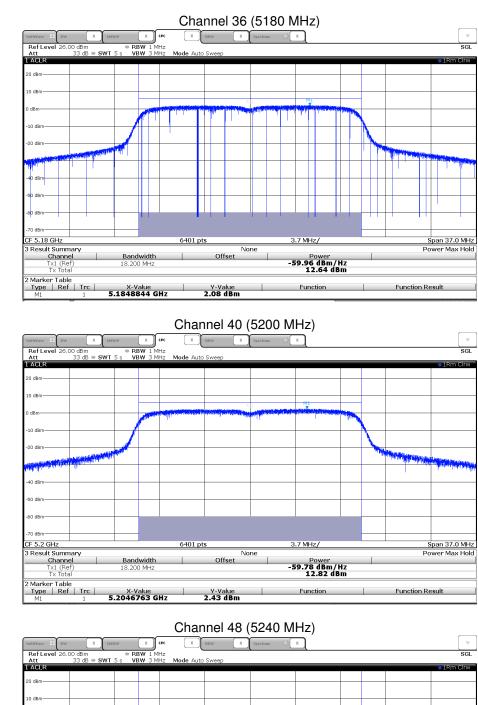
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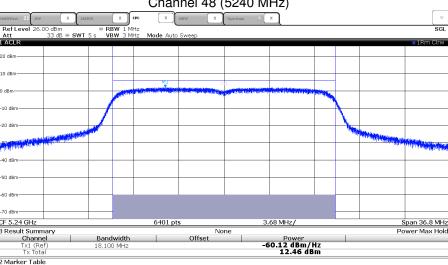


HT20, P20:

FCC ID: LYHELN1V1

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Y-Value 2.00 dBm Function

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 Type
 Ref
 Trc
 X-Value

 M1
 1
 5.2352167 GHz

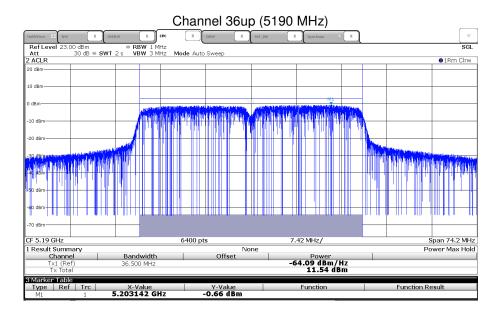
File No. T40580-03-01HS, page 23 of 31

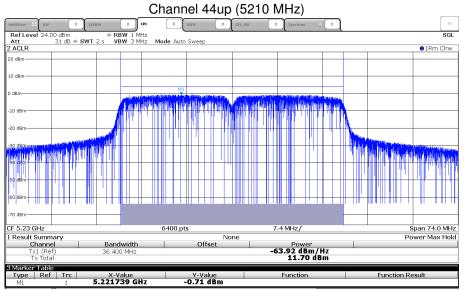
Function Result



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HT40, P20:





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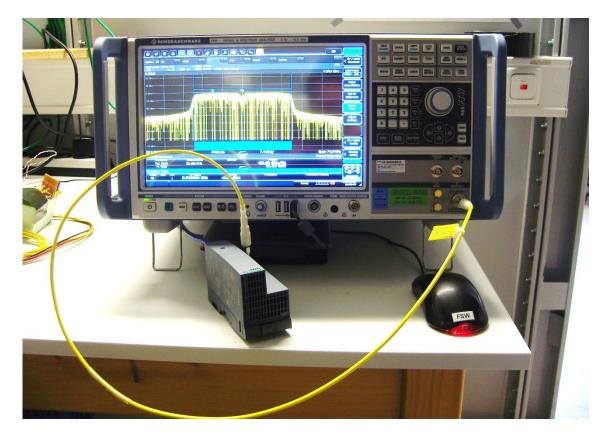
5.4 Maximum power spectral density

For test instruments and accessories used see section 6 Part CPC 3.

5.4.1 Description of the test location

Test location: AREA 4

5.4.2 Photo documentation of the test set-up



5.4.3 Applicable standard

According to FCC Part 15E, Section 15.407(a)(1i):

In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to ISED RSS247 6.2.1 (1): The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

5.4.4 Description of Measurement

The maximum conducted PSD is measured using a spectrum analyser with the function "integrated band power measurement" following the procedure set out in KDB 789033 D02, item F. Therefore, the PSD is measured the same way. The "integrated band power measurement" is related to PSD (dBm/Hz). The EUT is set in TX continuous mode while measuring. The values are corrected with the conversion factor Hz to 1 MHz, 60.0 dB. The resulting values are listed in the following tables. The insertion loss of measurement cable is taken into account with 1.0 dB at 5.2 GHz.



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Spectrum analyser settings:

RBW: 1 MHz, VBW: 3 MHz, Detector: RMS (powe Number of points: 6401, Sweep time: see table, Band power function;

Detector: RMS (power averaging), Trace mode: max hold; Band power function;

| Modulation | Burst time T | Sweep points | Max sweep time analyser |
|---------------|--------------|--------------|-------------------------|
| | (ms) | | (s) |
| 802.11a | 2.031 | 6401 | 13.0 |
| 802.11n, HT20 | 0.893 | 6401 | 5.7 |
| 802.11n, HT40 | 0.321 | 6401 | 2.1 |

5.4.5 Test result

Raw data as representative for all one Port measurements, used for 802.11a:

| PD1 [P9] | PD1 [P14] | PD1 [P20] |
|----------|------------------------------|---|
| (dBm/Hz) | (dBm/Hz) | (dBm/Hz) |
| | | |
| -68.23 | -61.49 | -59.13 |
| | | |
| -68.25 | -60.73 | -59.14 |
| | | |
| -68.60 | -61.64 | -59.49 |
| | (dBm/Hz) -68.23 -68.25 | (dBm/Hz) (dBm/Hz) -68.23 -61.49 -68.25 -60.73 |

Calculation of the total PSD:

| 802.11a, 6 Mbps, 1 | тх | Test results conducted | | | | |
|--------------------|------------------|------------------------|-----------|-----------|-----------|--------|
| | | | | | | |
| Port 1 | | PD [P9] | PD [P14] | PD [P20] | Limit | Margin |
| FULL | | (dBm/MHz) | (dBm/MHz) | (dBm/MHz) | (dBm/MHz) | (dB) |
| Lowest frequency: | CH36 | | | | | |
| T _{nom} | V _{nom} | -4.3 | -0.5 | 1.9 | 10.0 | -8.1 |
| Middle frequency: | CH40 | | | | | |
| T _{nom} | V _{nom} | -4.4 | 0.3 | 1.9 | 10.0 | -8.1 |
| Highest frequency: | CH48 | | | | | |
| T _{nom} | V _{nom} | -4.7 | -0.6 | 1.5 | 10.0 | -8.5 |

Note. An insertion loss of 1.0 dB at 5200 MHz for measurement cable at P14 and P20 is taken into account. An insertion loss of 3.9 dB at P9 for measurement cable and switch is taken into account.

| HT20, MCS0, 1TX | | Test results conducted | | | | |
|--------------------|------------------|------------------------|-----------|-----------|-----------|--------|
| | | | Test | | eu | |
| Port 1 | | PD [P9] | PD [P14] | PD [P20] | Limit | Margin |
| FULL | | (dBm/MHz) | (dBm/MHz) | (dBm/MHz) | (dBm/MHz) | (dB) |
| Lowest frequency: | CH36 | | | | | |
| T _{nom} | V _{nom} | -4.5 | -0.5 | 1.0 | 10.0 | -9.0 |
| Middle frequency: | CH40 | | | | | |
| T _{nom} | V _{nom} | -4.7 | -0.8 | 1.2 | 10.0 | -8.8 |
| Highest frequency: | CH48 | | | | | |
| T _{nom} | V _{nom} | -5.0 | -1.4 | 0.9 | 10.0 | -9.1 |

| HT40, MCS8, 1TX | Test results conducted | | | | | | | |
|-----------------------------------|--|------|------|------|-------|--|--|--|
| Port 1 | PD [P9] PD [P14] PD [P20] Limit Margir (dBm/MHz) (dBm/MHz) (dBm/MHz) (dBm/MHz) (dBm/MHz) | | | | | | | |
| Lowest frequency: CH36up | | | | | | | | |
| T _{nom} V _{nom} | -9.5 | -5.1 | -3.1 | 10.0 | -13.1 | | | |
| Middle frequency: CH44up | | | | | | | | |
| T _{nom} V _{nom} | -9.5 | -5.0 | -2.9 | 10.0 | -12.9 | | | |

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Maximum power spectral density limit according to FCC Part 15E, Section 15.407(a)(1i):

| Frequency | Maximum power spectral density limit |
|-------------|--------------------------------------|
| (MHz) | (dBm/MHz) |
| 5150 - 5250 | 17.0 |

Maximum power spectral density limit according to RSS247, 6.2.1(1): The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

| Frequency | Maximum power spectral density limit |
|-------------|--------------------------------------|
| (MHz) | (dBm/MHz) |
| 5150 - 5250 | 10.0 |

The requirements are **FULFILLED.**

Remarks: For detailed test results, please see to test protocols under 5.3.7.



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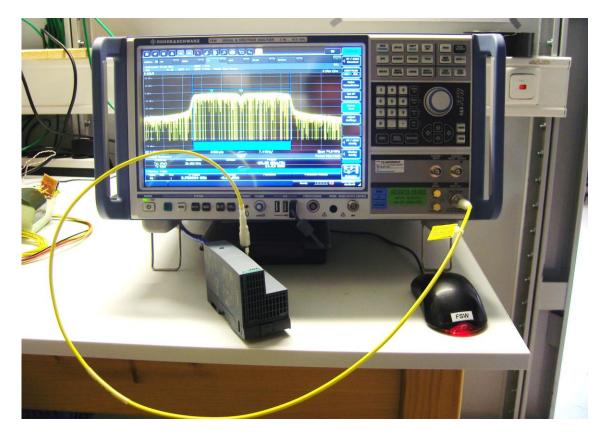
5.5 Defacto limit

For test instruments and accessories used see section 6 Part CPC 3.

5.5.1 Description of the test location

Test location: AREA 4

5.5.2 Photo documentation of the test set-up



5.5.3 Applicable standard

According to FCC Part 15, Section 15.407(a)(3):

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.5.4 Test result

| Antenna | Gx | Cond. limit | G | Amax | Limit P _{out} | Reduction | P set |
|-------------|-------|-------------|-------|-------|------------------------|-----------|-------|
| | (dBi) | (dBm) | (dBi) | (dBm) | (dBm) | (dB) | 5 GHz |
| ANT 793-8DK | 14.2 | 30.0 | 6.0 | 8.1 | 21.8 | 0.0 | P9 |
| ANT 793-8DJ | 13.6 | 30.0 | 6.0 | 8.1 | 22.4 | 0.0 | P9 |
| ANT793-8DL | 14.0 | 30.0 | 6.0 | 8.1 | 22.0 | 0.0 | P9 |
| ANT793-8DP | 13.5 | 30.0 | 6.0 | 8.1 | 22.5 | 0.0 | P9 |

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| Antenna | Gx | Cond. limit | G | Amax | Limit P _{out} | Reduction | P set |
|-------------|-------|-------------|-------|-------|------------------------|-----------|-------|
| | (dBi) | (dBm) | (dBi) | (dBm) | (dBm) | (dB) | 5 GHz |
| ANT 795-6DC | 9.0 | 30.0 | 6.0 | 12.6 | 27.0 | 0.0 | P14 |
| ANT793-6DG | 9.0 | 30.0 | 6.0 | 12.6 | 27.0 | 0.0 | P14 |
| ANT 795-6MN | 8.0 | 30.0 | 6.0 | 12.6 | 28.0 | 0.0 | P14 |
| ANT795-6MP | 7.0 | 30.0 | 6.0 | 12.6 | 29.0 | 0.0 | P14 |
| ANT896-6MM | 7.0 | 30.0 | 6.0 | 12.6 | 29.0 | 0.0 | P14 |

PSD:

| Antenna | Gx | Cond. limit | G | PSDmax | Limit P _{out} | Reduction | P set |
|-------------|-------|-------------|-------|-----------|------------------------|-----------|-------|
| | (dBi) | (dBm/MHz) | (dBi) | (dBm/MHz) | (dBm/MHz) | (dB) | 5 GHz |
| ANT 793-8DK | 14.2 | 17.0 | 6.0 | -4.3 | 8.8 | 0.0 | P9 |
| ANT 793-8DJ | 13.6 | 17.0 | 6.0 | -4.3 | 9.4 | 0.0 | P9 |
| ANT793-8DL | 14.0 | 17.0 | 6.0 | -4.3 | 9.0 | 0.0 | P9 |
| ANT793-8DP | 13.5 | 17.0 | 6.0 | -4.3 | 9.5 | 0.0 | P9 |

| Antenna | Gx | Cond. limit | G | PSDmax | Limit P _{out} | Reduction | P set |
|-------------|-------|-------------|-------|-----------|------------------------|-----------|-------|
| | (dBi) | (dBm/MHz) | (dBi) | (dBm/MHz) | (dBm/MHz) | (dB) | 5 GHz |
| ANT 795-6DC | 9.0 | 17.0 | 6.0 | 0.3 | 14.0 | 0.0 | P14 |
| ANT793-6DG | 9.0 | 17.0 | 6.0 | 0.3 | 14.0 | 0.0 | P14 |
| ANT 795-6MN | 8.0 | 17.0 | 6.0 | 0.3 | 15.0 | 0.0 | P14 |
| ANT795-6MP | 7.0 | 17.0 | 6.0 | 0.3 | 16.0 | 0.0 | P14 |
| ANT896-6MM | 7.0 | 17.0 | 6.0 | 0.3 | 16.0 | 0.0 | P14 |

Defacto limit according to FCC Part 15, Section 15.407(a)(3):

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

| Frequency | Defacto EIRP limit | | | | |
|-------------|--------------------|--------|--|--|--|
| (MHz) | (dBm) | (Watt) | | | |
| 5150 - 5250 | 36 | 4.0 | | | |

| Frequency | Defacto radiated PSD limit | | | | |
|-------------|----------------------------|----------|--|--|--|
| (MHz) | (dBm/MHz) | (mW/MHz) | | | |
| 5150 - 5250 | 17.0 | 50.0 | | | |

The requirements are **FULFILLED**.

Remarks:

No power reduction results using the listed antennas in combination with the mentioned power

settings.

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5.6 Undesirable emissions

For test instruments and accessories used see section 6 Part SER 1, SER 2 and SER 3.

5.6.1 Description of the test location

Test location: NONE

Remarks: This measurement is already documented in the test report T35625-00-04HS.

5.7 Frequency stability

For test instruments and accessories used see section 6 Part MB.

5.7.1 Description of the test location

Test location: NONE

Remarks: This measurement is already documented in the test report T35625-00-04HS.

5.8 Antenna application

5.8.1 Applicable standard

According to FCC Part 15C, Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit that the user can replace broken antennas, but the use of a standard antenna jack is prohibited.

The EUT use the listed antennas. The equipment connector is SMA-R.

Remarks:

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6 USED TEST EQUIPMENT AND ACCESSORIES

All test instruments used are calibrated and verified regularly. The calibration history is available on request.

| Test ID CPC 3 | Model Type FSW43 | Equipment No. 02-02/11-15-001 | Next Calib. 05/08/2016 | Last Calib. 05/08/2015 | Next Verif. | Last Verif. |
|------------------|----------------------------|--------------------------------------|-------------------------------|---------------------------|-------------|-------------|
| MB | FSW43 | 02-02/11-15-001 | 05/08/2016 | 05/08/2015 | | |