EMI – TEST REPORT

- FCC Part 15.407, 5725-5850 MHz -

Type / Model Name	:	WLAN n-module MPCIE-R1-ABGN-U3
Product Description	:	Module for industrial WLAN applications 2.4 / 5 GHz
Applicant	:	Siemens AG
Address	:	Gleiwitzer Strasse 555
		90475 NUERNBERG, GERMANY
Manufacturer	:	Siemens AG
Address	:	Oestliche Rheinbrueckenstrasse 50
		76187 KARLSRUHE, GERMANY
Licence holder	:	Siemens AG
Address	:	Gleiwitzer Strasse 555
		90475 NUERNBERG, GERMANY

Test Result according to the standards listed in clause 1 test standards:	**POSITIVE**

Test Report No. : T43136-00-00HS	12. September 2017 Date of issue

Deutsche Akkreditierungsstelle
D-PL-12030-01-01
D-PL-12030-01-02

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.

Contents

1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules and Regulations Part 15, Subpart A - General (September, 2016)

Part 15, Subpart A, Section 15.31	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 C - Intentional Radiators (September, 2016)

Part 15, Subpart C, Section 15.203	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, 2016)

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 v01r04	Guidance for compliance Testing of U-NII devices, Mai 2, 2017.

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 "new Rules". This test report shall show the further compliance to the "FCC Part 15.407, Item b (4) (i)" under the premise that no operating parameter of the EUT are changed. Therefore the "undesirable emission limits" are re-measured. Spurious emissions stay the same as already documented with the test report T40580-01-01HS by CSA Group Bayern GmbH.

2.3 Equipment category

WLAN - AP

2.4 Short description of the equipment under test (EUT)

The EUT is a WLAN module. The EUT may be access point or client. The WLAN module is compatible with 802.11a, and 802.11n standard. It supports the 5 GHz frequency band. It supports MIMO at 3 Antenna ports, which is 3T3R, but without beam forming. The firmware does not support the ad-hoc modes.

Number of tested samples: 1
Serial number: SVPE8227064
Firmware version: V06.01.01, 03.16.2017

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

2.5 Variants of the EUT

There are no variants.

2.6 Operation frequency and channel plan

The operating frequency is 5725 MHz to 5850 MHz.

Channel plan:
Channel plan WLAN Standard 802.11a/n, HT20:

Channel	Frequency
149	5745
153	5765
157	5785
161	5805
165	5825

Channel plan WLAN Standard 802.11n, HT40 up and HT40 down mode:

Channel, HT40 up	Frequency	Channel, HT40 down	Frequency
149 up	5755 MHz	153 down	5755 MHz
157 up	5795 MHz	161 down	5795 MHz

Note: The marked frequencies are determined for final testing.

2.7 Transmit operating modes

The module use OFDM modulation and is capable to provide following data rates:
- 802.11a 54, 48, 36, 24, 18, 12, 9, 6 Mbps
- 802.11n HT20, MCS 0 - 23
- 802.11n HT40, MCS 0 - 23

HT20

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

MCS Index	Modulation	*R*	$N_{BPSCS(iSS)}$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								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	6	52	4	312	208	52.0	57.8
6	64-QAM	3/4	6	52	4	312	234	58.5	65.0
7	64-QAM	5/6	6	52	4	312	260	65.0	72.2
NOTE—Support of 400 ns GI is optional on transmit and receive.									

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

MCS Index	Modulation	*R*	$N_{BPSCS(iSS)}$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								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—The 400 ns GI rate values are rounded to 1 decimal place.									

MCS parameters for optional 20 MHz, NSS = 3, NES = 1, EQM

MCS Index	Modulation	R	$N_{BPSCS(iSS)}$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI
16	BPSK	1/2	1	52	4	156	78	19.5	21.7
17	QPSK	1/2	2	52	4	312	156	39.0	43.3
18	QPSK	3/4	2	52	4	312	234	58.5	65.0
19	16-QAM	1/2	4	52	4	624	312	78.0	86.7
20	16-QAM	3/4	4	52	4	624	468	117.0	130.0
21	64-QAM	2/3	6	52	4	936	624	156.0	173.3
22	64-QAM	3/4	6	52	4	936	702	175.5	195.0
23	64-QAM	5/6	6	52	4	936	780	195.0	216.7

HT40

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

MCS Index	Modulation	R	$N_{BPSCS(iSS)}$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI
0	BPSK	1/2	1	108	6	108	54	13.5	15.0
1	QPSK	1/2	2	108	6	216	108	27.0	30.0
2	QPSK	3/4	2	108	6	216	162	40.5	45.0
3	16-QAM	1/2	4	108	6	432	216	54.0	60.0
4	16-QAM	3/4	4	108	6	432	324	81.0	90.0
5	64-QAM	2/3	6	108	6	648	432	108.0	120.0
6	64-QAM	3/4	6	108	6	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 Index	Modulation	R	$N_{BPSCS(iSS)}$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	Data rate (Mb/s)	
								800 ns GI	400 ns GI
8	BPSK	1/2	1	108	6	216	108	27.0	30.0
9	QPSK	1/2	2	108	6	432	216	54.0	60.0
10	QPSK	3/4	2	108	6	432	324	81.0	90.0
11	16-QAM	1/2	4	108	6	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	6	1296	972	243.0	270.0
15	64-QAM	5/6	6	108	6	1296	1080	270.0	300.0

MCS parameters for optional 40 MHz, NSS = 3, EQM

MCS Index	Modulation	R	$N_{BPSCS}(i_{SS})$	N_{SD}	N_{SP}	N_{CBPS}	N_{DBPS}	N_{ES}	Data rate (Mb/s)	
									800 ns GI	400 ns GI
16	BPSK	1/2	1	108	6	324	162	1	40.5	45.0
17	QPSK	1/2	2	108	6	648	324	1	81.0	90.0
18	QPSK	3/4	2	108	6	648	486	1	121.5	135.0
19	16-QAM	1/2	4	108	6	1296	648	1	162.0	180.0
20	16-QAM	3/4	4	108	6	1296	972	1	243.0	270.0
21	64-QAM	2/3	6	108	6	1944	1296	2	324.0	360.0
22	64-QAM	3/4	6	108	6	1944	1458	2	364.5	405.0
23	64-QAM	5/6	6	108	6	1944	1620	2	405.0	450.0

Symbol	Explanation
N_{SS}	Number of spatial streams
R	Coding rate
N_{BPSC}	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, $i_{SS} = 1,...,N_{SS}$
N_{SD}	Number of complex data numbers per spatial stream per OFDM symbol
N_{SP}	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
N_{TBPS}	Total bits per subcarrier

2.8 Antenna

Antennas intended for use are classified into 3 gain groups:

- Antenna gain group 1: Antennas 0 to 6 dBi
- Antenna gain group 2: Antennas 6 to 9 dBi
- Antenna gain group 3: Antennas 9 to 14 dBi

Number	Manufacturer Number	Characteristic	Model number	Connector	Frequency (GHz)	Gain 5GHz	Cable loss (dB)	effective Gain 5 GHz (dBi)	Group
1	6GK5793-8DK00-0AA0	Directed	**ANT 793-8DK**	2x N-female	5 GHz	23	8.8	14.2	9-14 dBi
2	6GK5793-8DJ00-0AA0	Directed	**ANT 793-8DJ**	2x N-female	5 GHz	18	4.4	13.6	9-14 dBi
3	6GK5793-8DL00-0AA0	Directed	**ANT793-8DL**	2x N-female	2.4 + 5 GHz	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**	2x N-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	6GK5795-4MB00-0AA0	Omni	**ANT795-4MB**	R-SMA male	2.4 + 5 GHz	3	0	3	0-6 dBi
16	6GK5795-4MX00-0AA0	Omni	**ANT795-4MX**	N-male	2.4 + 5 GHz	2	0	2	0-6 dBi
17	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, V_{nom} : 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:

5725 - 5850 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.
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	149 to 165	149, 157, 165	P20, P17, P8	OFDM	BPSK	6 Mbps
802.11n; HT20	149 to 165	149, 157, 165	P20, P17, P8	OFDM	BPSK	MCS0 (BW=20 MHz)
802.11n; HT40	149up to 157up	149up, 157up	P20, P17, P8	OFDM	BPSK	MCS0 (BW=40 MHz)

- TX continuous mode, 802.11a
  One port mode, 2 ports mode, 3 port mode ;
- TX continuous mode, 802.11n
  One port mode, 2 ports mode, 3 port mode ;

2.11.1 Test jig

The used test jig is an end product (RAPn) and provides the necessary power supply and control signals to operate the WLAN module for testing. The test jig is DC power supplied with a view to the planned industrial application. The test ports are connected via UFL-RSMA-Pigtail, which is used also in the end application.

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.

3 TEST RESULT SUMARY

WLAN device using digital modulation:

Operating in the 5725 MHz – 5850 MHz band:

FCC Rule Part	RSS Rule Part	Description	Result
15.407(b)(6)	RSS Gen, 8.8	AC power line conducted emissions	Not tested
15.407(e)	RSS247, 6.2.4.1	6 dB EBW	Not tested
15.407(a)(3)	RSS247, 6.2.4.1	Maximum conducted output power	Not tested
15.407(b)(4)	**RSS247, 6.2.4.2(d)**	**Unwanted emission, radiated**	**passed**
15.407(b)(7)	RSS-Gen, 8.10	Unwanted emissions in restricted bands	Not tested
15.407(a)(3)	RSS247, 6.2.4.1	Maximum power spectral density	Not tested
15.35(c)	RSS-Gen, 6.10	Pulsed operation	Not tested
15.203	-	Antenna requirement	Not tested
15.407(g)	RSS-Gen, 6.11	Transmitter frequency stability	Not tested
KDB 789033	RSS-Gen, 6.6	99 % Bandwidth	Not tested

The mentioned new RSS Rule Parts in the above table are related to:
RSS 247, Issue 2, February 2017

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 : 12 September 2017

Testing concluded on : 12 September 2017

Checked by:

Klaus Gegenfurtner
I confirm the correctness and Integrity of this document
2017.09.12 14:04:21 +02'00'

Klaus Gegenfurtner
Teamleader Radio

Tested by:

Hermann Smetana
I am the author of this document.
2017.09.12 13:58:27 +02'00'

Hermann Smetana
Radio Team

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

mikes-testingpartners gmbh
Ohmstrasse 2-4
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. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 „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, mikes-testingpartners 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 Type	Range	Confidence Level	Calculated Uncertainty
AC power line conducted emissions	0.15 MHz to 30 MHz	95%	± 3.29 dB
EBW and OBW	2400 MHz to 3000 MHz	95%	± 2.5 x 10^{-7}
Maximum peak conducted output power	2400 MHz to 3000 MHz	95%	± 0.62 dB
Power spectral density	2400 MHz to 3000 MHz	95%	± 0.62 dB
Conducted Spurious Emissions	9 kHz to 10000 MHz	95%	± 2.15 dB
Conducted Spurious Emissions	10000 MHz to 40000 MHz	95%	± 3.47 dB
Radiated Spurious Emissions	9 kHz to 30 MHz	95%	± 3.53 dB
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	± 3.71 dB
Radiated Spurious Emissions	1000 MHz to 10000 MHz	95%	± 2.34 dB
Field strength of the fundamental	100 kHz to 100 MHz	95%	± 3.53 dB

4.4 Measurement protocol for FCC and ISED

4.4.1 General information

4.4.1.1 Test methodology

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.

4.4.1.2 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.

4.4.1.3 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 testing of unlicenced 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.

5 TEST CONDITIONS AND RESULTS

5.1 Unwanted emissions

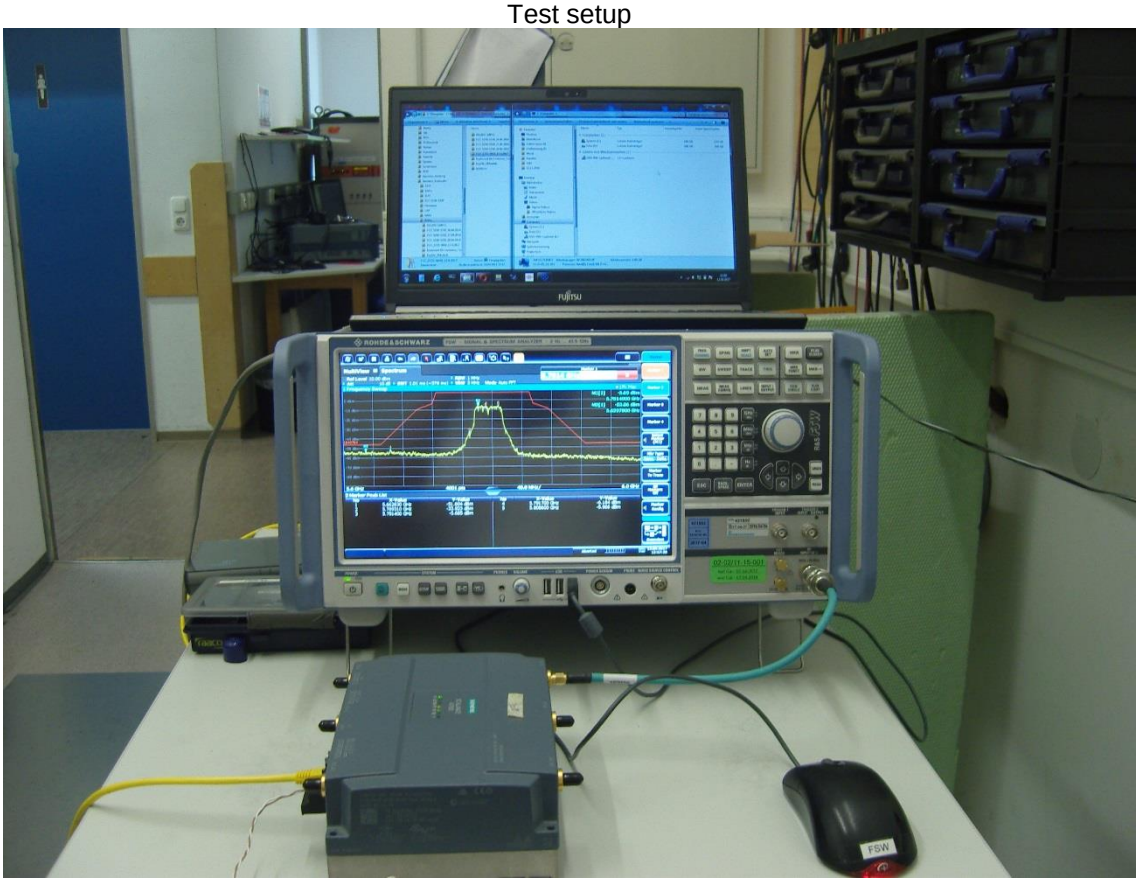
For test instruments and accessories used see section 6 Part **SEC 3**.

5.1.1 Description of the test location

Test location: S6

5.1.2 Photo documentation of the test set-up

Test setup



5.1.3 Applicable standard

According to FCC Part 15E, Section 15.407(b)(4):

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

5.1.1 Description of Measurement

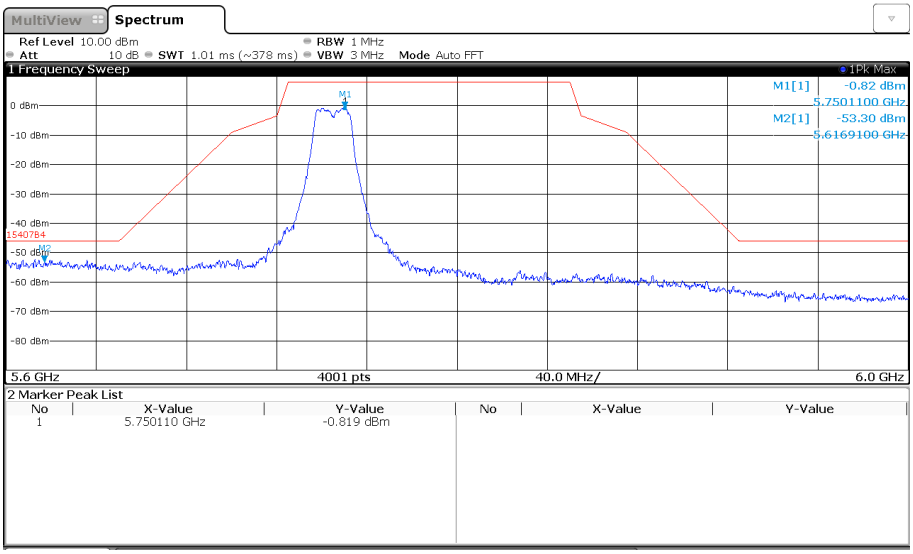
Undesirable emissions are measured using a spectrum analyser and following the procedures according the KDB 789033, item G (5).

Spectrum analyser settings for peak values:
RBW: 1 MHz, VBW: 3 MHz, Detector: Peak, Sweep: Auto, Trace mode: max hold;

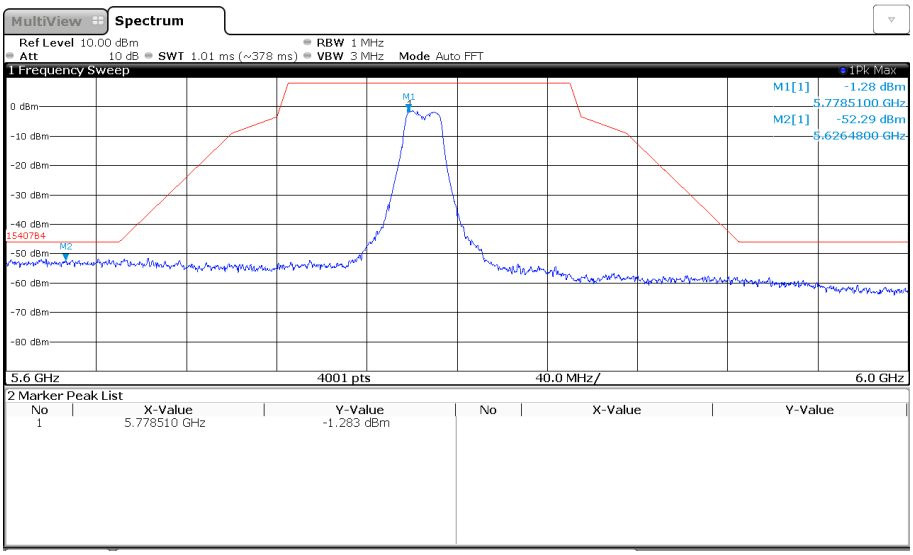
5.1.2 Test result 3 port mode

The worst case is the 3 port mode of the EUT, therefore the 3 port mode is measured conduced. The EIRP is calculated using the highest gain antenna 14.2 dBi. The 3 port are taken into account adding 4.8 dB. The limit mask is shifted down by 19 dB (14.2 dBi + 4.8 dB = 19 dB) in order to compensate the EIRP and the 3 port operation. The cable loss of 0.5 dB has to be taken into account.

EUT settings: 3TX, P8.
802.11a:
CH149



CH157



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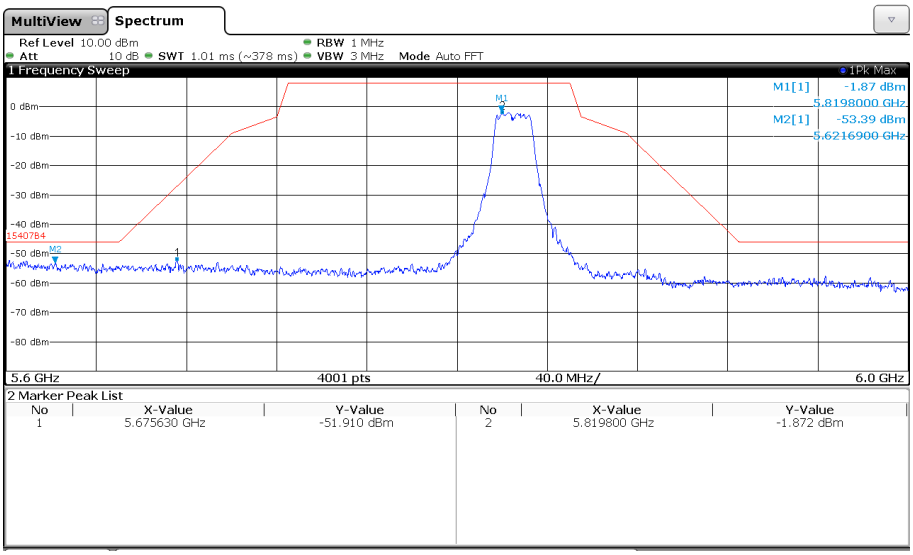
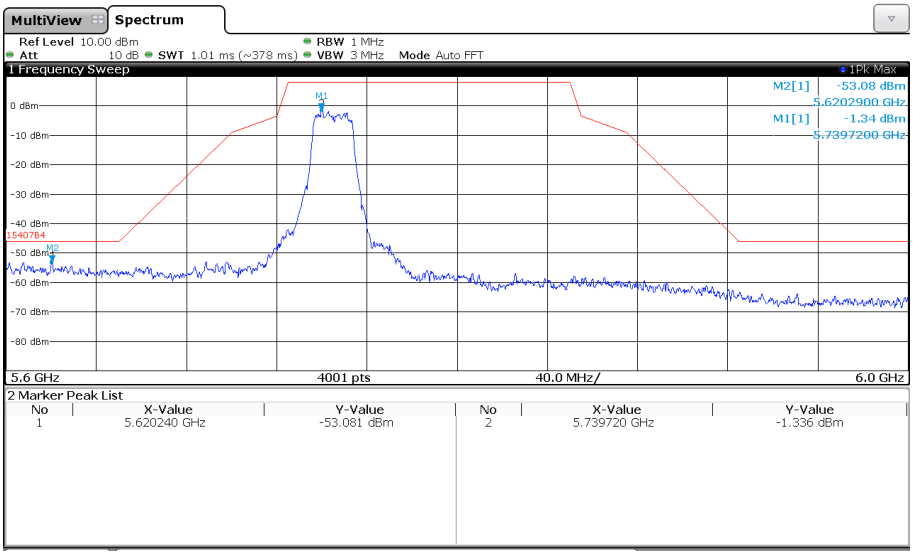


802.11n, HT20:
CH149



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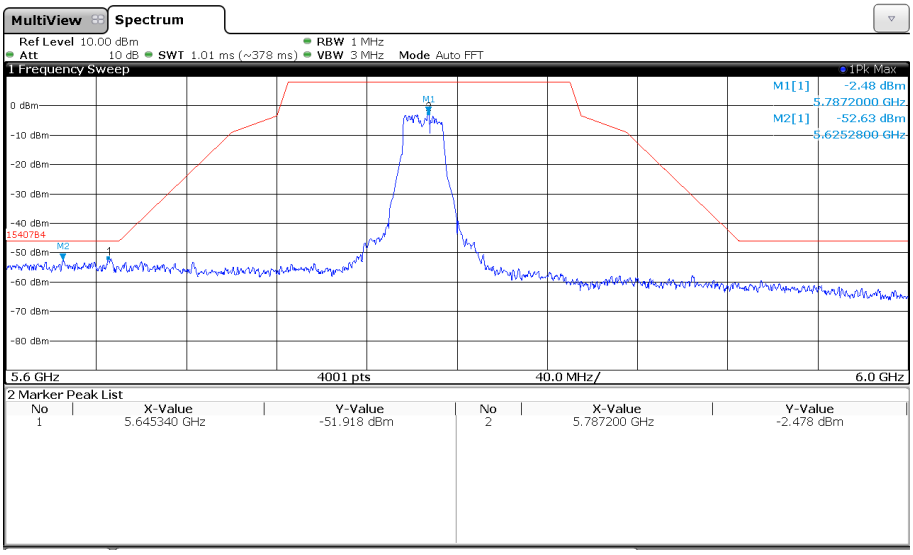
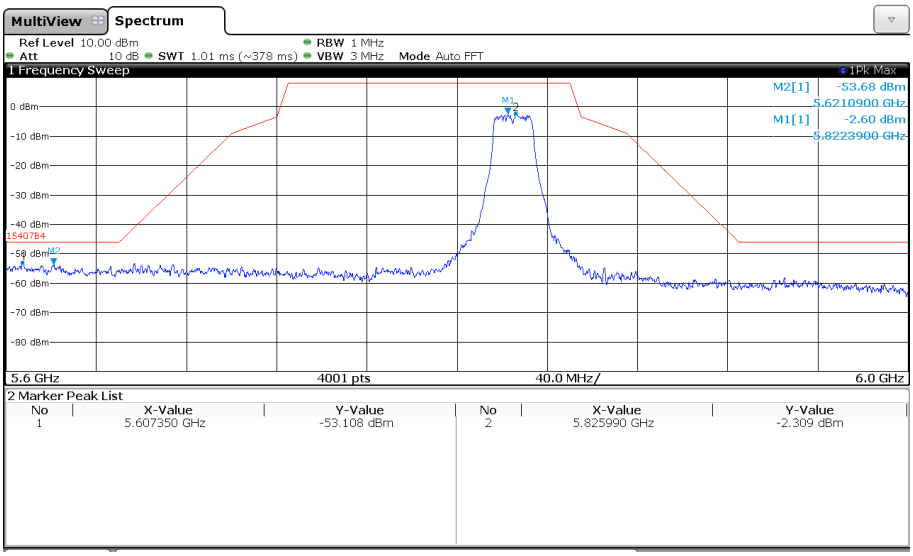
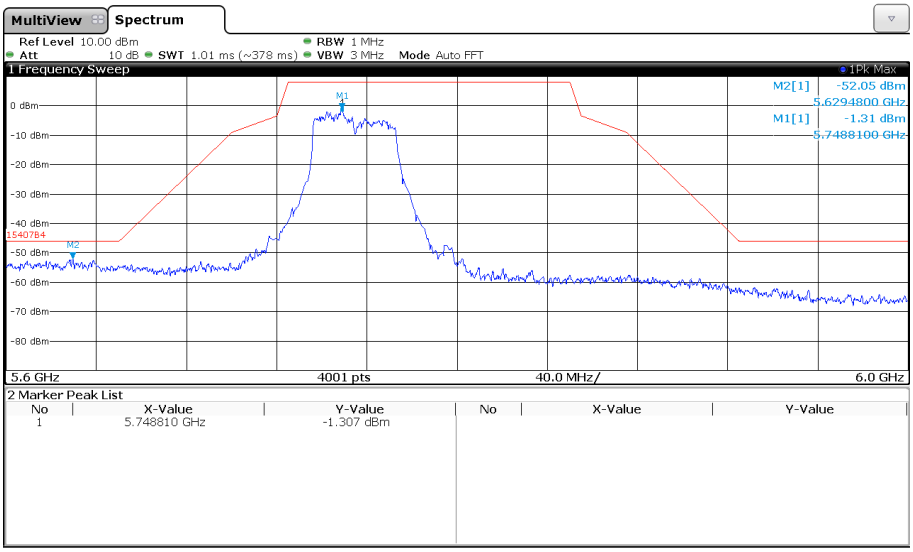


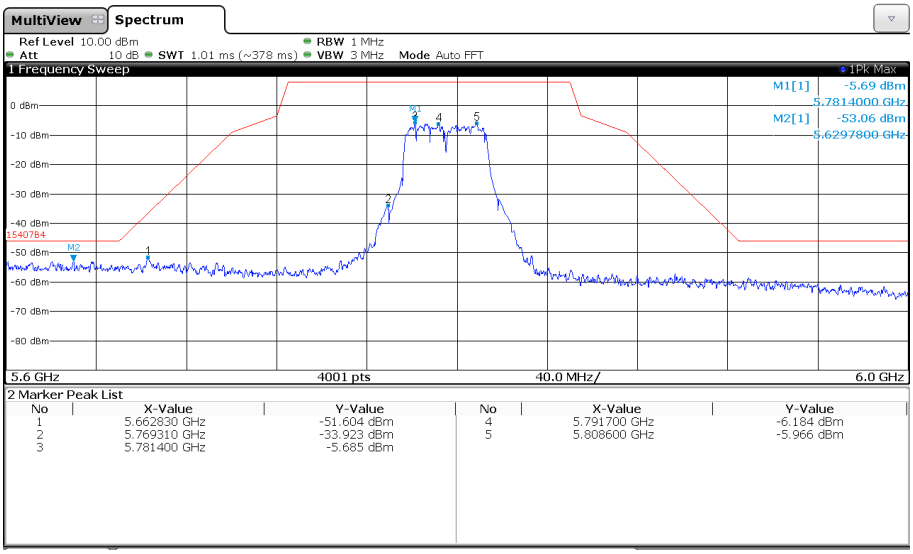
CH165



802.11n, HT40:
CH149up



CH157up



Limit according to FCC Part 15E, Section 15.407(b) for undesirable emissions:

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The requirements are **FULFILLED.**

Remarks: _____

_____

6 USED TEST EQUIPMENT AND ACCESSORIES

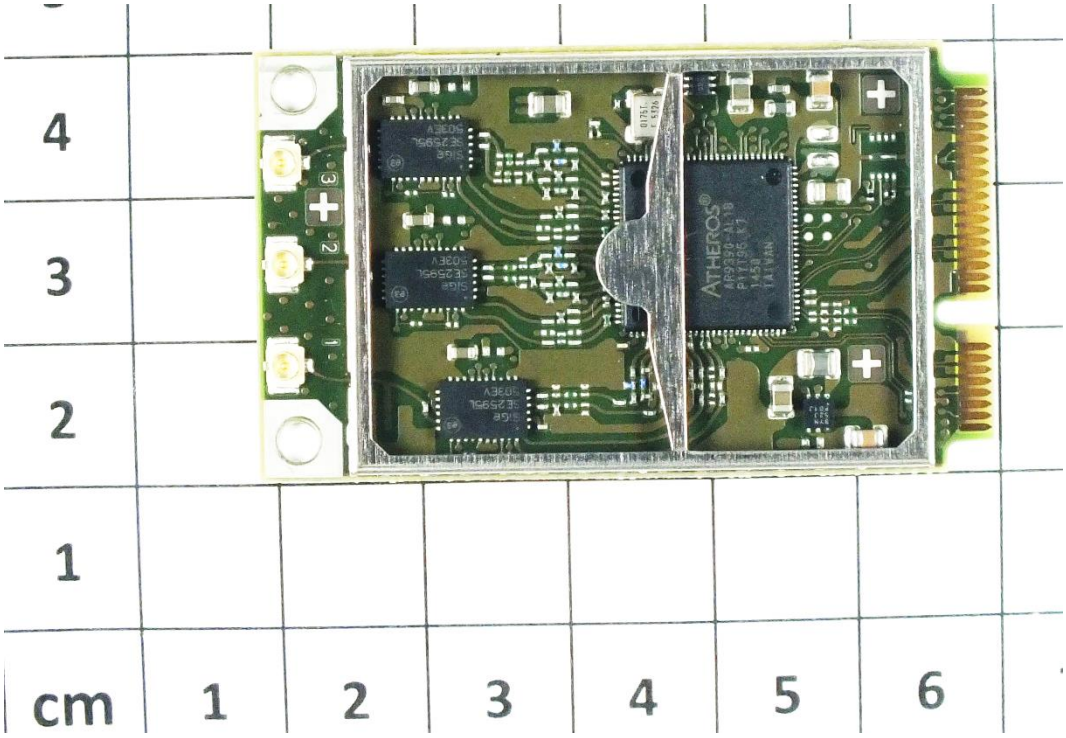
All test instruments used are calibrated and verified regularly. The calibration history is available on request.

Test ID	Model Type	Equipment No.	Next Calib.	Last Calib.	Next Verif.	Next Verif.
SEC 1-3	FSW43	02-02/11-15-001	07/04/2018	07/04/2017		
	HM 8143	02-02/50-10-016				

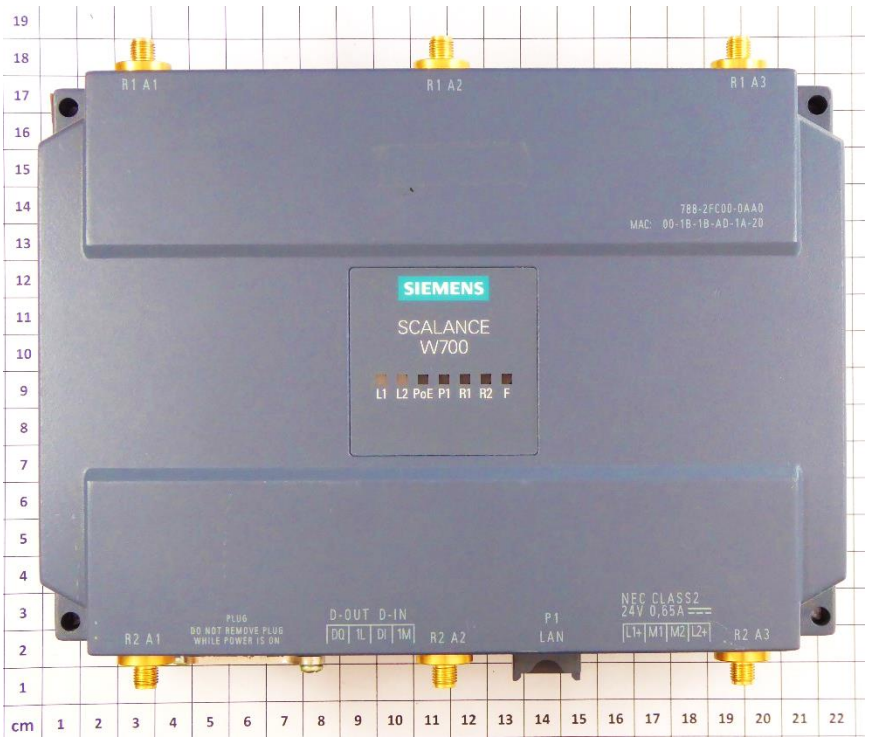
A T T A C H M E N T A

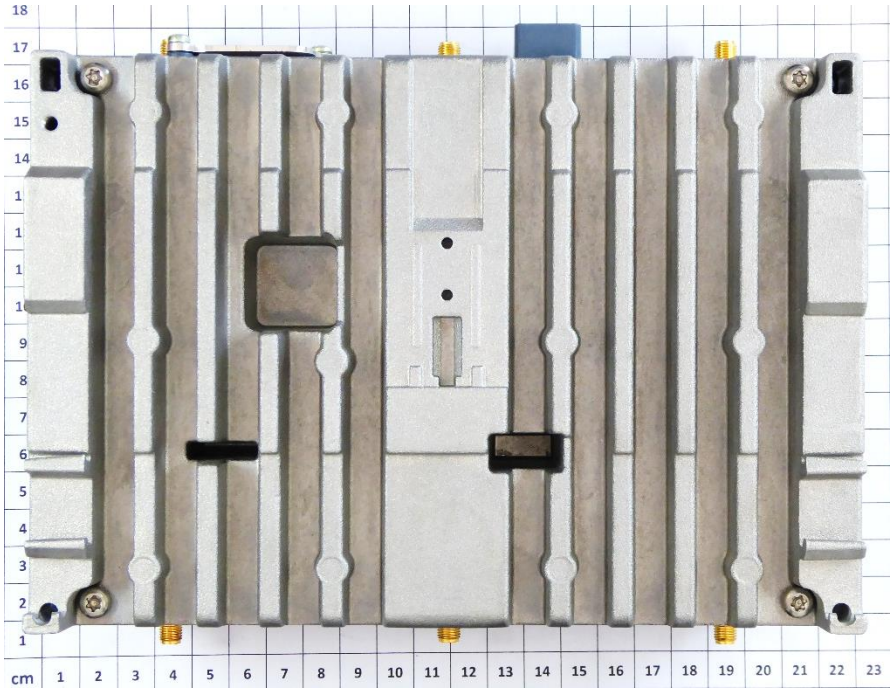
A1) Photo documentation of the EUT

WLAN-Module MPCIE-R1-ABGN-U3:



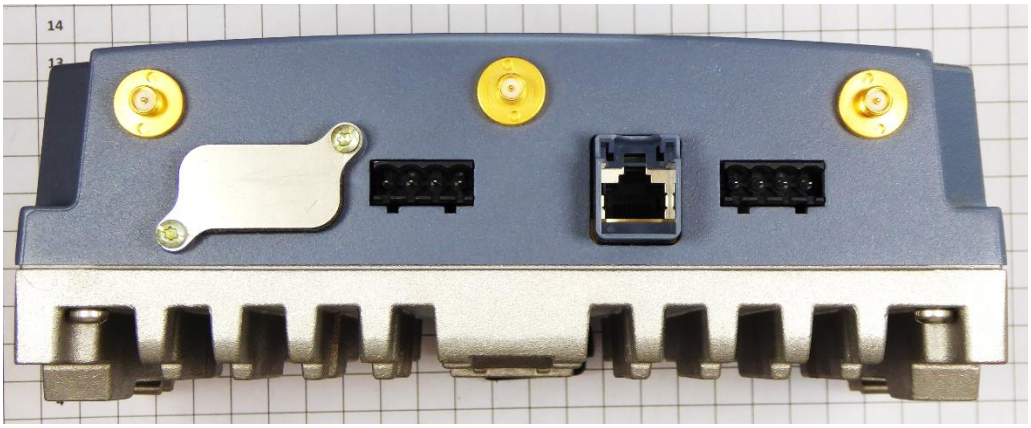
Test jig (RAPn):

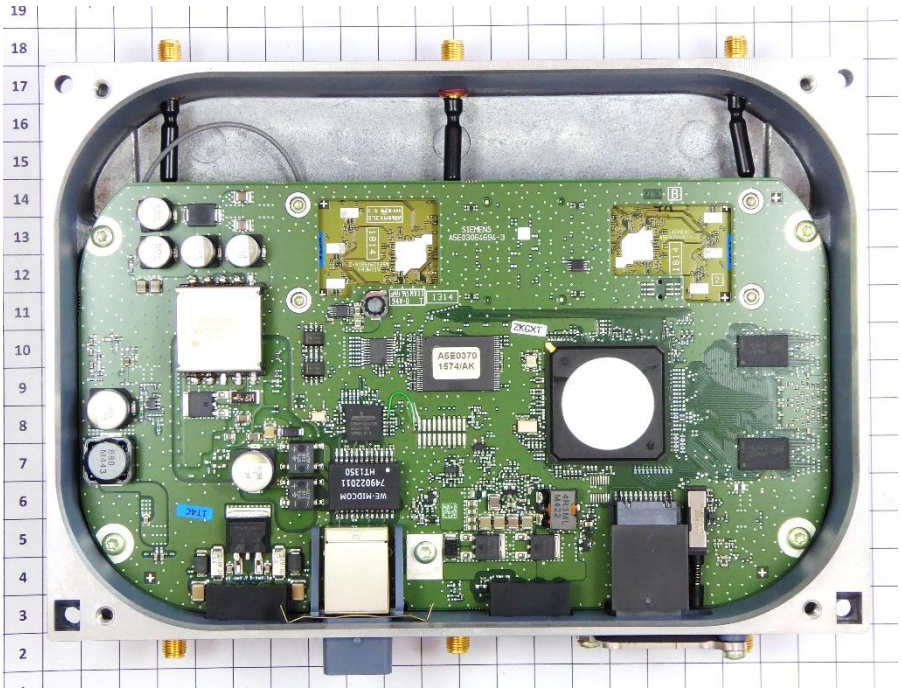


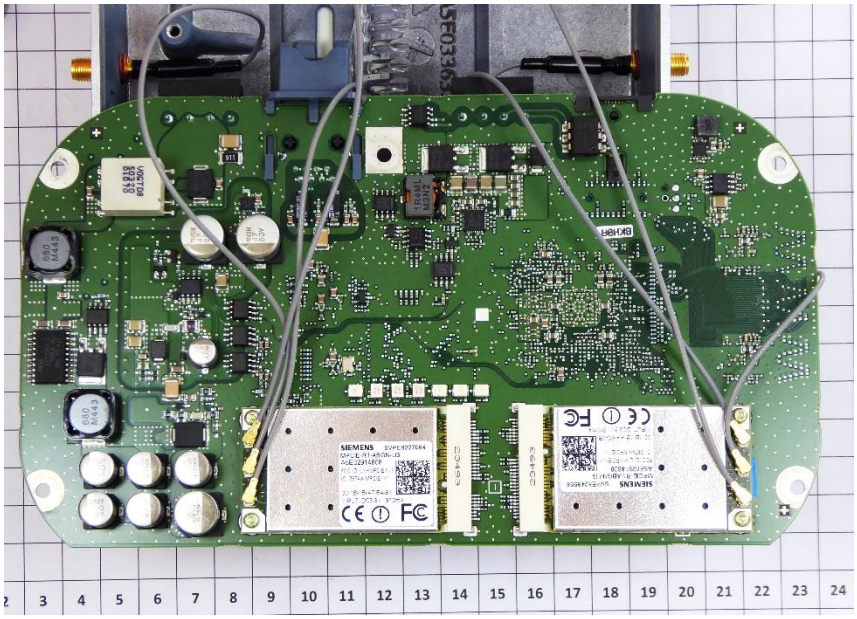



ANATEL
0399-13-4061
OMAN-TRA
R/1774/14
D090258
SIEMENS/TESTED
VP E9
KHØA


SIMATIC NET IWLAN Access Point
SCALANCE W788 RJ45 Type: W788-2
RAPN-W2-RJ-E3
1P 6GK5788-2FC00-0AA0
SVP E9165723
23S 00-1B-1B-AD-1A-20
MADE IN GERMANY
V3.2
IP30








SIEMENS SVPE8227064
MPCIE-R1-ABGN-U3
A5E02914608
FCC ID: LYHMPCIE1V1
IC: 267AA-MPCIE1V1
00-1B-1B-A7-E4-91
INPUT: DC3.3V, 910mA