RADIO TEST REPORT

No. 1313886-2 Ed. 1

RF performance

EQUIPMENT UNDER TEST

Equipment :	UHF RFID Reader
Type / model :	XT-1 us Reader
Manufacturer :	TagMaster AB
Tested by request of :	TagMaster AB

SUMMARY

Referring to the emission limits and the operating mode during the tests specified in this report the equipment complies with the requirements according to

47 CFR Part 15, Subpart C, Intentional radiators, section 15.247
RSS-210, Issue 8 (Dec 2010) (Not within the scope of accreditation)
RSS-GEN, Issue 3 (Dec 2010)

Test methods according to ANSI C63.10-2009

Date of issue: 2014-01-17

Tested by: Kajsa From
Åke Carlson

Approved by: Matti Virkki

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Revision History

Edition	Date	Description
1	2014-01-17	First release

Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30
www.intertek.se
Registered in Sweden: No: SE556024059901, Registered office: As address

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Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
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Registered in Sweden: No: SE556024059901, Registered office: As address

1 CLIENT INFORMATION

The EUT has been tested by request of

Company:	TagMaster AB Kronborgsgränd 11 164 46 Kista SWEDEN
Name of contact:	Johan Franzén

2 EQUIPMENT UNDER TEST (EUT)

2.1 Identification of the EUT according to the manufacturer/client declaration

Equipment:	UHF RFID Reader	
Type/Model:	XT-1 us Reader	
Brand name:	TagMaster	
Serial number:	R&D Proto 1	
Manufacturer:	TagMaster AB	
Transmitter frequency range:	902.75 – 927.25 MHz	
Receiver frequency range:	902.75 – 927.25 MHz	
Frequency agile or hopping:	☒ Yes	☐ No
Antenna:	☒ Internal antenna	☐ External antenna
Antenna connector:	☒ None, internal antenna	☐ Yes, type
Antenna gain:	6.0 dBi (max)	
Rating RF output power:	30.0 dBm	
Type of modulation:	PR-ASK	
Temperature range:	☐ Category I (General): -20°C to +55°C ☐ Category II (Portable equipment): -10°C to +55°C ☐ Category III (Equipment for normal indoor use): +5°C to +35°C ☒ Other: -40°C to +60°C	
Transmitter stand by mode supported:	☐ Yes	☒ No

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2.2 Additional hardware information about the EUT

The EUT consists of the following units:

Unit	Part number	Revision	Serial number
UHF RFID Reader	152600	01	R&D Proto 1

2.3 Additional software information about the EUT

During the tests the EUT supported the following software:

Software	Version / Release	Comment
Vigilant SW	0.0.1	

2.4 Peripheral equipment

Peripheral equipment is defined as equipment needed for correct operation of the EUT during the tests, but not included as a part of the testing and evaluation of the EUT.

Equipment	Manufacturer / Type	Serial number
AC/DC adapter	Nordic Power, SA124C-24G	-

2.5 Modification during the tests

Output power is reduced 0.2 dB after the radiated emission measurements are made.

Frequency plan is changed from 51 channels between 902.5 and 927.5 MHz to 50 channels between 902.75 and 927.25 MHz after the radiated emission measurements are made.

All measurements except radiated emissions are made with the lower power and 50 channel setup.

No other modifications have been made during the tests.

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3 TEST SPECIFICATIONS

3.1 Standards

47 CFR Part 15, Subpart C, Intentional radiators, section 15.247
RSS-Gen, Issue 3 (Dec 2010)
RSS-210, Issue 8 (Dec 2010)

Test methods in:

ANSI C63.10-2009: American National Standard for Testing Unlicensed Wireless Devices

3.2 Additions, deviations and exclusions from standards and accreditation

RSS-210 is not in Intertek Semko AB's accreditation scope.

No other additions, deviations or exclusions have been made from standards and accreditation.

3.3 Test site

Measurements were performed at:

Intertek Semko AB.
Torshamnsgatan 43,
P.O. Box 1103
SE-164 22 Kista

Intertek Semko AB is a FCC listed test site with site registration number 90913
Intertek Semko AB is a Industry Canada listed test facility with IC assigned code 2042G

Measurement chambers

Measurement Chamber	Type of chamber	IC Site filing #
BJÖRKHALLEN	Semi-anechoic 3m	2042G-1
RADIOHALLEN	Fully-anechoic 3m	--

3.4 Test set-up

If not stated otherwise EUT was connected to spectrum analyzer with coaxial cable.

3.5 Test conditions

If not additionally specified, the tests were performed under the following environmental conditions:

Parameter	Normal	Extreme
Supplying voltage, V	24	10 – 30
Air temperature, ^{o}C	20 – 25	-40 – 60

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4 TEST SUMMARY

The results in this report apply only to the tested sample:

Test	Result	Section in report	Note
Standard test methods			
AC power-line conducted tests	NA		
Radiated test below 30 MHz	NA		
Radiated emissions measurements from 30 to 1000 MHz	Pass	5	
Determination of radiated and antenna conducted emissions above 1 GHz	Pass	6	
Frequency Stability Test	NA		
Occupied bandwidth and band-edge tests	Pass	7, 8, 10	
Output Power average symbol envelope power	NA		
Power Spectral Density < 40 GHz	NA		
Power Spectral Density > 40 GHz	NA		
In-situ measurements	NA		
Polar plot, main lobe and variation on radiated emissions test	NA		
Device-specific tests			
Measurement of cable locating equipment	NA		
Determining of cordless telephone handset security code	NA		
Determination of total input power	NA		
Procedure determining compliance for periodic operation [15.231, 15.240(b)]	NA		
Determining the average value of pulsed emissions per 15.35(c)	NA		
Comparison of limits per 15.231(b)(3)	NA		
Procedure to determine compliance of frequency pairing for 47 CFR 15.233(b)(2)	NA		
Determination of frequency hopping compliance per 47 CFR 15.247	Pass	11, 12, 13	
Determination of digital modulation compliance per 47 CFR 15.247	NA		
Determination of peak conducted output unlicensed wireless device power [15.247(b), 15.255]	Pass	9	
Determination of maximum conducted output power (15.247, 15-E)	NA		
Determination of MIMO compliance (2nd edition)	NA		
Determination of Smart antenna compliance (2nd edition)	NA		
Determination of antenna gains, including those emitting in multiple directions (15.247)	NA		
Determination of compliance with RF exposure limits	NA		
Millimeter wave test procedures for systems operating at 54GHz and greater	NA		
Determination of EIRP (15-F)	NA		
Determination Transmitter Etiquette FCC Part 15.255	NA		
Determination of Dynamic Frequency Selection (DFS) including Channel Move Time and In Service Monitoring	NA		
Determination of channel availability	NA		
Determination of Dynamic Frequency Selection including Channel Move Time	NA		
Determination of transmitter power control (TPC) (15-E)	NA		
Peak excursion measurement for UNII devices	NA		
Determination of UWB bandwidth	NA		
Determination of the center frequency, *f*C, and highest radiated emissions, *f*M (15-F)	NA		

NT = Not Tested, by request of the Client
NA = Not Applicable

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5 RADIATED EMISSIONS MEASUREMENTS FROM 30 MHZ TO 1000MHZ

Date of test:	2013-12-18	Test location:	Björkhallen
EUT Serial:	R&D Proto 1	Ambient temp.	21 °C
Tested by:	Kajsa From	Relative humidity	28 %
Test result:	Pass	Margin:	63.2 dB

5.1 Requirement

Transmitter harmonics in the restricted bands:
Reference: FCC §15.209, IC RSS-GEN Table 5

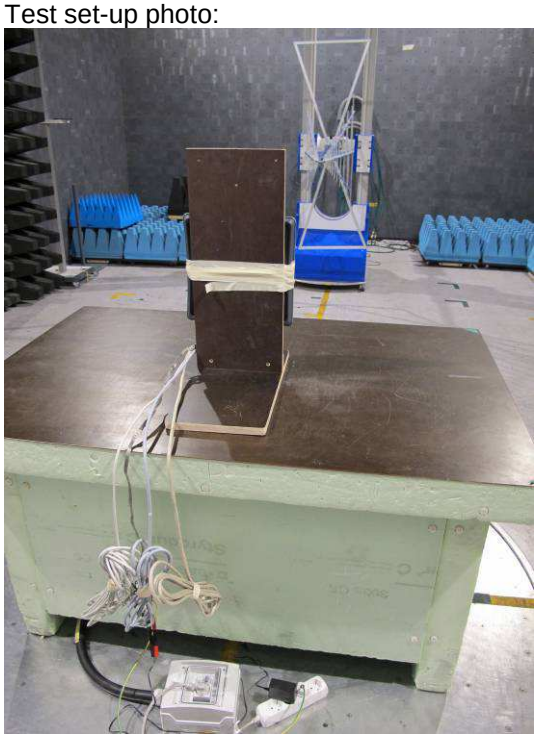
Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
30 – 88	40.0	3
88 – 216	43.5	3
216 – 960	46.0	3
960 –	54.0 AVG, 74.0 Peak	3

Transmitter harmonics outside the restricted bands:
Reference: FCC §15.247 (d), IC RSS-210 A8.5
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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.

5.2 Test setup details

Operation mode: continuous transmission, modulating.

Test set-up photo:



Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30
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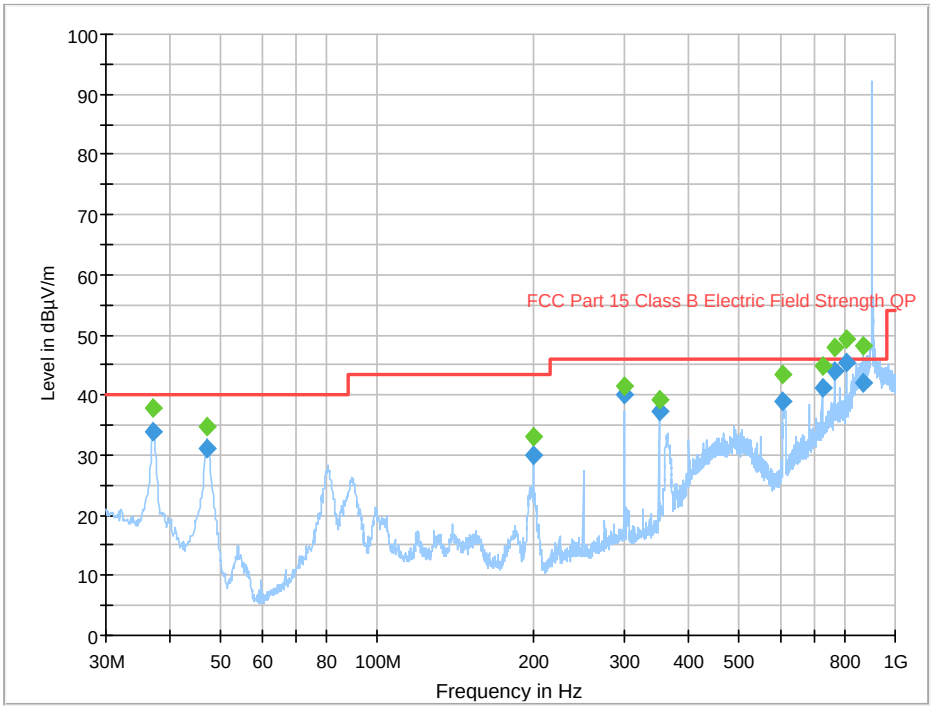
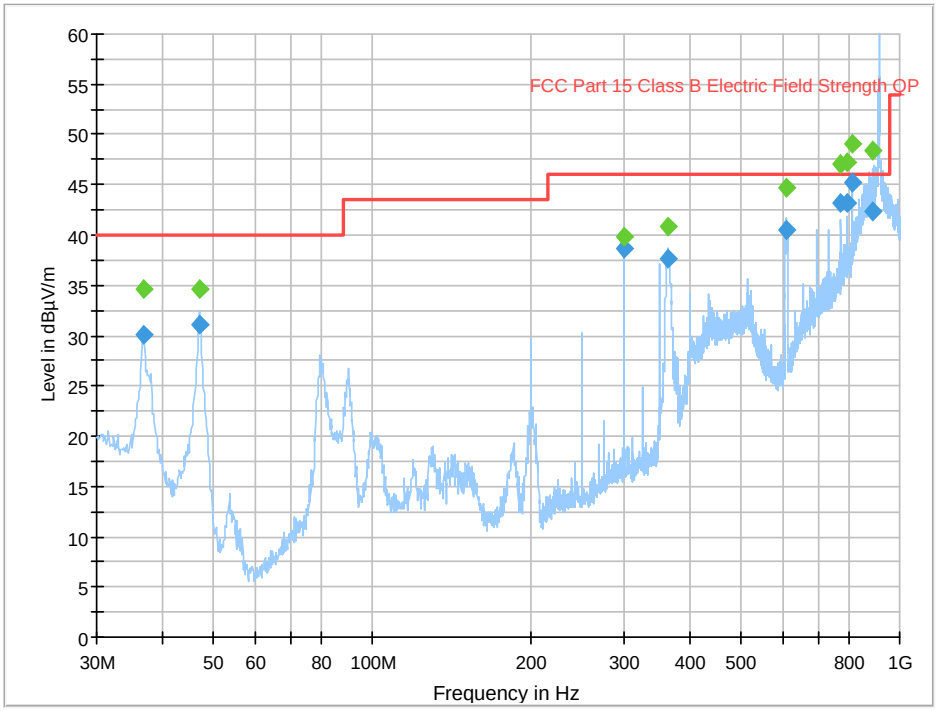
5.3 Test data

Overview sweeps performed with peak detector. Low channel (902.5 MHz).
Carrier is attenuated by tuneable band-reject filter 3TNF-800/1000-0.2-N/N.



Overview sweeps performed with peak detector. Middle channel (915.0 MHz).
Carrier is attenuated by tuneable band-reject filter 3TNF-800/1000-0.2-N/N.



Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30
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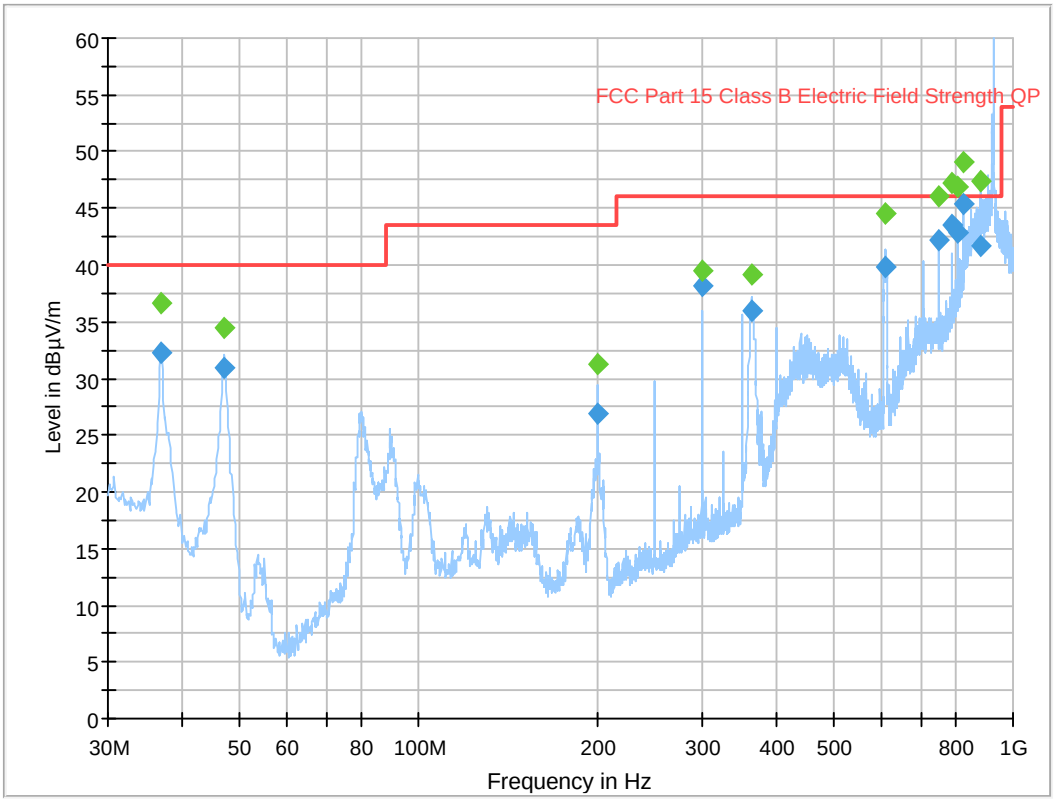
Overview sweeps performed with peak detector. Middle channel (927.5 MHz).
Carrier is attenuated by tuneable band-reject filter 3TNF-800/1000-0.2-N/N.



Summary, low channel

No significant emissions found in restricted bands.

Emissions outside restricted bands.

Frequency MHz	Disturbance Level dBµV/m	RBW kHz	Detector QP / AVG / Peak	Limit dBµV/m	Pol.	Azimuth deg	Antenna height cm	Margin dB
37.01	49.3	120	Peak	113.0	V	103	278	63.7
47.05	44.2	120	Peak	113.0	V	127	39	68.8
199.98	34.5	120	Peak	113.0	V	108	76	78.5
300.00	41.8	120	Peak	113.0	V	103	172	71.1
350.00	39.7	120	Peak	113.0	H	121	108	73.3
606.87	43.7	120	Peak	113.0	H	139	236	69.3
722.50	45.3	120	Peak	113.0	H	153	9	67.7
762.51	48.4	120	Peak	113.0	H	141	15	64.6
802.48	49.8	120	Peak	113.0	H	129	10	63.2
866.47	48.5	120	Peak	113.0	V	100	0	64.5
902.50*	133.0	120	Peak	-	V	0	100	-

*Carrier

Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30
www.intertek.se
Registered in Sweden: No: SE556024059901, Registered office: As address

Summary, middle channel

No significant emissions found in restricted bands.

Emissions outside restricted bands.

Frequency MHz	Disturbance Level dBµV/m	RBW kHz	Detector QP / AVG / Peak	Limit dBµV/m	Pol.	Azimuth deg	Antenna height cm	Margin dB
36.97	46.1	120	Peak	112.8	V	28	102	66.7
47.09	44.2	120	Peak	112.8	V	26	128	68.6
300.00	40.4	120	Peak	112.8	V	273	107	72.4
363.91	41.3	120	Peak	112.8	H	227	121	71.5
609.86	45.1	120	Peak	112.8	H	13	100	67.7
774.99	47.5	120	Peak	112.8	H	6	137	65.3
794.99	47.9	120	Peak	112.8	H	2	137	64.9
814.99	49.5	120	Peak	112.8	V	4	100	63.3
886.75	49.0	120	Peak	112.8	V	1	147	63.8
915.00*	132.8	120	Peak	-	V	0	100	-

*Carrier

Summary, high channel

No significant emissions found in restricted bands.

Emissions outside restricted bands.

Frequency MHz	Disturbance Level dBµV/m	RBW kHz	Detector QP / AVG / Peak	Limit dBµV/m	Pol.	Azimuth deg	Antenna height cm	Margin dB
37.01	48.0	120	Peak	113.0	V	240	102	65.0
47.05	43.9	120	Peak	113.0	V	28	118	69.1
200.00	32.6	120	Peak	113.0	H	189	100	80.4
300.00	39.9	120	Peak	113.0	V	280	100	73.1
363.89	39.7	120	Peak	113.0	H	229	127	73.3
610.04	45.1	120	Peak	113.0	H	29	102	67.9
747.49	46.7	120	Peak	113.0	H	23	147	66.3
787.50	47.8	120	Peak	113.0	H	17	138	65.2
807.49	47.4	120	Peak	113.0	V	4	108	65.6
827.49	49.6	120	Peak	113.0	V	12	161	63.4
882.98	47.5	120	Peak	113.0	V	0	143	65.5
927.50*	133.0	120	Peak	-	V	0	100	-

*Carrier

Measured level [dBµV/m] = Analyser reading [dBµV] + cable loss [dB] – preamplifier gain [dB] + antenna factor [dB/m]

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5.4 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
3m semianechoic chamber “Björkhallen”	Siepel	Hermes 3	30900	--
Measurement software	Rohde & Schwarz	EMC 32	--	--
EMI receiver	Rohde & Schwarz	ESI26	32291	07-2014
Ultra-Log antenna	Rohde & Schwarz	HL562	30711	12-2014
Switching & Control unit	Rohde & Schwarz	OSP130	32300	07-2014
Shielded filter unit	Rohde & Schwarz	OSP-F	32301	07-2014
Turntable & antenna controller	Maturo	NCD	32390	--
Tilting antenna mast	Maturo	TAM 4.0-E	32376	--
Band reject filter	K&L Microwave Inc	3TNF-800/1000-0.2-N/N	7990	--
RF-cables			39055, 5182	--

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6 RADIATED EMISSIONS MEASUREMENTS ABOVE 1 GHZ

Date of test:	2013-12-17	Test location:	Björkhallen
EUT Serial:	R&D Proto 1	Ambient temp.	22 °C
Tested by:	Kajsa From	Relative humidity	31 %
Test result:	Pass	Margin:	11.2 dB

6.1 Requirement

Transmitter harmonics in the restricted bands:

Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
30 – 88	40.0	3
88 – 216	43.5	3
216 – 960	46.0	3
960 –	54.0 AVG, 74.0 Peak	3

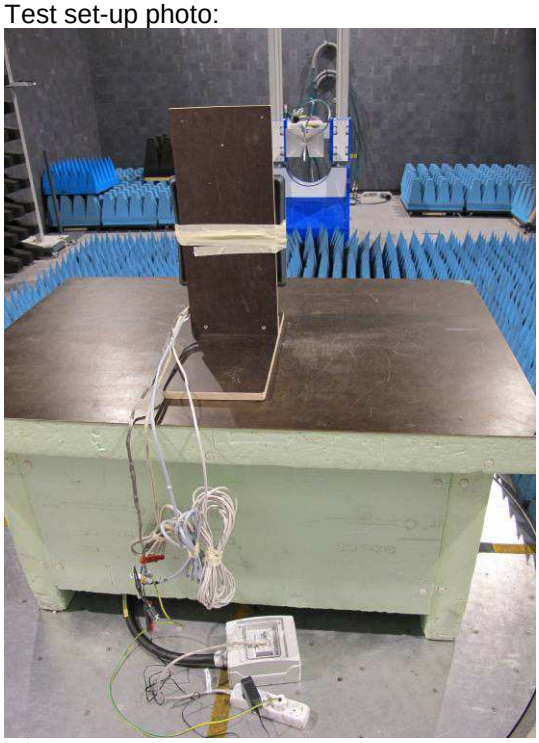
Reference: FCC §15.209, IC RSS-GEN Table 5

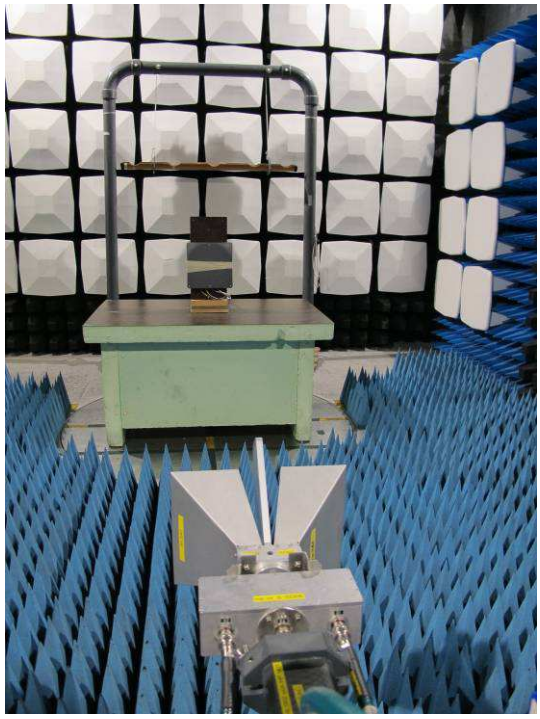
Transmitter harmonics outside the restricted bands:
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.
Reference: FCC §15.247 (d), IC RSS-210 A8.5

6.2 Test setup details

Operation mode: continuous transmission, modulating.

Test set-up photo:





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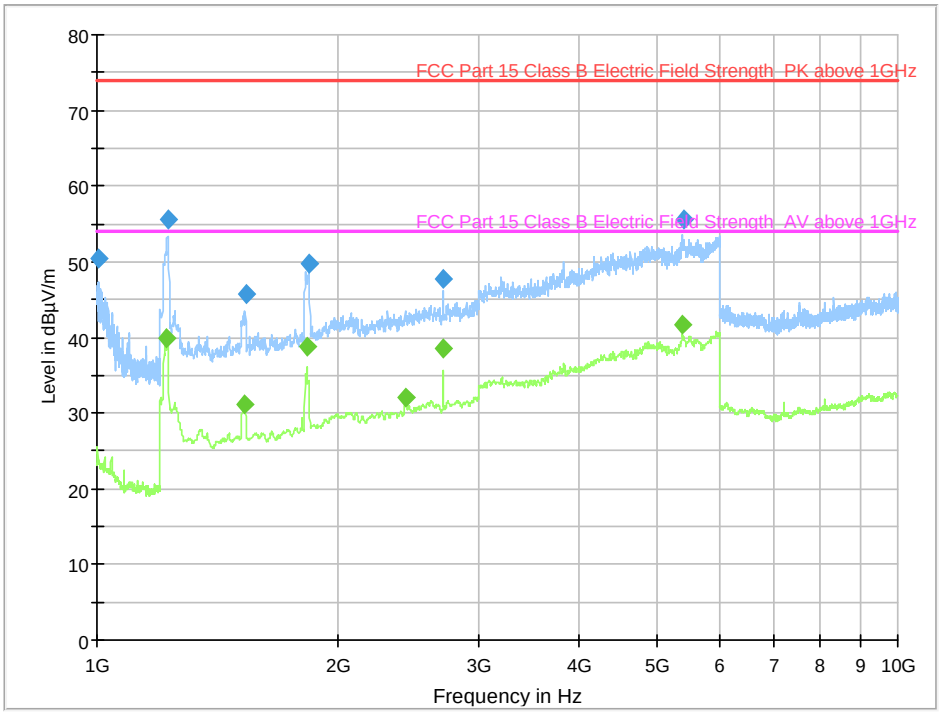
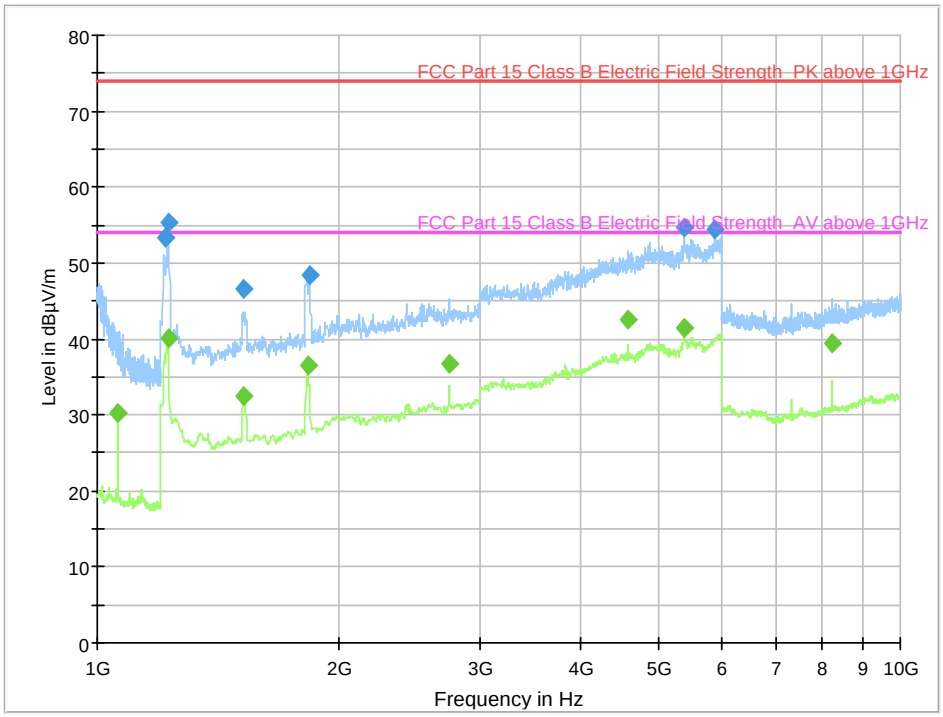
6.3 Test data

Overview sweeps performed with peak and average detectors. Low channel (902.5 MHz).



Overview sweeps performed with peak and average detectors. Middle channel (915 MHz).



Intertek Semko AB
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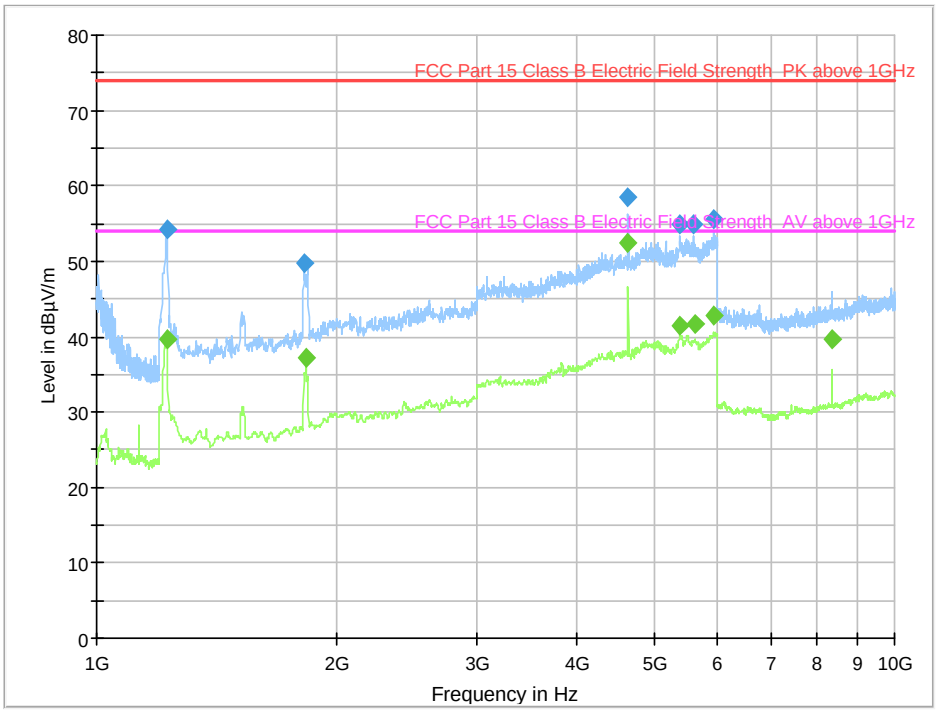
Overview sweeps performed with peak and average detectors. High channel (927.5 MHz).



Summary, low channel

Frequency MHz	Disturbance Level dBµV/m	RBW kHz	Detector QP / AVG / Peak	Limit dBµV/m	Pol.	Azimuth deg	Antenna height cm	Margin dB
1219.64	39.8	1000	AVG	54.0	H	0	203	14.2
1525.05	31.1	1000	AVG	54.0	V	204	203	22.9
1828.86	38.8	1000	AVG	54.0	V	279	169	15.2
2427.45	32.0	1000	AVG	54.0	H	174	118	22.0
2707.41	38.6	1000	AVG	54.0	V	0	125	15.4
5387.78	41.6	1000	AVG	54.0	H	224	220	12.4
1005.80	50.4	1000	Peak	74.0	V	5	201	23.6
1226.85	55.6	1000	Peak	74.0	V	4	134	18.4
1534.26	45.6	1000	Peak	74.0	V	182	182	28.4
1839.28	49.6	1000	Peak	74.0	V	298	199	24.4
2707.41	47.7	1000	Peak	74.0	V	3	128	26.3
5396.38	55.5	1000	Peak	74.0	H	19	151	18.5

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Summary, middle channel

Frequency MHz	Disturbance Level dBµV/m	RBW kHz	Detector QP / AVG / Peak	Limit dBµV/m	Pol.	Azimuth deg	Antenna height cm	Margin dB
1061.72	30.2	1000	AVG	54.0	H	45	157	23.8
1225.25	40.1	1000	AVG	54.0	V	9	127	13.9
1524.65	32.4	1000	AVG	54.0	V	179	123	21.6
1829.66	36.5	1000	AVG	54.0	V	179	123	17.5
2745.09	36.8	1000	AVG	54.0	H	3	109	17.2
4574.95	42.7	1000	AVG	54.0	H	47	209	11.3
5387.97	41.5	1000	AVG	54.0	V	288	149	12.5
5881.35	42.0	1000	AVG	54.0	V	25	164	12.0
8235.07	39.4	1000	AVG	54.0	V	14	221	14.6
1214.62	53.4	1000	Peak	74.0	V	0	182	20.6
1226.85	55.3	1000	Peak	74.0	V	8	123	18.7
1520.84	46.5	1000	Peak	74.0	V	225	102	27.5
1837.48	48.4	1000	Peak	74.0	V	184	238	25.6
5382.57	54.6	1000	Peak	74.0	V	28	154	19.4
5881.35	54.5	1000	Peak	74.0	V	25	164	19.5

Summary, high channel

Frequency MHz	Disturbance Level dBµV/m	RBW kHz	Detector QP / AVG / Peak	Limit dBµV/m	Pol.	Azimuth deg	Antenna height cm	Margin dB
1225.25	39.6	1000	AVG	54.0	V	3	128	14.4
1829.06	37.2	1000	AVG	54.0	V	272	176	16.8
4637.47	52.4	1000	AVG	54.0	H	47	163	1.6
5386.57	41.5	1000	AVG	54.0	V	270	116	12.5
5613.83	41.7	1000	AVG	54.0	H	41	122	12.3
5933.47	42.8	1000	AVG	54.0	H	206	185	11.2
8347.49	39.6	1000	AVG	54.0	V	0	140	14.4
1226.25	54.3	1000	Peak	74.0	V	5	124	19.7
1823.05	49.7	1000	Peak	74.0	V	272	200	24.3
4637.47	58.6	1000	Peak	74.0	H	47	168	15.4
5392.99	54.8	1000	Peak	74.0	V	166	249	19.2
5601.20	54.8	1000	Peak	74.0	V	144	227	19.2
5920.05	55.6	1000	Peak	74.0	V	164	226	18.4

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Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30
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6.4 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
3m semianechoic chamber “Björkhallen”	Siepel	Hermes 3	30900	--
Measurement software	Rohde & Schwarz	EMC 32	--	--
EMI receiver	Rohde & Schwarz	ESI	32291	7-2014
Horn antenna	Rohde & Schwarz	HF907	32307	6-2015
Pre-amplifier	Rohde & Schwarz	TS-PRE1	32306	7-2014
Scwitching & control unit	Rohde & Schwarz	OSP130	32300	7-2014
Shielded filter unit	Rohde & Schwarz	OSP-F	32301	7-2014
Turntable & antenna controller	Maturo	NCD	32390	-
Tilting antenna mast	Maturo	TAM 4.0-E	32376	-

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7 20 DB BANDWIDTH

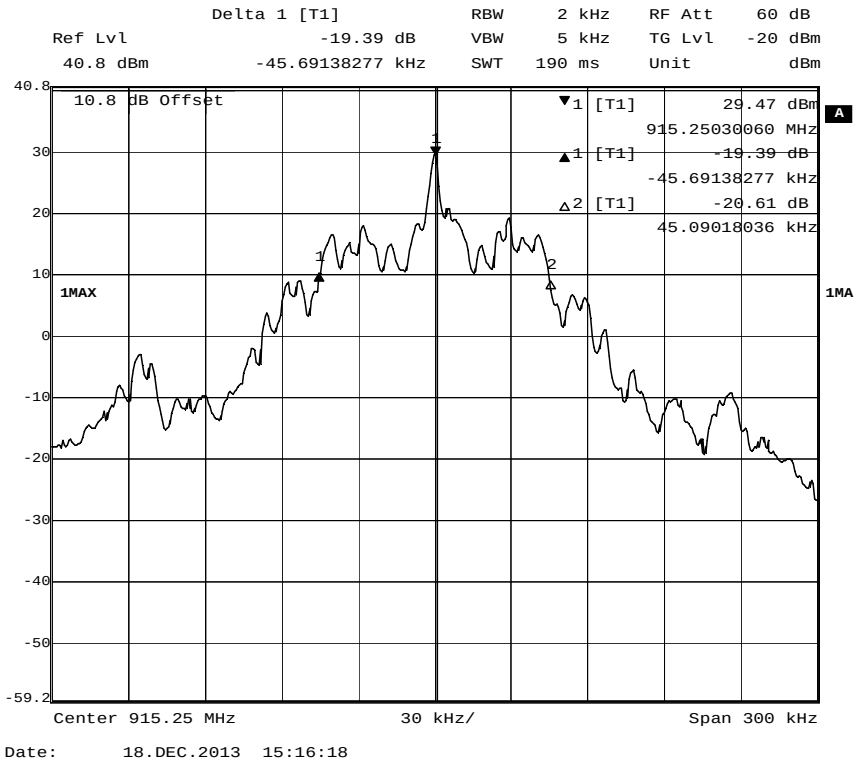
Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	-

7.1 Requirement

For frequency hopping systems in the band 902-928 MHz: if the -20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20-second period. If the -20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 10-second period. The maximum allowed -20 dB bandwidth of the hopping channel is 500 kHz.
Reference: FCC §15.247(a)(1)(i), RSS-210 A8.1
Method: ANSI C63.10-2009: section 6.9.1

7.2 Test data

Channel 26.
20 dB BW = 90.8 kHz



7.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

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8 OCCUPIED 99% BANDWIDTH TEST

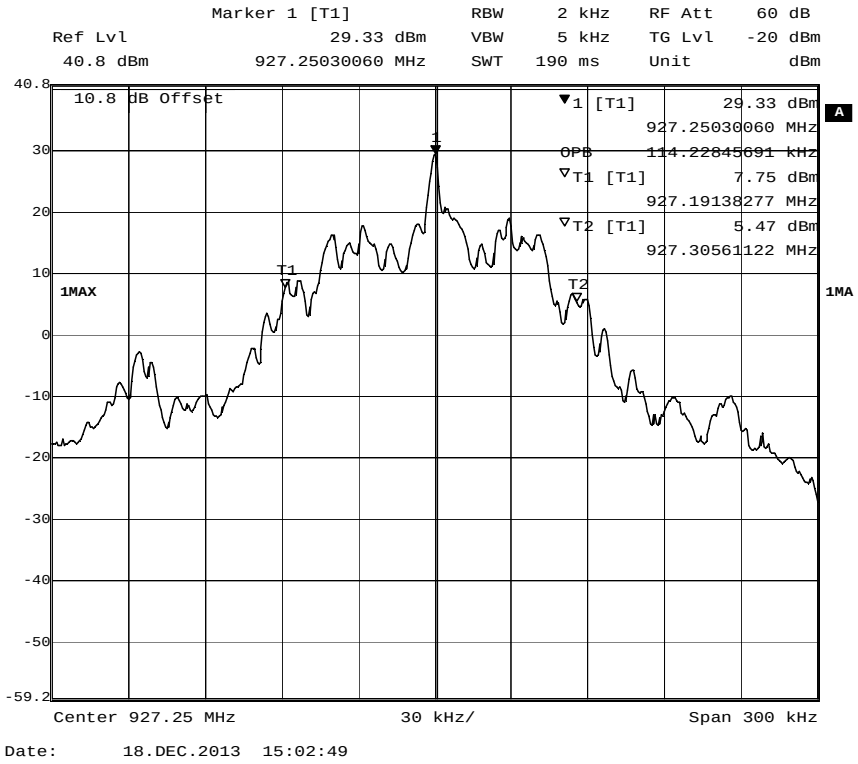
Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	-

8.1 Requirement

Reference: RSS GEN 4.6.1
Method: Signal analyser's power bandwidth function was used to calculate 99% bandwidth

8.2 Test data

Channel 50.
99% BW = 90.8 kHz



8.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

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9 CONDUCTED OUTPUT POWER

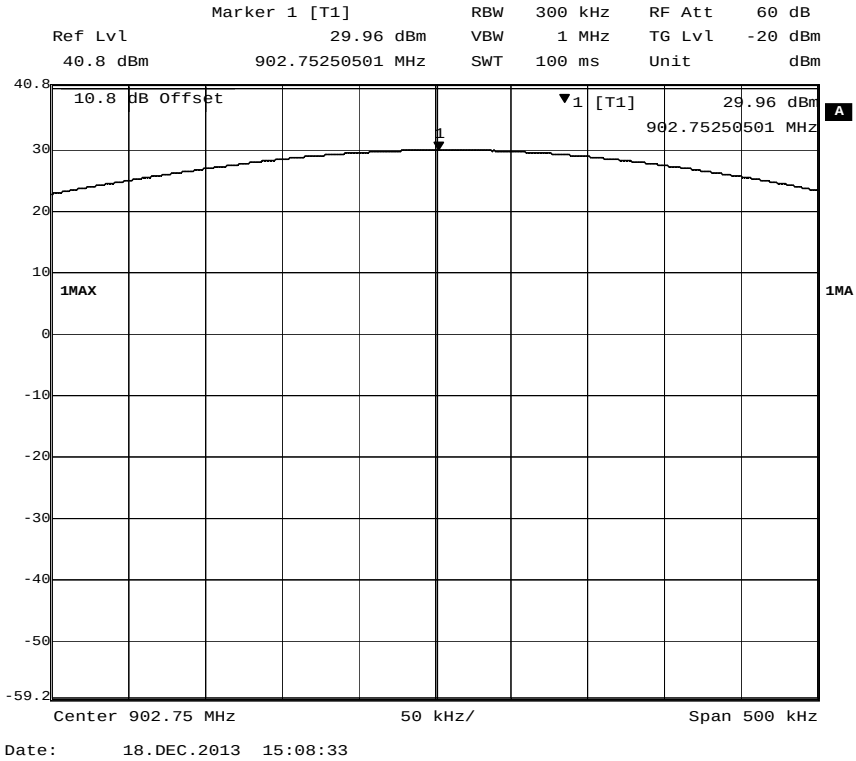
Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	9.2 mW

9.1 Requirement

The maximum peak conducted output power of the intentional radiator shall not exceed 1 watt.
Reference: FCC §15.247(b)(3) RSS-210 A8.4
Method: ANSI C63.10-2009: sections 6.10.2.1

9.2 Test data

Channel 1



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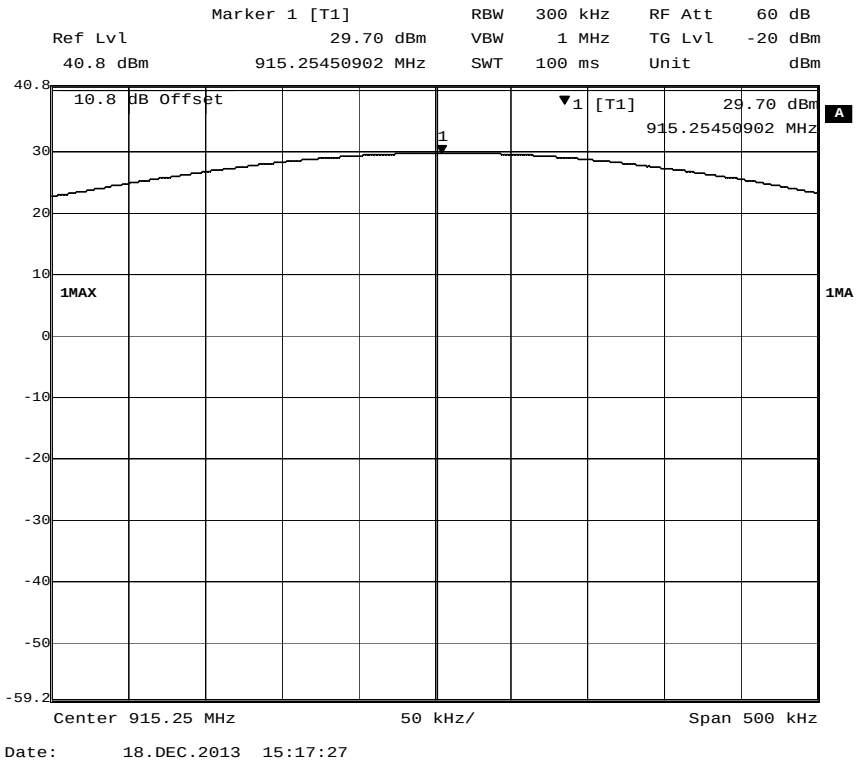
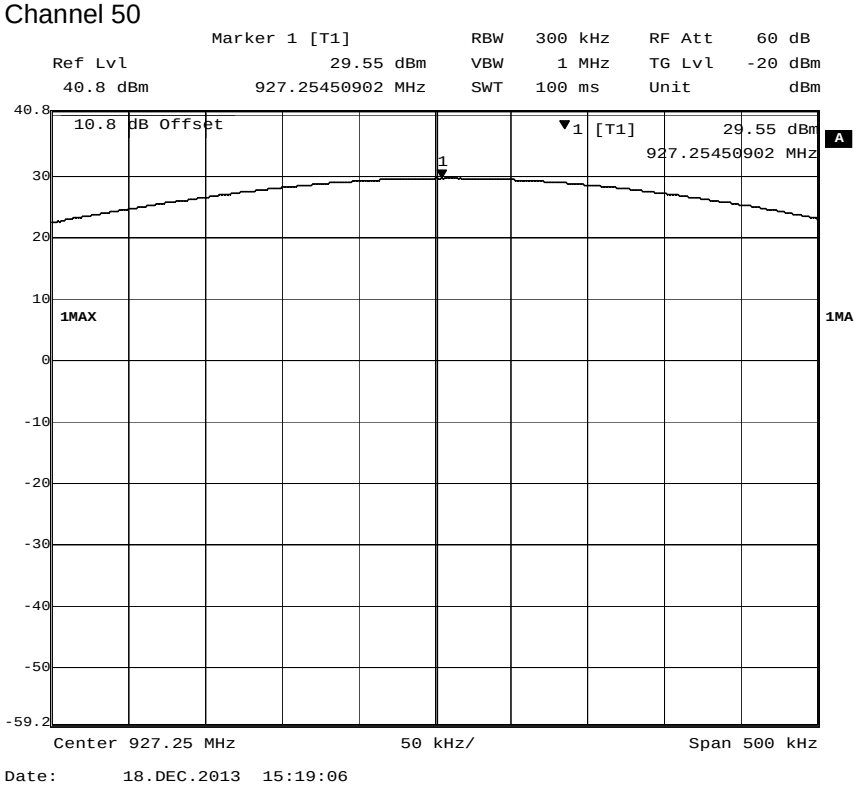
Channel 26



Channel 50



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Channel	Result	Limit	Margin
1	29.96 dBm = 990.8 mW	30 dBm = 1 W	9.2 mW
26	29.70 dBm = 933.3 mW	30 dBm = 1 W	66.7 mW
50	29.55 dBm = 901.6 mW	30 dBm = 1 W	98.4 mW

Antenna gain is max 6.0 dBi.

9.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

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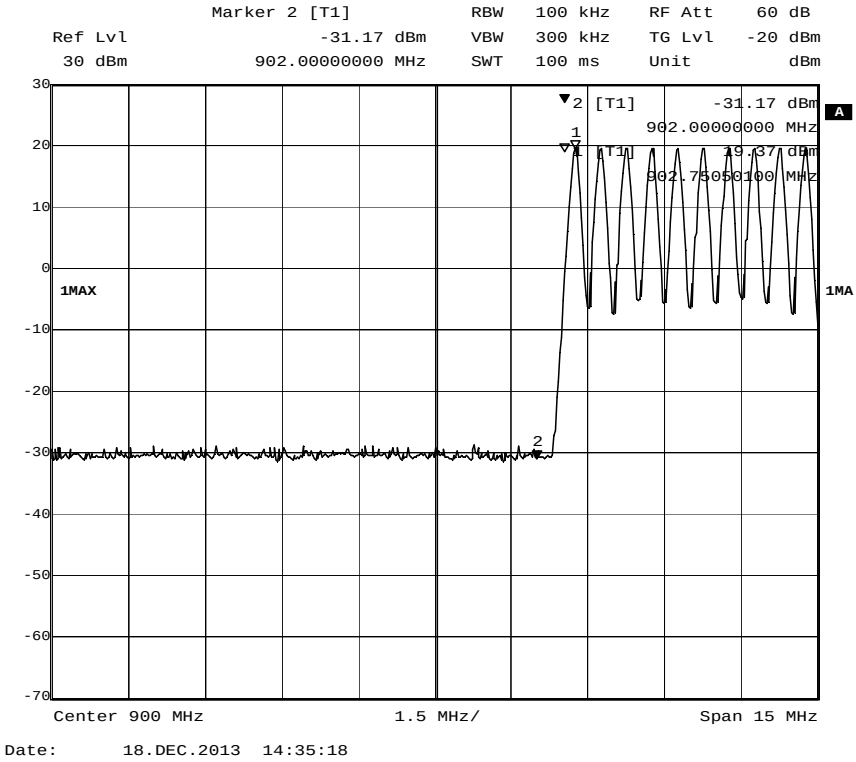
10 BANDEDGE MEASUREMENT

Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	19.58 dB

10.1 Requirement

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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
Reference: FCC §15.247(d), RSS-210 A8.5
Method: ANSI C63.10-2009: section 6.9.2

10.2 Test data



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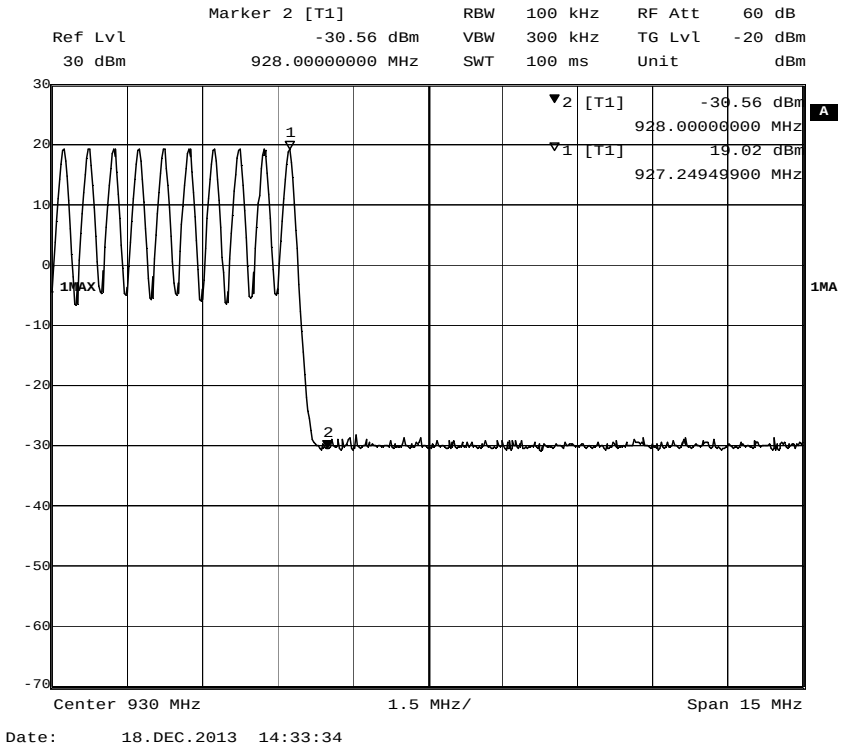

Result		Limit	Margin
Lower edge	50.54 dB	20 dB	30.54 dB
Upper edge	49.58 dB	20 dB	19.58 dB

10.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

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Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
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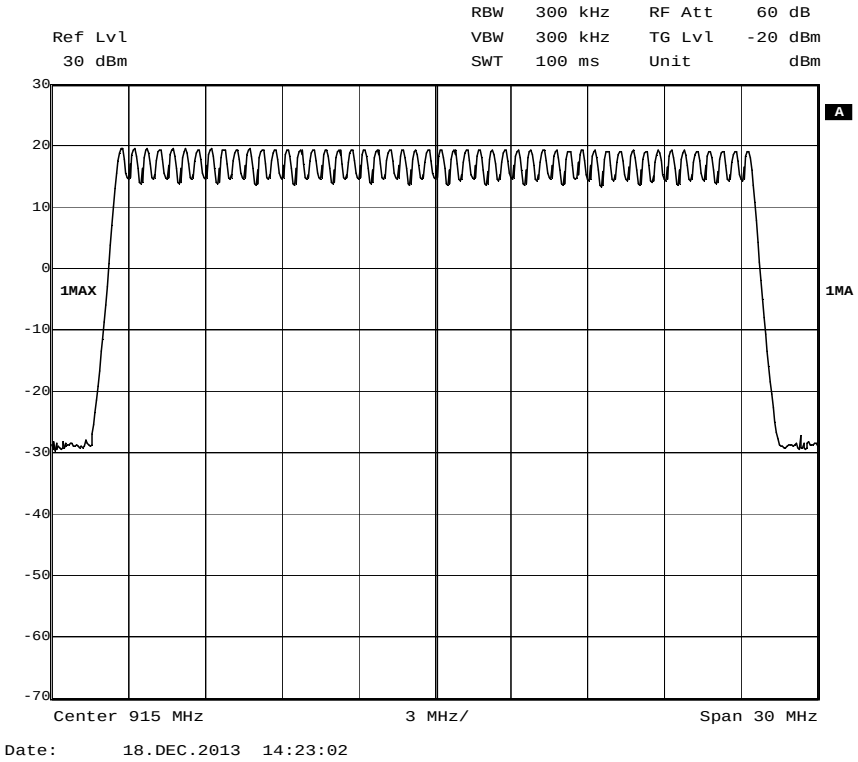
11 NUMBER OF HOPPING FREQUENCIES

Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	0

11.1 Requirement

For frequency hopping systems in the band 902-928 MHz: if the -20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20-second period.
Reference: FCC §15.247(a)(1)(i), RSS-210 A8.1
Method: ANSI C63.10-2009: section 7.7.3

11.2 Test data



Number of hopping frequencies

Result	Limit	Margin
50	≥50	0

11.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30
www.intertek.se
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12 TIME OF OCCUPANCY

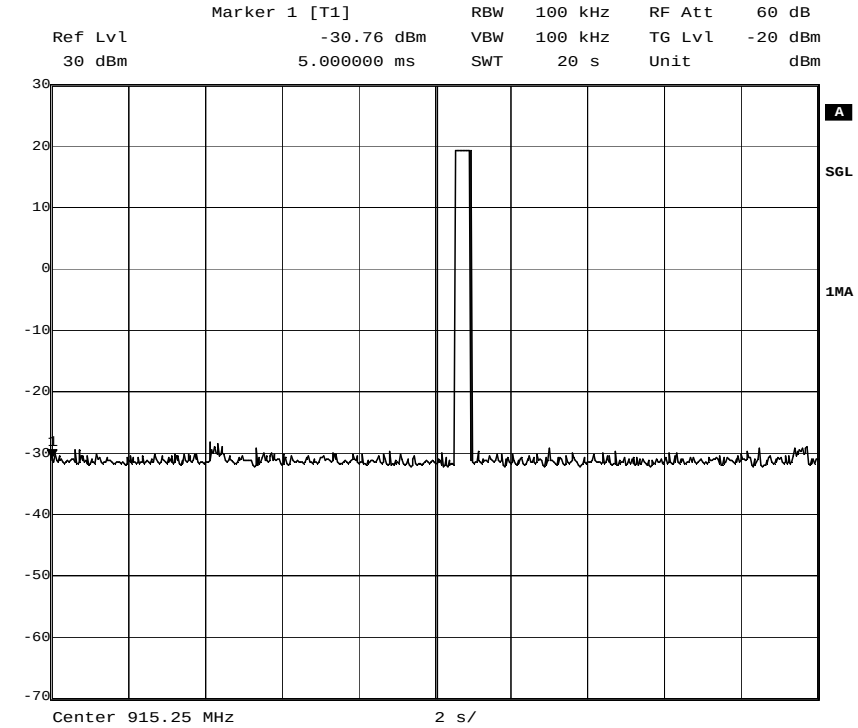
Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	6 ms

12.1 Requirement

For frequency hopping systems in the band 902-928 MHz: if the -20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20-second period.
Reference: FCC §15.247(a)(1)(i), RSS-210 A8.1
Method: ANSI C63.10-2009: section 7.7.4

12.2 Test data

Number of transmissions over 20 s. Measured on channel 26.



Date: 18.DEC.2013 14:04:33

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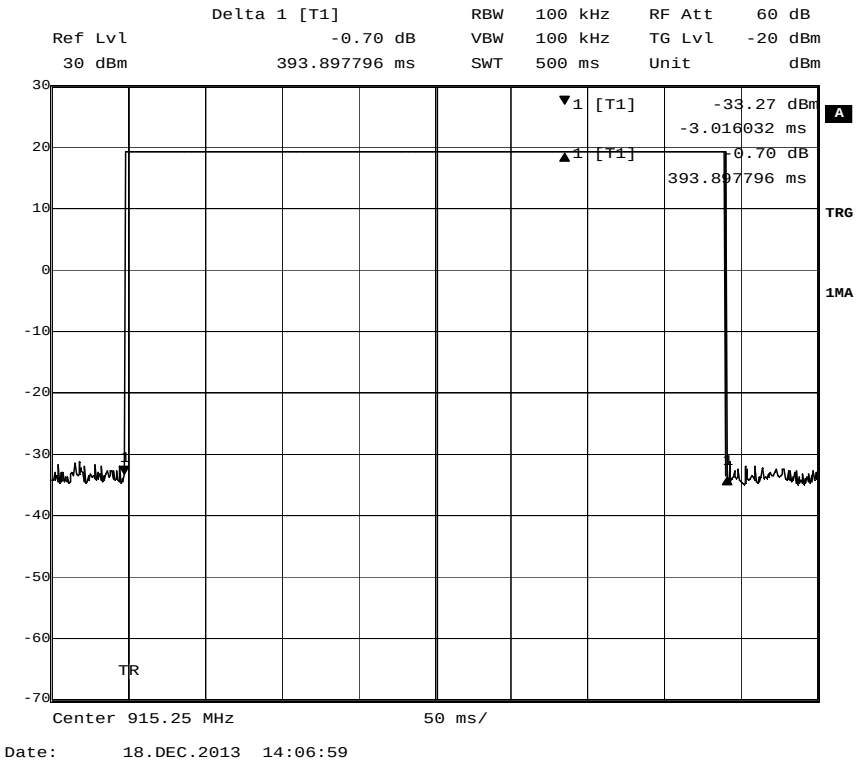
Time of 1 transmissions. Measured on channel 26.



One transmission occurs in 20 seconds. Each transmission is 394 ms.

Result	Limit	Margin
394 ms	400 ms	6 ms

12.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

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Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
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13 CARRIER FREQUENCY SEPARATION

Date of test:	2013-12-18	Test location:	Radio lab
EUT Serial:	R&D Proto 1	Ambient temp.	23 °C
Tested by:	Kajsa From	Relative humidity	25 %
Test result:	Pass	Margin:	410.2 kHz

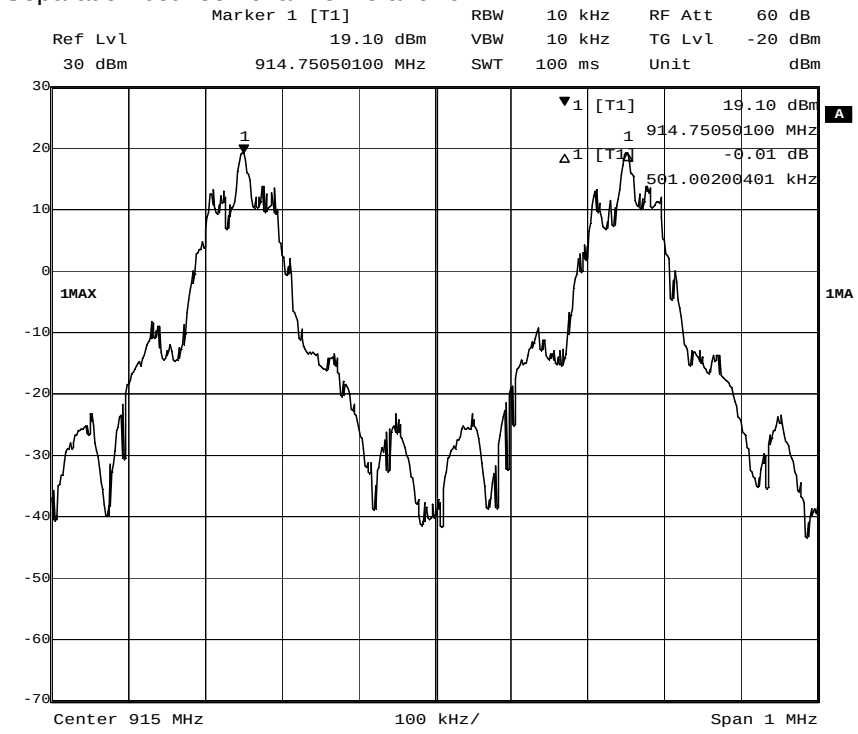
13.1 Requirement

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the -20 dB bandwidth of the hopping channel, whichever is greater.
Reference: FCC §15.247(a)(1), RSS-210 A8.1
Method: ANSI C63.10-2009: section 7.7.2

-20 dB bandwidth is 90.8 kHz.

13.2 Test data

Separation between channel 25 and26.



Result	Limit	Margin
501.0 kHz	90.8 kHz	410.2 kHz

13.3 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Cal. due date
Spectrum analyzer	Rohde & Schwarz	FSIQ40	12793	07-2014

Intertek Semko AB
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Telephone +46 8 750 00 00, Fax +46 8 750 60 30
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14 UNCERTAINTIES SUMMARY

The measurement uncertainty describes the overall uncertainty of the given measured value during operation of the EUT.
Measurement uncertainty is calculated in accordance with EA-4/02-1997.
The measurement uncertainty is given with a confidence of 95% (k=2).

Radiated disturbance, field strength, 30 MHz - 1000 MHz

30 to 300 MHz at 3 m	± 4,7 dB
200 to 1000 MHz at 3 m	± 4,8 dB

Radiated disturbance, field strength, 1 to 40 GHz in Semi Anechoic Chambers "Stora Hallen"and "Björkhallen"

1 to 18 GHz with filter or attenuator	± 5,4 dB
1 to 18 GHz without filter or attenuator	± 5,2 dB

Frequency range

R&S FSIQ	± 0,2 %

Output power

Digital signals, conducted	± 0,6 dB

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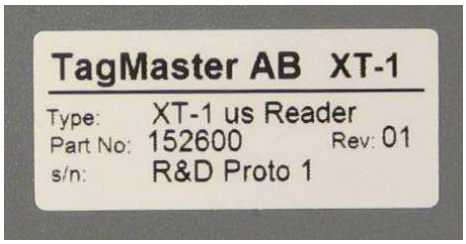
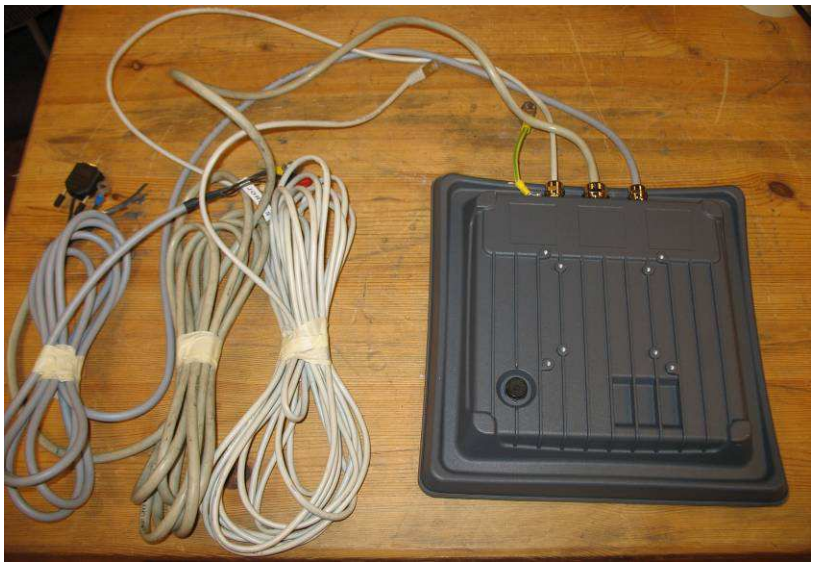
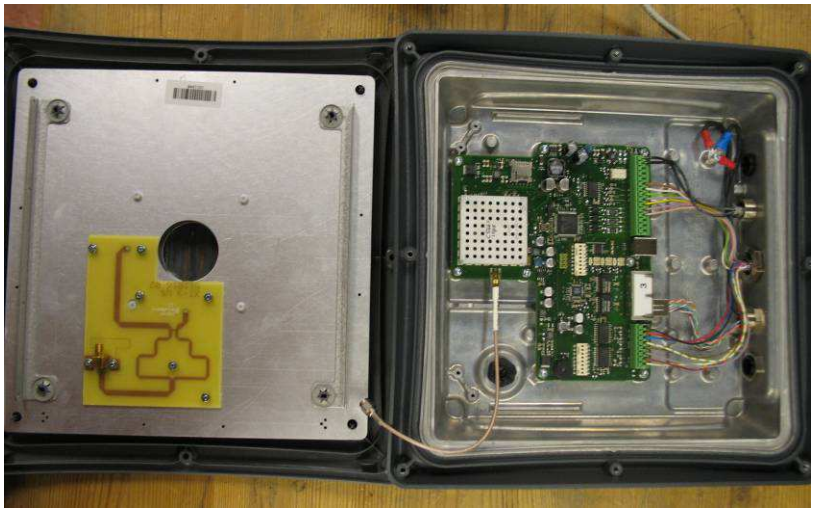
15 PHOTO OF THE EUT







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