ONE WORLD ○ OUR APPROVAL

Test report

257332TRFICFCC

Date of issue: May 2, 2014

Applicant:
Inpeco Spa a Socio Unico
Via Giuseppe di Vittorio,11 - 20090 Segrate (Milano) -Italy

Product: Radio Frequency Identification Device for Sample carriers

\

Model:	Model variant:
CANLAN ANTENNA	NONE
FCC ID: Y2K-CANLANSI001	IC Registration number: 11394A-CANLANSI001

Specifications:

- FCC 47 CFR Part 15 Subpart C
  Intentional radiators
- RSS-210, Issue 8, December 2010, Section 2.5
  General field strength limits

Test location

Company name:	Nemko SpA
Address:	Via del Carroccio 4
City:	Biassono
Province:	MB
Postal code:	20853
Country:	Italy
Telephone:	+39 039 2201201
Facsimile:	+39 039 2201221
Toll free:	
Website:	www.nemko.com
Site number:	FCC: 481407 IC: 9109A-1

Tested by:	Daniele Guarnone EMC/Wireless Specialist
Reviewed by:	Paolo Barbieri EMC/Wireless Specialist
Date:	May 2, 2014
Signature:	

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.
This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko S.p.A ISO/IEC 17025 accreditation.

Copyright notification

Table of contents

Section 1. Report summary

1.1 Applicant and manufacturer

Company name:	Inpeco Spa
Address:	Via Giuseppe Di Vittorio 11
City:	Segrate
Province/State:	Milano
Postal/Zip code:	20090
Country:	Italy

1.2 Test specifications

FCC 47 CFR Part 15, Subpart C	Intentional radiators
RSS-210, Issue 8, Section 2.5	General field strength limits

1.3 Test methods

ANSI C64.3 v 2003	American National Standard for Methods of Measurement of Radio- Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

1.4 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See “Summary of test results” for full details.

1.5 Exclusions

None

1.6 Test report revision history

Revision #	Details of changes made to test report
TRF	Original report issued

Section 2. Summary of test results

2.1 FCC Part 15 Subpart C, general requirements test results

Part	Test description	Verdict
§15.207(a)	Conducted limits	Pass
§15.31(e)	Variation of power source	Pass[1]
§15.203	Antenna requirement	Pass[2]
§15.209	Radiated emission limits; general requirements.	Pass

Notes: [1] Measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, was performed with the supply voltage varied between 85 % and 115 % of the nominal rated supply voltage. No noticeable output power variation was observed

[2] The Antennas are located within the enclosure of EUT and not user accessible.

2.2 IC RSS-GEN, Issue 3, test results

Part	Test description	Verdict
4.6.1	Occupied bandwidth	Pass
4.7	Transmitter frequency stability	Pass
6.1	Receiver spurious emissions limits (radiated)	Not applicable
6.2	Receiver spurious emissions limits (antenna conducted)	Not applicable
7.2.4	AC power lines conducted emission limits	Pass

Notes: [1] According to Notice 2012-DRS0126 (from January 2012) section 2.2 of RSS-Gen, Issue 3 has been revised. The EUT does not have a stand-alone receiver neither scanner receiver, therefore exempt from receiver requirements.

2.3 IC RSS-210, Issue 8, test results

Part	Test description	Verdict
2.5	General field strength limits	
2.5.1	Transmitters with Wanted Emissions that are Within the General Field Strength Limits	Pass

Notes: None

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	April 10, 2014
Nemko sample ID number	257332

3.2 EUT information

Product name	Radio Frequency Identification Device for Sample carriers
Model	CANLAN ANTENNA
Model variant	None
Serial number	None

3.3 Technical information

Operating band	0.009-0.490 MHz
Operating frequency	125 kHz
Modulation type	ASK
Occupied bandwidth (99 %)	22 Hz
Emission designator	22HM1D
Power requirements	230Vac
Antenna information	The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator.

3.4 Product description and theory of operation

System composed by:
Sirius DDT, Tag Board
Sirius MOL, base station RFID for sample carrier (on board Hitag reader chip HTRC 110)
Sirius MOH, digital servo drivers
Sirius ACH, digital analog I/O peripheral

3.5 EUT exercise details

Reading tags, visualizing position of tags by means led.

3.6 EUT setup diagram

System composed by: Sirius DDT, Tag Board - Sirius MOL, base station RFID for sample carrier (on board Hitag reader chip HTRC 110) - Sirius MOH, digital servo drivers - Sirius ACH, digital analog I/O peripheral

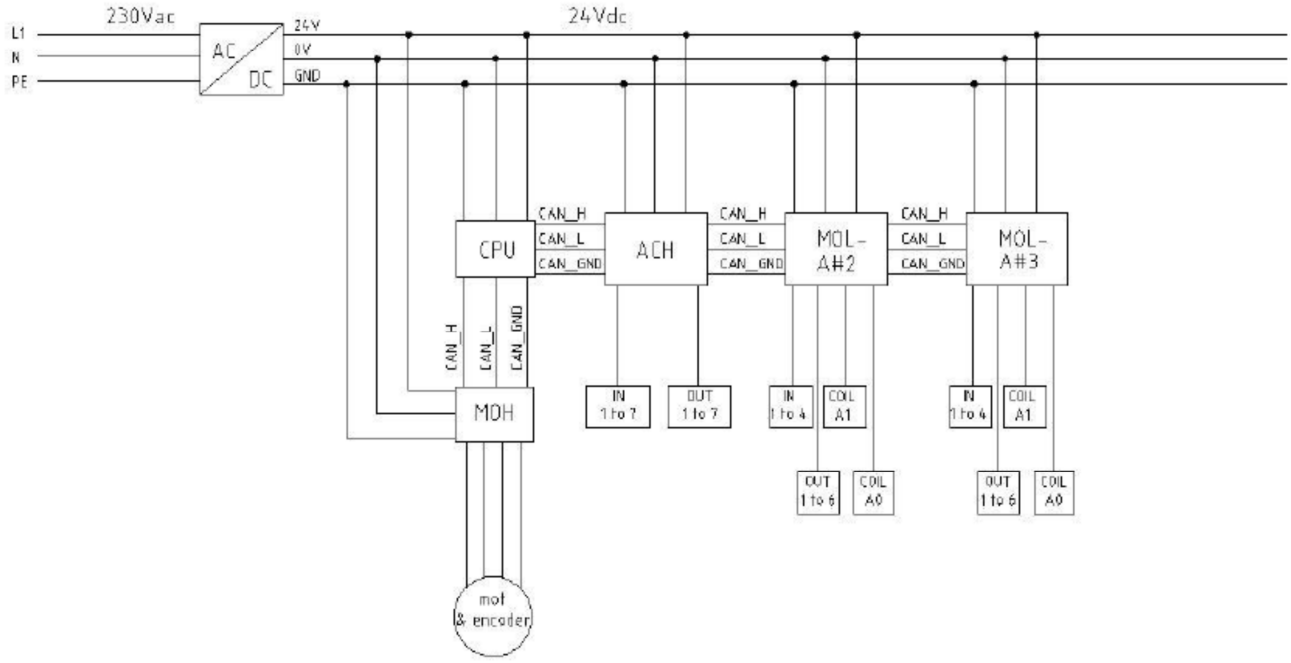


Figure 3.6-1: Setup diagram

3.7 EUT sub assemblies

Table 3.7-1: EUT sub assemblies

Description	Brand name	Model/Part number	Serial number

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5. Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	860–1060 mbar

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

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 according to CISPR 16-4-2 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements" and is documented in the Nemko Spa Technical Procedure WML1002. 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. Hereafter the best measurement capability for Nemko Spa laboratory is reported:

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: Equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
EMI Receiver	Rohde & Schwarz	ESU8	100202	02/2014	02/2015
Semi-anechoic chamber	Nemko S.p.a.	10m Semi-anechoic chamber	503	10/2012	08/2014
Shielded room	Siemens	10m control room	1947	NCR	Shielded room
Spectrum analyzer	Rohde & Schwarz	FSEK	848 255/005	08/2013	08/2014
V Network	Rohde & Schwarz	ESH2-Z5	872 460/041	9/2013	9/2014
Antenna Loop	Eaton	94605-1	0267	8/2013	8/2015
EMI Receiver	Rohde & Schwarz	ESCI	100888	8/2013	8/2014
Loop antenna	R&S	HFH2-Z2	831247/011	02/2014	02/2017
Antenna trilog 25MHz-8GHz	Schwarzbeck	VULB 9162	9162-025	05/2012	05/2015

Note: NCR - no calibration required, VOU - verify on use

Section 8. Testing data

8.1 FCC 15.207(a) and RSS-Gen 7.2.4 AC power line conducted emissions limits

8.1.1 Definitions and limits

FCC:
Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

IC:
The purpose of this test is to measure unwanted radio frequency currents induced in any AC conductor external to the equipment which could conduct interference to other equipment via the AC electrical network.

Except when the requirements applicable to a given device state otherwise, for any licence-exempt radiocommunication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

The conducted emissions shall be measured with a 50 Ω/50 µH line impedance stabilization network (LISN).

Table 8.1-1: Conducted emissions limit

Frequency of emission, MHz	Conducted limit, dBµV	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

Note: * - Decreases with the logarithm of the frequency.

8.1.2 Test summary

Test date:	May 2, 2014	Temperature:	21 °C
Test engineer:	Daniele Guarnone	Air pressure:	1015 mbar
Verdict:	Pass	Relative humidity:	53 %

8.1.3 Observations, settings and special notes

The EUT was set up as tabletop configuration.

The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

A preview measurement was generated with the receiver in continuous scan mode. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

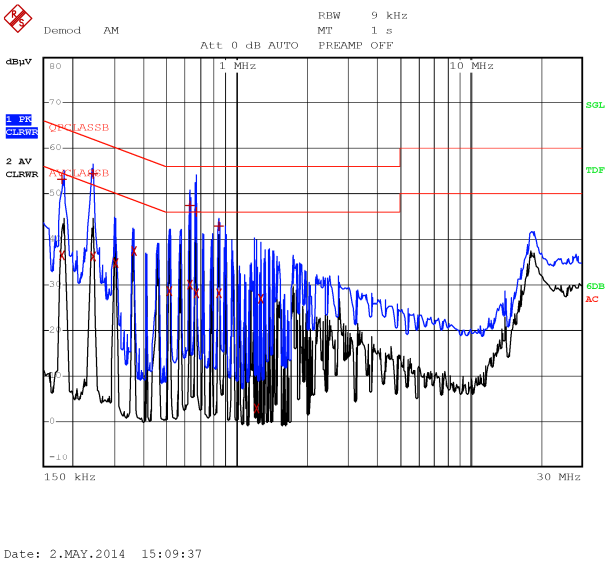
Receiver settings for preview measurements:

Resolution bandwidth:	9 kHz
Video bandwidth:	30 kHz
Detector mode:	Peak and Average
Trace mode:	Max Hold
Measurement time:	1000 ms

Receiver settings for final measurements:

Resolution bandwidth:	9 kHz
Video bandwidth:	30 kHz
Detector mode:	Quasi-Peak and Average
Trace mode:	Max Hold
Measurement time:	1000 ms

8.1.4 Test data



Plot 8.1-1: Conducted emissions on phase line

Table 8.1-2: Quasi-Peak conducted emissions results on phase line

Frequency, MHz	Q-Peak result, dBµV	Meas. Time, ms	Bandwidth, kHz	Filter	Correction, dB	Margin, dB	Limit, dBµV
0.1820	53.2	1000	9	--	10.1	-11.2	64.4
0.2420	54.5	1000	9	--	10.1	-7.6	62.0
0.2420	54.5	1000	9	--	10.1	-7.6	62.0
0.6300	47.5	1000	9	--	10.1	-8.5	56.0
0.6700	46.1	1000	9	--	10.1	-9.9	56.0
0.8380	42.7	1000	9	--	10.1	-13.3	56.0

Note: 43.5 dBµV = 23.2 dBµV (receiver reading) + 10.1 dB (LISN factor IL) + 0.2 dB (cable loss) + 10 dB (attenuator)

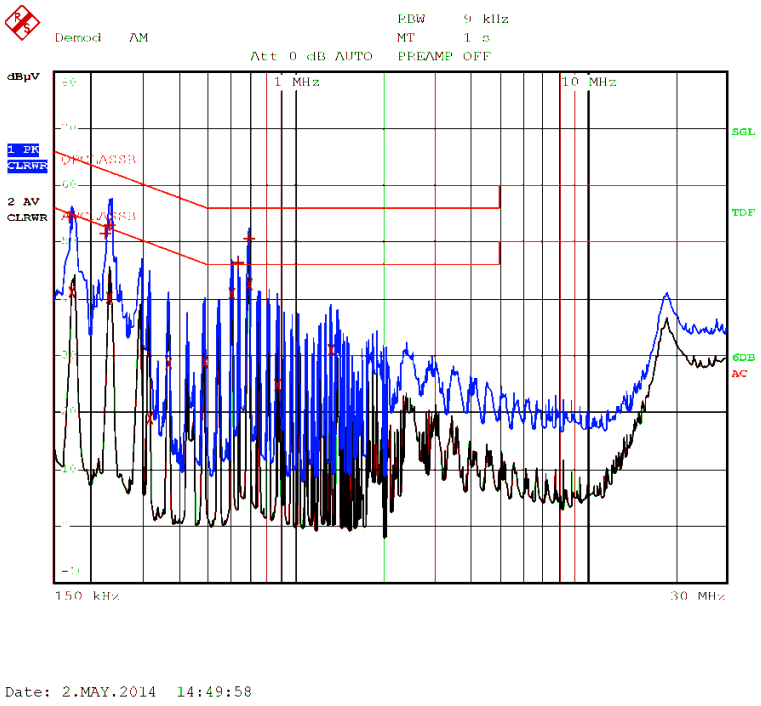
Table 8.1-3: Average conducted emissions results on phase line

Frequency, MHz	Average result, dBµV	Meas. Time, ms	Bandwidth, kHz	Filter	Correction, dB	Margin, dB	Limit, dBµV
0.1820	36.4	1000	9	--	10.1	-17.9	54.4
0.2420	36.1	1000	9	--	10.1	-15.9	52.0
0.3020	34.7	1000	9	--	10.1	-15.5	50.2
0.3620	37.3	1000	9	--	10.1	-11.4	48.7
0.5140	28.7	1000	9	--	10.1	-17.3	46.0
0.6300	29.9	1000	9	--	10.1	-16.1	46.0
0.6700	28.2	1000	9	--	10.1	-17.8	46.0
0.8420	28.1	1000	9	--	10.1	-17.9	46.0
1.2220	3.0	1000	9	--	10.1	-43.0	46.0
1.2700	27.1	1000	9	--	10.1	-18.9	46.0

Sample calculation:
Correction factor (dB) = LISN factor IL (dB) + cable loss (dB) + attenuator (dB)
Result (dBµV) = XX dBµV (reading from receiver) + XX dB (Correction factor)

Example:
43.5 dBµV = 23.2 dBµV (receiver reading) + 10.1 dB (LISN factor IL) + 0.2 dB (cable loss) + 10 dB (attenuator)

8.1.4 Test data, continued



Plot 8.1-2: Conducted emissions on neutral line

Table 8.1-4: Quasi-Peak conducted emissions results on neutral line

Frequency, MHz	Q-Peak result, dBµV	Meas. Time, ms	Bandwidth, kHz	Filter	Correction, dB	Margin, dB	Limit, dBµV
0.1700	54.5	1000	9	--	10.1	-10.5	65.0
0.2260	51.6	1000	9	--	10.1	-10.9	62.6
0.2340	52.9	1000	9	--	10.1	-9.4	62.3
0.6380	46.5	1000	9	--	10.1	-9.5	56.0
0.6900	50.7	1000	9	--	10.1	-5.3	56.0

Note: 43.5 dBµV = 23.2 dBµV (receiver reading) + 10.1 dB (LISN factor IL) + 0.2 dB (cable loss) + 10 dB (attenuator)

Table 8.1-5: Average conducted emissions results on neutral line

Frequency, MHz	Average result, dBµV	Meas. Time, ms	Bandwidth, kHz	Filter	Correction, dB	Margin, dB	Limit, dBµV
0.1740	41.0	1000	9	--	10.1	-13.7	54.8
0.2300	40.3	1000	9	--	10.1	-12.1	52.4
0.3140	18.9	1000	9	--	10.1	-31.0	49.9
0.3660	28.5	1000	9	--	10.1	-20.1	48.6
0.4860	28.9	1000	9	--	10.1	-17.4	46.2
0.6060	40.9	1000	9	--	10.1	-5.1	46.0
0.6900	42.6	1000	9	--	10.1	-3.4	46.0
0.8700	24.8	1000	9	--	10.1	-21.2	46.0
1.3260	31.0	1000	9	--	10.1	-15.0	46.0

Sample calculation:
Correction factor (dB) = LISN factor IL (dB) + cable loss (dB) + attenuator (dB)
Result (dBµV) = XX dBµV (reading from receiver) + XX dB (Correction factor)

Example:
43.5 dBµV = 23.2 dBµV (receiver reading) + 10.1 dB (LISN factor IL) + 0.2 dB (cable loss) + 10 dB (attenuator)

8.2 RSS-Gen 4.6.1 Occupied bandwidth

8.2.1 Definitions and limits

When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99 percent emission bandwidth, as calculated or measured.

The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

The span between the two recorded frequencies is the occupied bandwidth.

8.2.2 Test summary

Test date:	April 29, 2014	Temperature:	21 °C
Test engineer:	Daniele Guarnone	Air pressure:	1007 mbar
Verdict:	Pass	Relative humidity:	51 %

8.2.3 Observations, settings and special notes

Spectrum analyser settings:

Resolution bandwidth:	≥1 % of span
Video bandwidth:	≥3 × RBW
Detector mode:	Peak
Trace mode:	Max Hold

8.2.4 Test data

Table 8.2-1: 99 % bandwidth results

Modulation	99 % bandwidth, Hz
ASK	**22**

8.2.4 Test data, continued

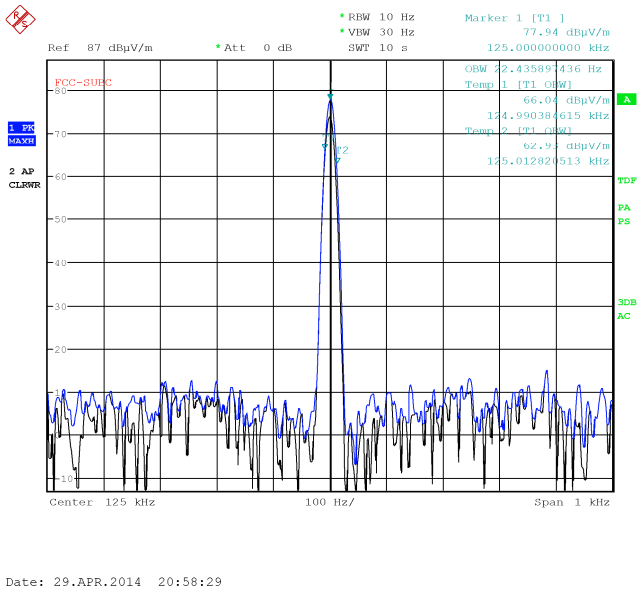


Figure 8.2-1: 99 % bandwidth, sample plot

8.3 FCC 15.209(a) and RSS-210, 2.5 Radiated emissions limits

8.3.1 Definitions and limits

FCC:

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the Table 8.3-1 below.

(c) The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission. For intentional radiators which operate under the provisions of other sections within this part and which are required to reduce their unwanted emissions to the limits specified in this table, the limits in this table are based on the frequency of the unwanted emission and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

IC:

RSS-Gen includes the general field strength limits of unwanted emissions, where applicable, for transmitters and receivers operating in accordance with the provisions specified in this standard.

Unwanted emissions of transmitters and receivers are permitted to fall within the restricted bands listed in RSS-Gen, and including the TV bands, but fundamental emissions are prohibited in the restricted bands bands.

Whether or not their operation is addressed by published RSS standards, transmitters whose wanted and unwanted emissions are within the general field strength limits shown in RSS-Gen, they may operate in any of the frequency bands, other than the restricted bands listed in RSS-Gen and including the TV bands, and shall be certified under RSS-210. Under no conditions may the level of any unwanted emissions exceed the level of the fundamental emission.

Note: Devices operating below 490 kHz in which all emissions are at least 40 dB below the limit listed in RSS-Gen (General Field Strength Limits for Transmitters at Frequencies below 30 MHz) are Category II devices and are subject to RSS-310.

Table 8.3-1: FCC §15.209 and RSS-Gen – Radiated emission limits

Frequency, MHz	Field strength of emissions		Measurement distance, m
	µV/m	dBµV/m	
0.009–0.490	2400/F	$67.6 - 20 \times \log_{10}(F)$	300
0.490–1.705	24000/F	$87.6 - 20 \times \log_{10}(F)$	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges.
For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

8.3.1 Definitions and limits, continued

Table 8.3-2: IC restricted frequency bands

MHz	MHz	MHz	GHz
0.090–0.110	12.51975–12.52025	399.9–410	5.35–5.46
2.1735–2.1905	12.57675–12.57725	608–614	7.25–7.75
3.020–3.026	13.36–13.41	960–1427	8.025–8.5
4.125–4.128	16.42–16.423	1435–1626.5	9.0–9.2
4.17725–4.17775	16.69475–16.69525	1645.5–1646.5	9.3–9.5
4.20725–4.20775	16.80425–16.80475	1660–1710	10.6–12.7
5.677-5.683	25.5–25.67	1718.8–1722.2	13.25–13.4
6.215–6.218	37.5–38.25	2200–2300	14.47–14.5
6.26775–6.26825	73–74.6	2310–2390	15.35–16.2
6.31175–6.31225	74.8–75.2	2655–2900	17.7–21.4
8.291–8.294	108–138	3260–3267	22.01–23.12
8.362–8.366	156.52475–156.52525	3332–3339	23.6–24.0
8.37625–8.38675	156.7–156.9	3345.8–3358	31.2–31.8
8.41425–8.41475	240–285	3500–4400	36.43–36.5
12.29–12.293	322–335.4	4500–5150	Above 38.6

Note: Certain frequency bands listed in Table 8.3-2 and above 38.6 GHz are designated for low-power licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard

8.3.2 Definitions and limits, continued

Table 8.3-3: FCC restricted frequency bands

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	Above 38.6
13.36–13.41			

8.3.3 Test summary

Test date:	April 30, 2014	Temperature:	20 °C
Test engineer:	Daniele Gaurnone	Air pressure:	1009 mbar
Verdict:	Pass	Relative humidity:	51 %

8.3.4 Observations, settings and special notes

The spectrum was searched from 30 MHz to the 10th harmonic.
EUT was set to transmit with 100 % duty cycle.
Radiated measurements were performed at a distance of 3 m, the EUT was transmitting on both MIMO chains simultaneously.
Since fundamental power was tested using average method, the spurious emissions limit is −30 dBc/100 kHz

Spectrum analyser settings for radiated measurements within restricted bands below 1 GHz:

Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser settings for peak radiated measurements within restricted bands above 1 GHz:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

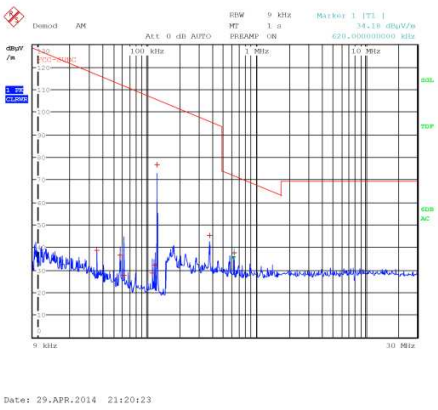
Spectrum analyser settings for average radiated measurements within restricted bands above 1 GHz:

Resolution bandwidth:	1 MHz
Video bandwidth:	10 Hz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser settings for conducted spurious emissions measurements:

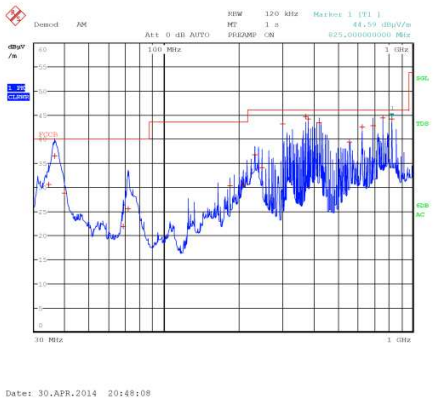
Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Detector mode:	Peak
Trace mode:	Max Hold

8.3.4 Test data



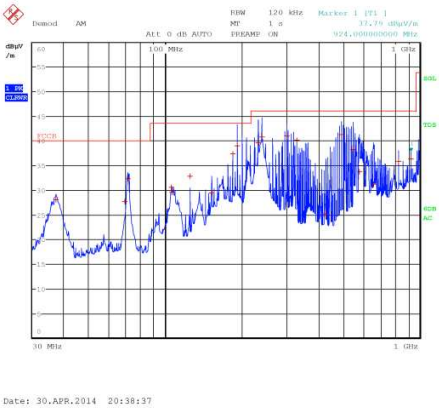
Date: 29.APR.2014 21:20:23

Figure 8.3-1: Radiated spurious emissions for 9 kHz to 30 MHz



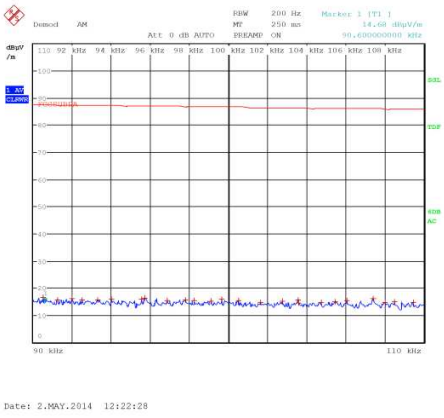
Date: 30.APR.2014 20:48:08

Figure 8.3-2: radiated spurious emissions for 30 MHz to 1 GHz, vertical polarization



Date: 30.APR.2014 20:38:37

Figure 8.3-3: Radiated spurious emissions for 30 MHz to 1 GHz, horizontal polarization



Date: 2.MAY.2014 12:22:28

Figure 8.3-4: Radiated spurious emissions for 90 kHz to 110kHz

8.3.4 Test data, continued

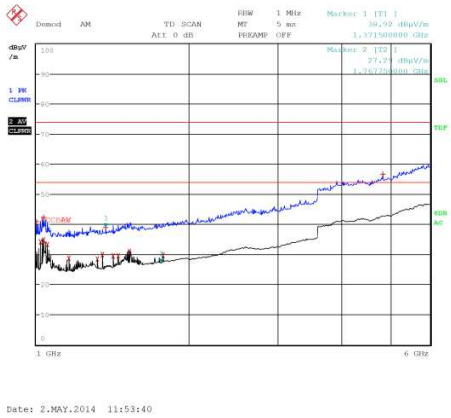


Figure 8.3-5: radiated spurious emissions for 1GHz to 6 GHz, vertical polarization

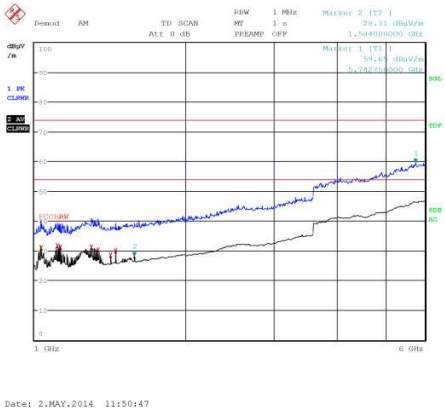


Figure 8.3-6: radiated spurious emissions for 30 MHz to 1 GHz, horizontal polarization

8.3.4 Test data, continued

Table 8.3-4: Radiated field strength measurement results below 1 GHz

Frequency, MHz	Peak Field strength, dBµV/m	Limit, dBµV/m	Margin, dB
0.0348	38.5	116.8	-78.3
0.0567	36.6	112.5	-76.0
0.0612	27.3	111.9	-84.5
0.1125	28.5	106.6	-78.0
0.1197	32.1	106.0	-73.9
0.1250	76.7	105.7	-29.0
0.3750	45.1	96.1	-51.0
0.6250	37.4	71.7	-34.2
0.0348	38.5	116.8	-78.3
0.0567	36.6	112.5	-76.0
0.0612	27.3	111.9	-84.5
0.1125	28.5	106.6	-78.0
0.1197	32.1	106.0	-73.9
0.1250	76.7	105.7	-29.0
0.3750	45.1	96.1	-51.0
0.6250	37.4	71.7	-34.2

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

Table 8.3-7: Radiated field strength measurement results above 1 GHz, vertical polarization

Frequency, MHz	Peak Field strength, dBµV/m	Limit, dBµV/m	Margin, dB
34.2750	30.6	40.0	-9.4
36.3500	36.5	40.0	-3.5
39.7500	28.8	40.0	-11.2
68.6000	21.9	40.0	-18.1
71.6750	25.5	40.0	-14.5
184.0000	30.3	43.5	-13.2
208.0250	30.6	43.5	-12.9
231.9750	36.7	46.0	-9.3
248.0000	34.0	46.0	-12.0
300.0000	43.1	46.0	-2.9
372.0000	44.7	46.0	-1.3
380.0000	44.2	46.0	-1.9
420.0000	43.4	46.0	-2.6
556.0000	39.4	46.0	-6.6
627.0000	42.6	46.0	-3.4
693.0000	42.8	46.0	-3.2
759.0000	44.4	46.0	-1.6
825.0000	44.1	46.0	-1.9

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

Table 8.3-8: Radiated field strength measurement results above 1 GHz, horizontal polarization

Frequency, MHz	Peak Field strength, dBµV/m	Limit, dBµV/m	Margin, dB
37.0500	28.0	40.0	-12.0
69.4750	27.6	40.0	-12.4
71.4250	32.3	40.0	-7.7
105.3250	30.6	43.5	-13.0
106.1500	29.6	43.5	-13.9
125.0000	32.9	43.5	-10.6
152.0000	29.4	43.5	-14.1
184.0000	37.3	43.5	-6.2
192.0000	39.0	43.5	-4.6
232.0000	39.7	46.0	-6.4
240.0000	40.7	46.0	-5.3
300.0000	41.0	46.0	-5.0
328.0000	40.1	46.0	-5.9
428.0000	25.2	46.0	-20.9
492.0000	41.3	46.0	-4.7
548.0000	38.3	46.0	-7.7
580.0000	33.8	46.0	-12.3
660.0000	31.1	46.0	-14.9
825.0000	35.8	46.0	-10.2
924.0000	36.4	46.0	-9.6

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

Table 8.3-9: Radiated field strength measurement results above 1 GHz, 90 kHz to 110 kHz

Frequency, MHz	Peak Field strength, dBµV/m	Limit, dBµV/m	Margin, dB
0.0905	16.5	87.6	-71.1
0.0913	15.6	87.5	-71.9
0.0920	15.9	87.4	-71.5
0.0925	15.6	87.4	-71.8
0.0933	15.6	87.3	-71.7
0.0940	15.9	87.2	-71.3
0.0956	15.8	87.1	-71.3
0.0957	16.3	87.1	-70.8
0.0969	15.4	87.0	-71.6
0.0978	15.5	86.9	-71.3
0.0983	15.3	86.8	-71.6
0.0991	15.2	86.8	-71.6
0.0997	15.8	86.7	-71.0
0.1005	15.3	86.7	-71.3
0.1017	14.6	86.6	-72.0
0.1028	15.1	86.5	-71.4
0.1036	15.6	86.4	-70.8
0.1036	14.5	86.4	-71.8
0.1048	14.8	86.3	-71.5
0.1055	15.0	86.2	-71.3
0.1061	15.4	86.2	-70.8
0.1074	16.2	86.1	-69.9
0.1080	14.6	86.0	-71.4
0.1085	14.9	86.0	-71.1
0.1095	14.8	85.9	-71.2

Table 8.3-10: Radiated field strength measurement results for 1 to 6 GHz vertical polarization

Channel	Frequency, MHz	Peak Field strength, dBµV/m		Margin, dB	Average Field strength, dBµV/m		Margin, dB
		Measured	Limit		Measured	Limit	
--	1020.0000	--	74.00	--	33.2	54.00	-16.8
--	1152.0000	--	74.00	--	32.5	54.00	-17.5
--	1324.0000	--	74.00	--	35.7	54.00	-14.3
--	1512.0000	--	74.00	--	31.3	54.00	-18.7

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

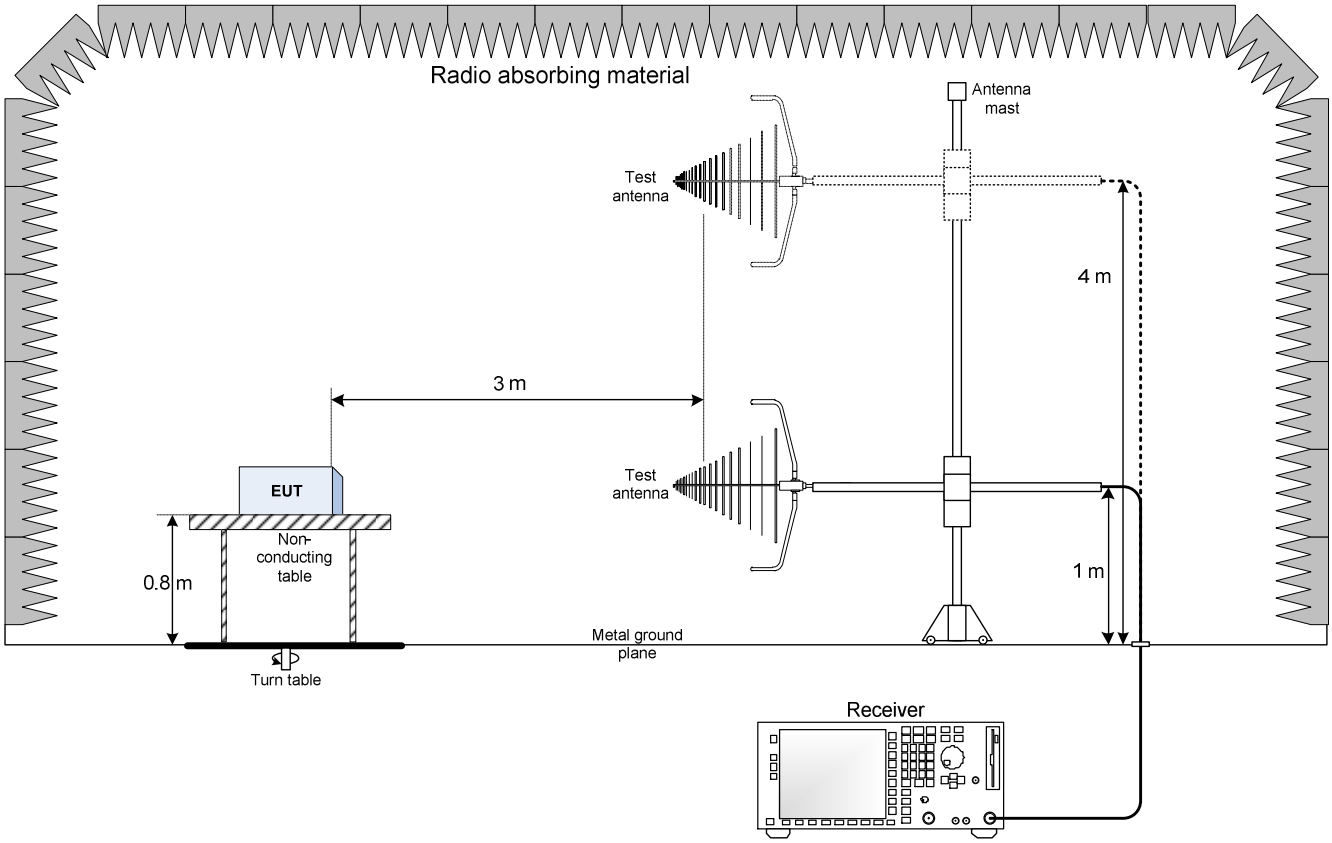
Table 8.3-11: Radiated field strength measurement results for 1 to 6 GHz horizontal polarization

Channel	Frequency, MHz	Peak Field strength, dBµV/m		Margin, dB	Average Field strength, dBµV/m		Margin, dB
		Measured	Limit		Measured	Limit	
--	1032.0000	--	74.00	--	31.1	54.00	-18.9
--	1112.0000	--	74.00	--	31.6	54.00	-18.4
--	1128.0000	--	74.00	--	31.1	54.00	-18.9
--	1300.0000	--	74.00	--	31.2	54.00	-18.8
--	1340.0000	--	74.00	--	30.1	54.00	-19.9
--	1419.0000	--	74.00	--	28.4	54.00	-21.6
--	1452.0000	--	74.00	--	30.0	54.00	-20.0
--	1584.0000	--	74.00	--	28.3	54.00	-21.7

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

Section 9. Block diagrams of test set-ups

9.1 Radiated emissions set-up



9.2 Conducted emissions set-up