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Test report

391810-2TRFWL

Date of issue: 2020-02-14

Applicant:

MatiPay Srl

Via San Sabino, 21 – 70041 Mola di Bari (BA) – Italy

Product:

WI9250PM1 - MPYV2 SPAY

Model:

WI9250PM1 - MPYV2 SPAY

FCC ID:

2AVPV-MPYV2SPAY

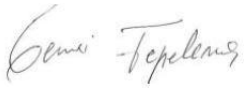
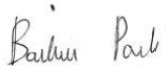
Specifications:

FCC 47 CFR Part 15.225

Operation within the band 13.110–14.010 MHz

Test location

Company name	Nemko Spa
Address	Via del Carroccio, 4
City	Biassono
Province	MB
Postal code	20853
Country	Italy
Telephone	+39 039 220 12 01
Facsimile	+39 039 220 12 21
Website	www.nemko.com
Site number	FCC test site registration number: 682159 (10 m semi anechoic chamber)

Tested by (name, function and signature)	G. Tepelena	(project handler)	
Reviewed by (name, function and signature)	P. Barbieri	(verifier)	
Date	February 14, 2020		

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 Spa's ISO/IEC 17025 accreditation.

Copyright notification

Table of contents

Section 1. Report summary

1.1 Applicant and manufacturer

Company name	MatiPay S.r.l.
Address	Via San Sabino, 21 (Z.I.)
City	Mola di Bari
Province/State	Bari
Postal/Zip code	70042
Country	Italy

1.2 Test specifications

FCC 47 CFR Part 15, Subpart C, Clause 15.225 ANSI C63.10-2013	Operation in the 13.110–14.010 MHz American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

1.3 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.

1.4 Exclusions

None

1.5 Test report revision history

Revision #	Details of changes made to test report
391810-2TRFWL	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]
§15.215(c)	20 dB bandwidth	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 FCC Part 15 Subpart C, intentional radiators test results

Part	Test description	Verdict
§15.225(a)	Field strength within 13.553–13.567 MHz band	Pass
§15.225(b)	Field strength within 13.410–13.553 MHz and 13.567–13.710 MHz bands	Pass
§15.225(c)	Field strength within 13.110–13.410 MHz and 13.710–14.010 MHz bands	Pass
§15.225(d)	Field strength outside 13.110–14.010 MHz band	Pass
§15.225(e)	Frequency tolerance of carrier signal	Pass

Notes: None

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	February 14, 2020
Nemko sample ID number	391810-3/3

3.2 EUT information

Product name	WI9250PM1 - MPYV2 SPAY
Model	WI9250PM1 - MPYV2 SPAY
Serial number	N/A

3.3 Technical information

Operating band	13.553–13.567 MHz
Operating frequency	13.56 MHz
Equipment class	DXX - Part 15 Low Power Communication Device Transmitter
Modulation type	ASK
Occupied bandwidth (99 %)	5.37 kHz
Power requirements	24 V DC from power supply
Field strength, dBµV/m @30 m	26.3
Transmitter spurious, dBµV/m @3 m	34.7
Emission designator	5K37A1D
Antenna information	The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator.

3.4 Product description and theory of operation

RFID module 13.56 MHz

3.5 EUT exercise details

The EUT is normally in continuous transmission mode. Modulation is generated by approaching a card.

3.6 EUT setup diagram

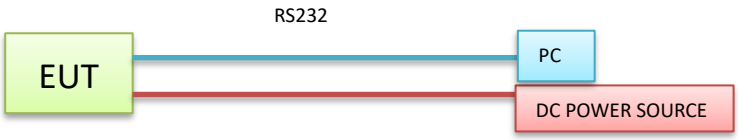


Figure 3.6-1: *Setup diagram*

3.7 EUT sub assemblies

Table 3.7-1: *EUT sub assemblies*

Description	Brand name	Model/Part number	Serial number
--	--	--	--
--	--	--	--
--	--	--	--
--	--	--	--

The EUT is composed by a single unit

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

Unless different values are declared in the test case, following ambient conditions apply for the tests:

Temperature	18–33 °C
Relative humidity	30–60 %
Air pressure	980–1060 mbar

Test equipment used for the monitoring of the environmental conditions

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
Thermohygrometer data loggers	Testo	175-H2	20012380/305	2019-12	2020-12
Thermohygrometer data loggers	Testo	175-H2	38203337/703	2019-12	2020-12
Barometer	Castle	GPB 3300	072015	2019-04	2020-04

5.2 Power supply range

For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

EUT	Type	Test	Range and Setup features	Measurement Uncertainty	Notes
Transmitter	Conducted	Frequency error	0.001 MHz ÷ 40 GHz	0.08 ppm	(1)
		Carrier power RF Output Power	10 kHz ÷ 30 MHz	1.0 dB	(1)
			30 MHz ÷ 18 GHz	1.5 dB	(1)
			18 MHz ÷ 40 GHz	3.0 dB	(1)
		Adjacent channel power	1 MHz ÷ 18 GHz	1.6 dB	(1)
		Conducted spurious emissions	10 kHz ÷ 26 GHz	3.0 dB	(1)
			26 GHz ÷ 40 GHz	4.5 dB	(1)
		Intermodulation attenuation	1 MHz ÷ 18 GHz	2.2 dB	(1)
		Attack time – frequency behaviour	1 MHz ÷ 18 GHz	2.0 ms	(1)
		Attack time – power behaviour	1 MHz ÷ 18 GHz	2.5 ms	(1)
		Release time – frequency behaviour	1 MHz ÷ 18 GHz	2.0 ms	(1)
		Release time – power behaviour	1 MHz ÷ 18 GHz	2.5 ms	(1)
		Transient behaviour of the transmitter– Transient frequency behaviour	1 MHz ÷ 18 GHz	0.2 kHz	(1)
		Transient behaviour of the transmitter – Power level slope	1 MHz ÷ 18 GHz	9%	(1)
		Frequency deviation - Maximum permissible frequency deviation	0.001 MHz ÷ 18 GHz	1.3%	(1)
		Frequency deviation - Response of the transmitter to modulation frequencies above 3 kHz	0.001 MHz ÷ 18 GHz	0.5 dB	(1)
		Dwell time	-	3%	(1)
		Hopping Frequency Separation	0.01 MHz ÷ 18 GHz	1%	(1)
		Occupied Channel Bandwidth	0.01 MHz ÷ 18 GHz	2%	(1)
		Modulation Bandwidth	0.01 MHz ÷ 18 GHz	2%	(1)
	Radiated	Radiated spurious emissions	10 kHz ÷ 26.5 GHz	6.0 dB	(1)
			26.5 GHz ÷ 40 GHz	8.0 dB	(1)
		Effective radiated power transmitter	10 kHz ÷ 26.5 GHz	6.0 dB	(1)
			26,5 GHz ÷ 40 GHz	8.0 dB	(1)
Receiver	Radiated	Radiated spurious emissions	10 kHz ÷ 26.5 GHz	6.0 dB	(1)
			26.5 GHz ÷ 40 GHz	8.0 dB	(1)
		Sensitivity measurement	1 MHz ÷ 18 GHz	6.0 dB	(1)
	Conducted	Conducted spurious emissions	10 kHz ÷ 26 GHz	3.0 dB	(1)
			26 GHz ÷ 40 GHz	4.5 dB	(1)

(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2 which has been derived from the assumed normal probability distribution with infinite degrees of freedom and for a coverage probability of 95 %

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 (20 Hz ÷ 8 GHz)	R&S	ESU8	100202	2019-10	2020-10
Trilog Broadband Antenna	Schwarzbeck	VULB 9162	9162-025	2018-07	2021-07
Loop antenna	R&S	HFH2-Z2	831 247/011	2017-10	2020-10
Antenna mast	R&S	HCM	836 529/05	NCR	NCR
Controller	R&S	HCC	836 620/7	NCR	NCR
Hydraulic revolving platform	Nemko	RTPL 01	4.233	NCR	NCR
Semi-anechoic chamber	Nemko	10m semi-anechoic chamber	530	2018-09	2021-09
Shielded room	Siemens	10m control room	1947	NCR	NCR
Climatic chamber	Angelantoni	CST 320/2T	4056	2019-09	2021-09

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

Section 8. Testing data

8.1 FCC 15.207(a) AC power line conducted emissions limits

8.1.1 Definitions and limits

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.

For a device with a permanent or detachable antenna operating at or below 30 MHz, the FCC will accept measurements performed with a suitable dummy load in lieu of the antenna under the following conditions: (1) perform the AC power-line conducted tests with the antenna connected to determine compliance with Section 15.207 limits outside the transmitter's fundamental emission band; (2) retest with a dummy load in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network which simulates the antenna in the fundamental frequency band. A suitable dummy load is a radio frequency termination used in place of the antenna, which has the same electrical properties as the intended antenna without radiated emissions. A device with a suitable dummy load must supply identical signals to the dummy load, as it would if an antenna were connected.

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: * - The level decreases linearly with the logarithm of the frequency.
** - A linear average detector is required.

8.1.2 Test summary

Test date	February 14, 2020	Temperature	21 °C
Test engineer	G. Tepelena	Air pressure	1025 mbar
Verdict	Pass	Relative humidity	46 %

8.1.3 Observations, settings and special notes

The EUT was set up as tabletop configuration. A commercial AC/DC adapter (not under test) has been used during the test.

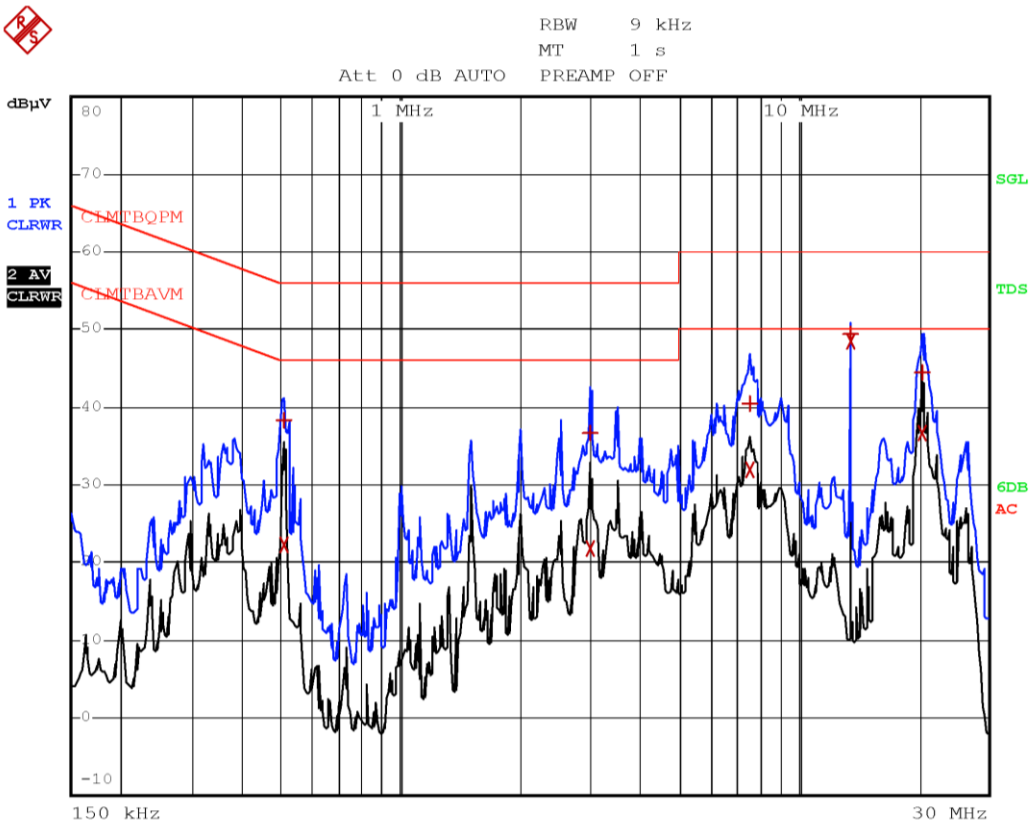
The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

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.

Test receiver settings:

Frequency span	150 kHz to 30 MHz
Detector mode	Peak and Average (preview mode); Quasi-Peak (final measurements)
Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Trace mode	Max Hold
Measurement time	1000 ms

8.1.4 Test data



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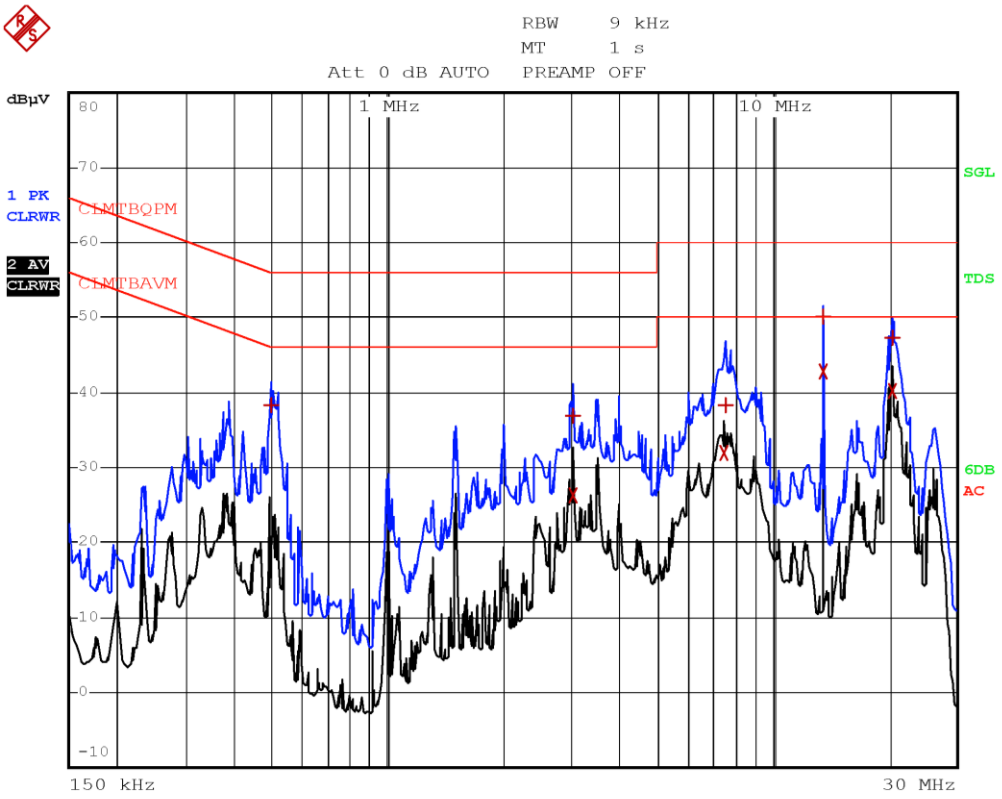
Conducted emissions on phase line

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.510	38.3	56	-17.7	QP
0.510	22.2	45.9	-23.7	Av
3.002	36.7	55.9	-19.2	QP
3.002	21.6	45.9	-24.3	Av
7.526	31.9	50	-18.0	Av
7.526	40.4	60	-19.5	QP
7.556	49.4	60	-10.5	QP
13.562	48.4	50	-1.5	Av
13.562	44.5	50	-15.4	QP
20.474	36.6	50	-13.3	Av



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Conducted emissions on neutral line

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.510	38.3	56	-17.7	QP
0.510	22.2	45.9	-23.7	Av
3.002	36.7	55.9	-19.2	QP
3.002	21.6	45.9	-24.3	Av
7.526	31.9	50	-18.0	Av
7.526	40.4	60	-19.5	QP
7.556	49.4	60	-10.5	QP
13.562	48.4	50	-1.5	Av
13.562	44.5	50	-15.4	QP
20.474	36.6	50	-13.3	Av

8.2 FCC 15.215(c) Occupied (Emission) bandwidth

8.2.1 Definitions and limits

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80 % of the permitted band in order to minimize the possibility of out-of-band operation.

8.2.2 Test summary

Test date	February 14, 2020	Temperature	21 °C
Test engineer	G. Tepelena	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	58 %

8.2.3 Observations, settings and special notes

Spectrum analyzer settings:

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

8.2.4 Test data

Table 8.2-1: *Lower 20 dBc frequency cross result*

Fundamental frequency, MHz	Lower 20 dBc frequency cross, MHz	Limit, MHz	Margin, kHz
13.560	**13.558**	13.553	**5**

Table 8.2-2: *Upper 20 dBc frequency cross result*

Fundamental frequency, MHz	Upper 20 dBc frequency cross, MHz	Limit, MHz	Margin, kHz
13.560	**13.562**	13.567	**5**

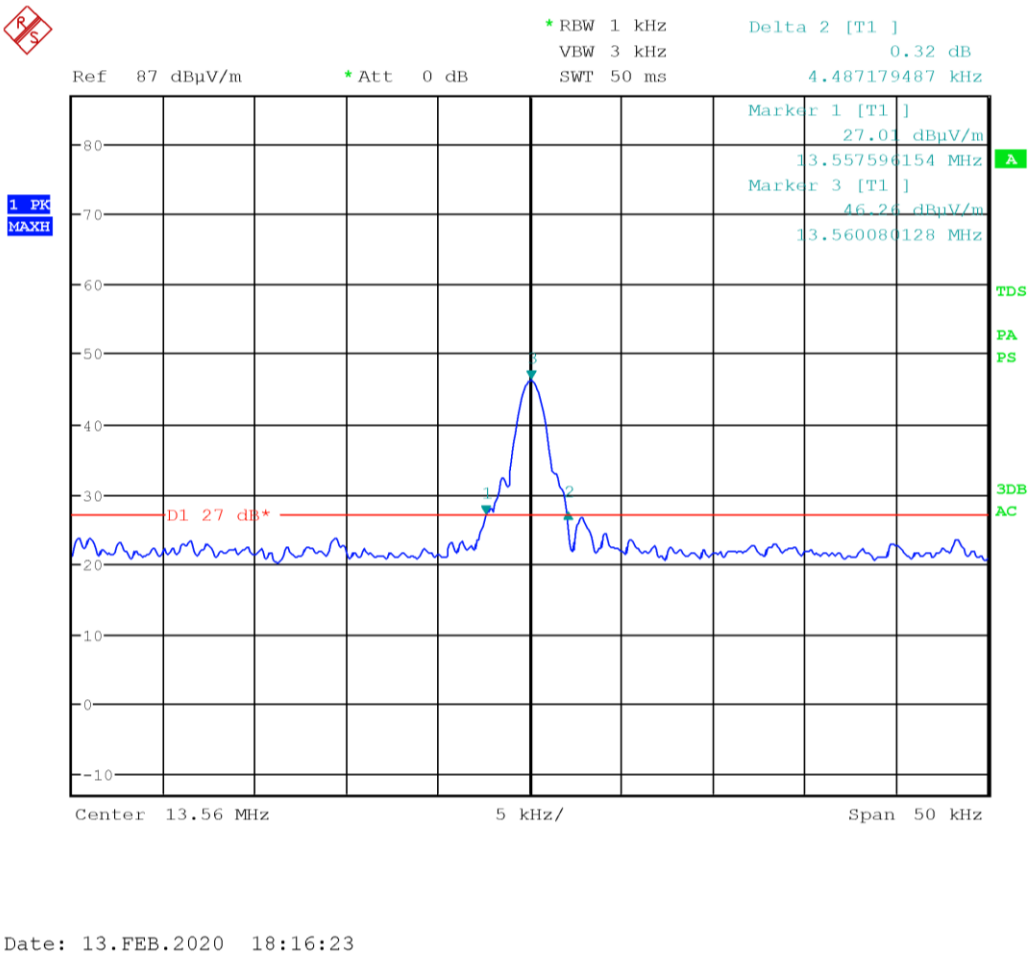


Figure 8.2-1: **20 dB bandwidth**

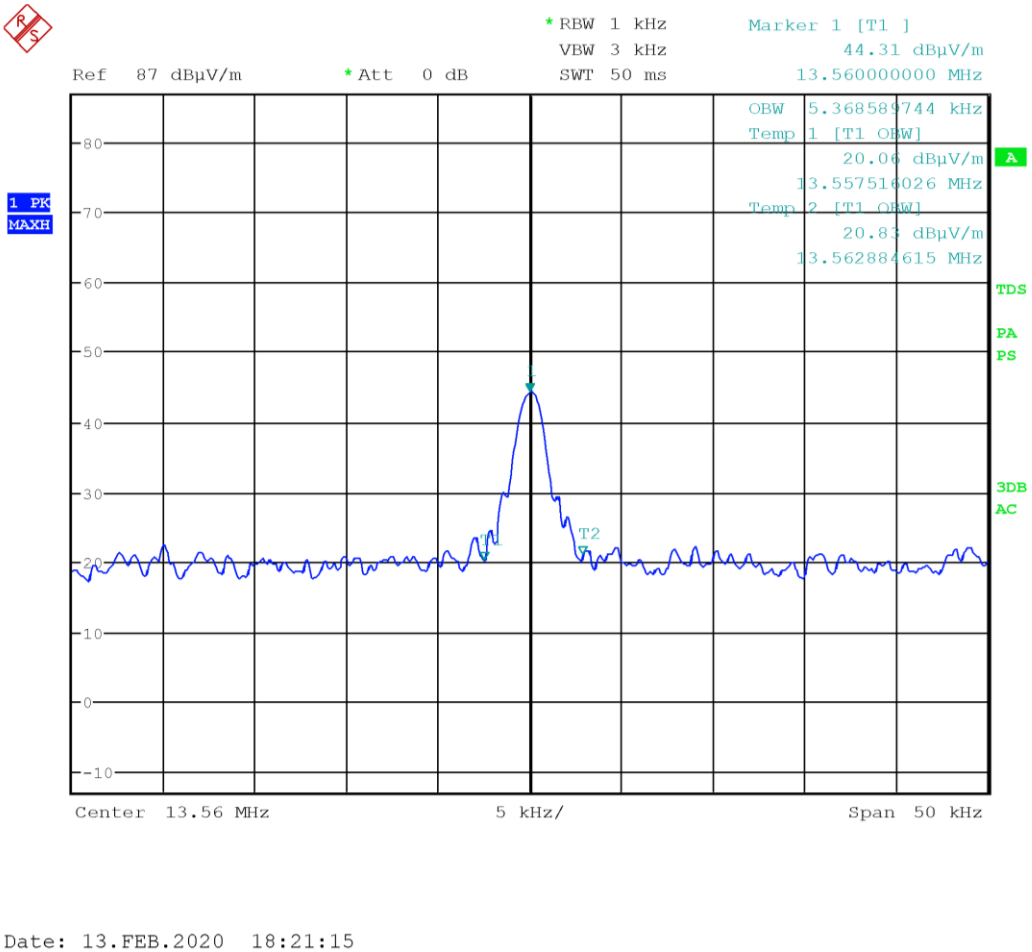


Figure 8.2-2: **99% dB bandwidth**

8.3 FCC 15.225(a–c) Field strength within the 13.110–14.010 MHz band

8.3.1 Definitions and limits

a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15848 µV/m (84 dBµV/m) at 30 m.
b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 µV/m (50.5 dBµV/m) at 30 m.
c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 µV/m (40.5 dBµV/m) at 30 m.

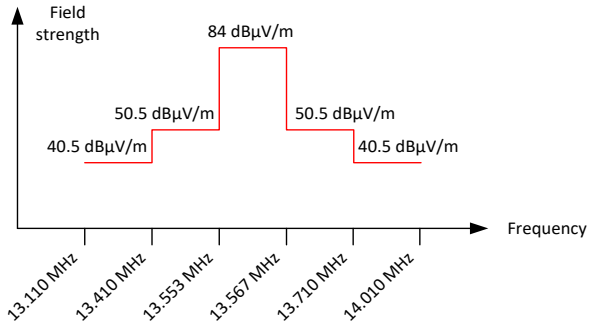


Figure 8.3-1: *In-band spurious emissions limit*

8.3.2 Test summary

Test date	February 14, 2020	Temperature	23 °C
Test engineer	G. Tepelena	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	58 %

8.3.3 Observations/special notes

The measurements were performed at the distance of 10 m. 40 dB distance correction factor* was applied to the measurement result in order to comply with 30 m limits.
* 30 m to 10 m distance correction factor calculation (for 13 MHz band):

$$40 \times \mathrm{Log}_{10}\,(10\ \mathrm{m}/30\ \mathrm{m}) = 40 \times \mathrm{Log}_{10}\,(0.333) = -19.1\ \mathrm{dB}$$

Spectrum analyzer settings:

Detector mode	Peak
Resolution bandwidth	10 kHz
Video bandwidth	30 kHz
Trace mode	Max Hold

8.3.4 Test data

Table 8.3-1: *Field strength measurements results*

Frequency range, MHz	Frequency, MHz	Field strength at 10 m, dBµV/m	Calculated field strength at 30 m, dBµV/m	Limit, dBµV/m	Margin, dB
13.553–13.567	13.560	45.4	26.3	84.00	57.7
13.410–13.553	13.540	32.5	13.4	50.50	37.1
13.567–13.710	13.575	32.4	13.3	50.50	37.2
13.110–13.410	13.345	32.2	13.2	40.50	27.3
13.710–14.010	13.765	32.1	13.1	40.50	27.4

Note: Calculated field strength at 30 m = Measured field strength at 10 m – 19.1 dB

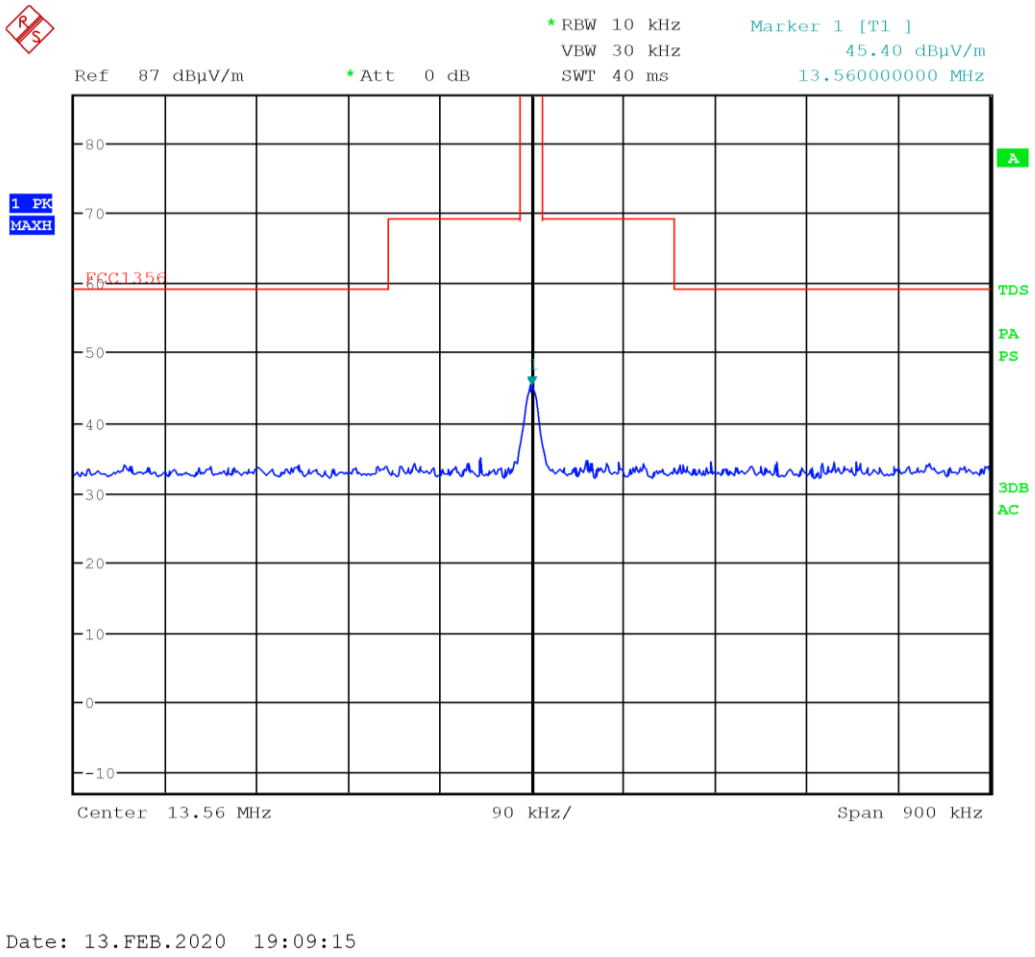


Figure 8.3-2: *Field strength within 13.110–14.010 MHz band*

8.4 FCC 15.225(d) Field strength of emissions outside 13.110–14.010 MHz band

8.4.1 Definitions and limits

The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.
The field strength of emissions appearing within restricted bands (as specified in §15.205) shall not exceed the limits from §15.209.

Table 8.4-1: *FCC §15.209 – 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

Table 8.4-2: *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			

8.4.2 Test summary

Test date	February 14, 2020	Temperature	21 °C
Test engineer	G. Tepelena	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	57 %

8.4.3 Observations, settings and special notes

The spectrum was searched from 9 kHz to 1 GHz.
Radiated measurements were performed at a distance of 10 m for frequency below 30 MHz and 3 m for frequencies above 30 MHz.

Receiver settings for frequencies from 9 kHz to 150 kHz:

Detector mode	Quasi-Peak
Resolution bandwidth	0.2 kHz
Trace mode	Max Hold
Measurement time	1000 ms

Receiver settings for frequencies from 150 kHz to 30 MHz:

Detector mode	Quasi-Peak
Resolution bandwidth	9 kHz
Trace mode	Max Hold
Measurement time	1000 ms

Receiver settings for frequencies above 30 MHz:

Detector mode	Quasi-Peak
Resolution bandwidth	120 kHz
Trace mode	Max Hold
Measurement time	1000 ms

Note: all measurement results indicated in the plot were taken with a peak detector. The red cross refer to Quasi-Peak final measurement.

8.4.4 Test data

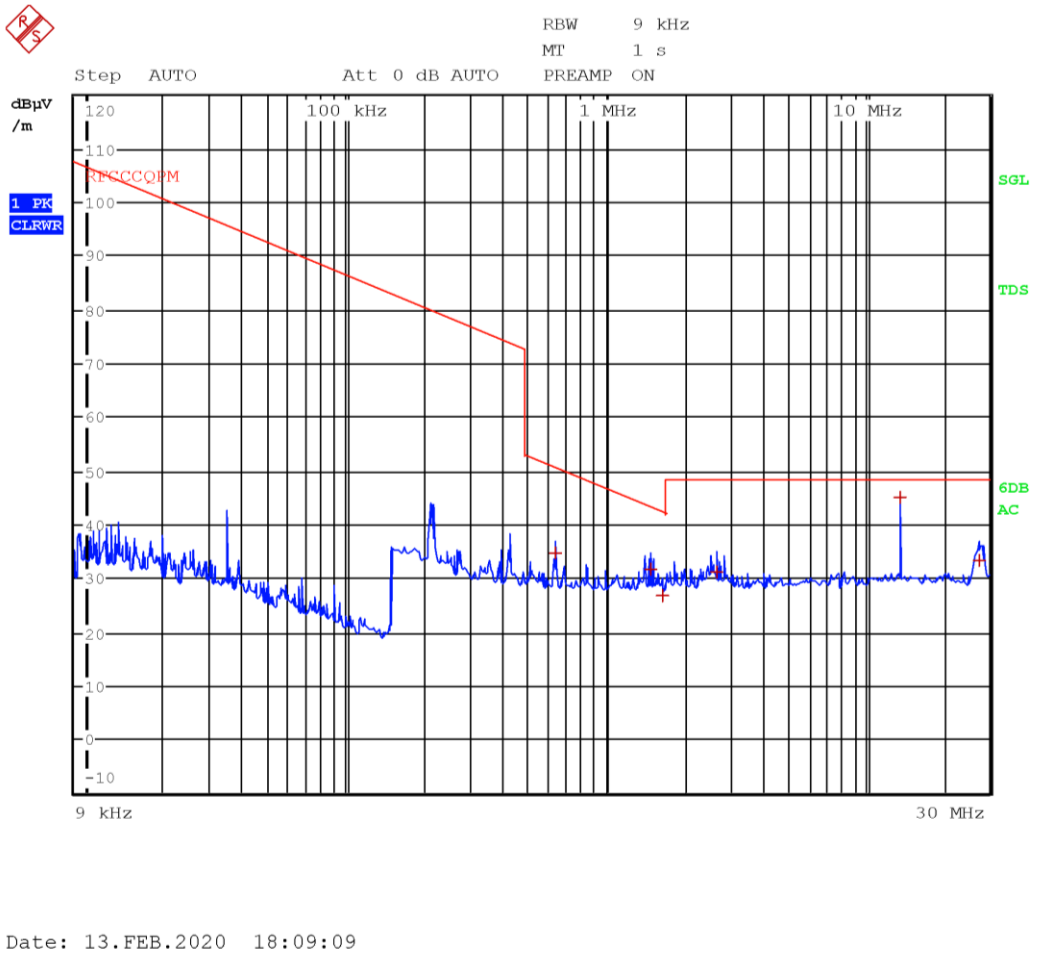


Figure 8.4-1: *Field strength of spurious emissions below 30 MHz*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
0.6340	34.7	50.7	-16.0	QP
1.4820	31.8	43.3	-11.6	QP
1.6500	26.7	42.4	-15.7	QP
2.6660	31.2	48.6	-17.4	QP
27.3180	33.4	48.6	-15.2	QP

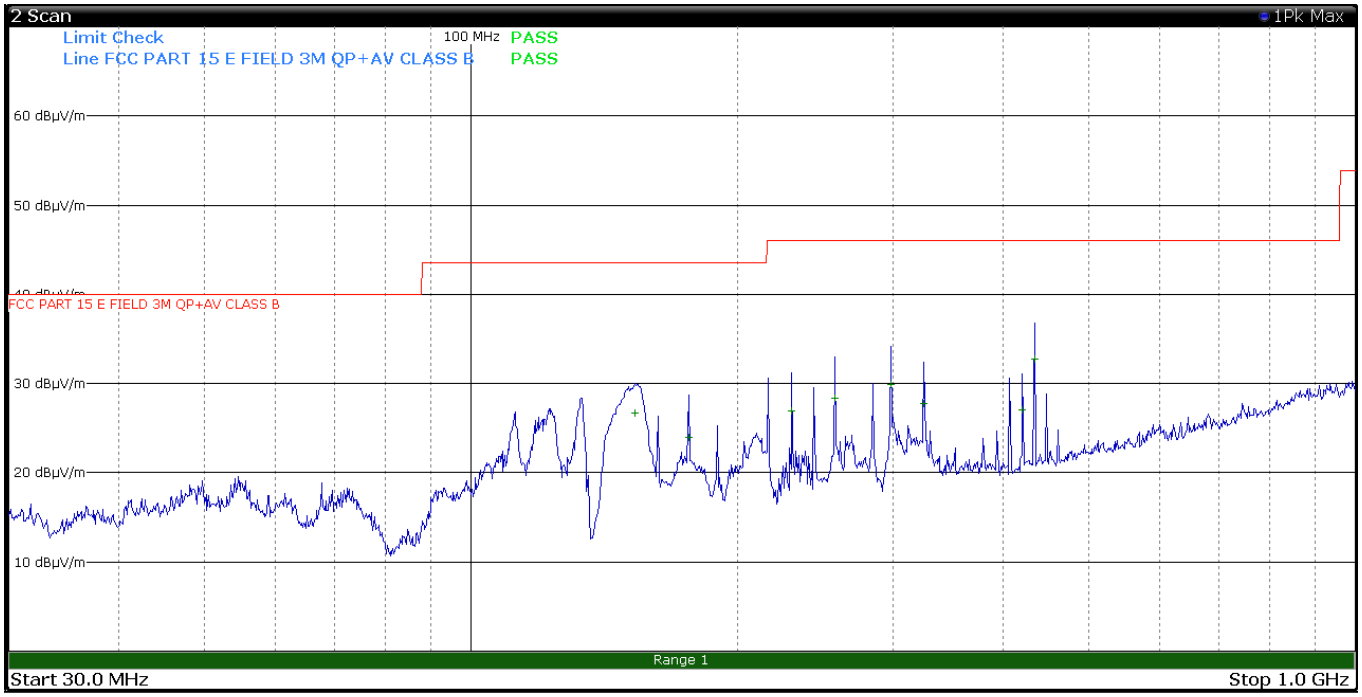


Figure 8.4-2: *Field strength of spurious emissions above 30 MHz with antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
153.3600	26.8	43.5	-16.7	QP
176.2800	24.0	43.5	-19.5	QP
230.5200	27.0	46.0	-19.0	QP
257.6400	28.5	46.0	-17.5	QP
298.3200	30.0	46.0	-16.0	QP
325.4400	27.8	46.0	-18.2	QP
420.3600	27.1	46.0	-18.9	QP
433.9200	32.8	46.0	-13.2	QP

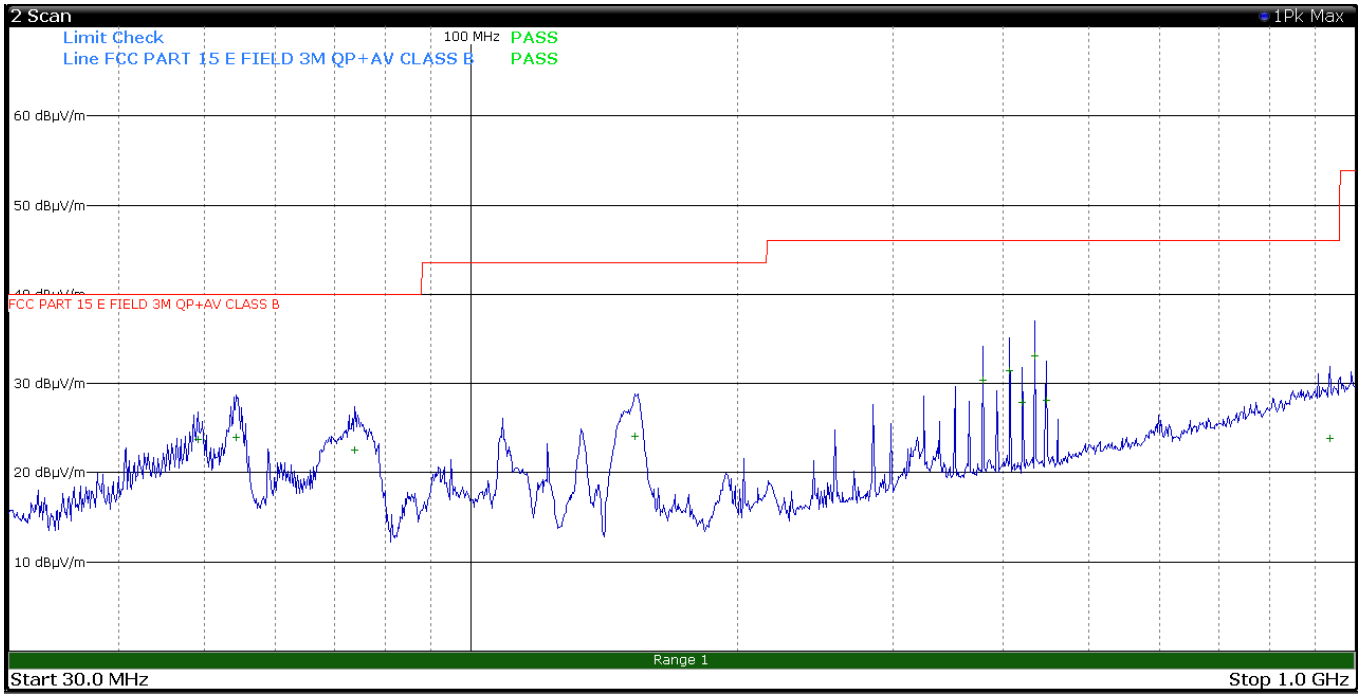


Figure 8.4-3: *Field strength of spurious emissions above 30 MHz with antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
49.1100	23.8	40.0	-16.2	QP
54.2400	24.0	40.0	-16.0	QP
73.9200	22.6	40.0	-17.4	QP
153.3900	24.2	43.5	-19.3	QP
379.6800	30.4	46.0	-15.6	QP
406.8000	31.5	46.0	-14.5	QP
420.3600	27.9	46.0	-18.1	QP
433.9200	33.1	46.0	-12.9	QP
447.4800	28.2	46.0	-17.8	QP
935.6400	23.9	46.0	-22.1	QP

8.5 FCC 15.225(e) Frequency tolerance of the carrier signal

8.5.1 Definitions and limits

The frequency tolerance of the carrier signal shall be maintained within ±0.01 % (±100 ppm) of the operating frequency over a temperature variation of −20 °C to +50 °C at normal supply voltage, and for a variation in the primary supply voltage from 85 % to 115 % of the rated supply voltage at a temperature of 20 °C. For battery operated equipment, the equipment tests shall be performed using a new battery.

8.5.2 Test summary

Test date	February 14, 2020	Temperature	20 °C
Test engineer	G. Tepelena	Air pressure	1020 mbar
Verdict	Pass	Relative humidity	55 %

8.5.3 Observations, settings and special notes

Spectrum analyzer settings:

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

8.5.4 Test data

Table 8.5-1: *Frequency drift measurements results*

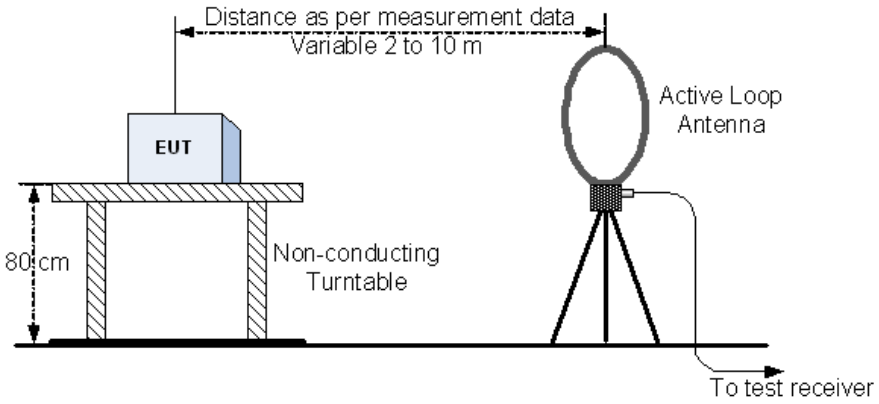
Test conditions	Frequency, MHz	Frequency drift, ±ppm	Limit, ±ppm	Margin, ppm
+50 °C, Nominal	13.56029	2.2	100	97.8
+20 °C, +15 %	13.56032	0	100	100
+20 °C, Nominal	13.56032	*Reference*	*Reference*	*Reference*
+20 °C, −15 %	13.56032	0	100	100
−20 °C, Nominal	13.56033	0.7	100	99.3

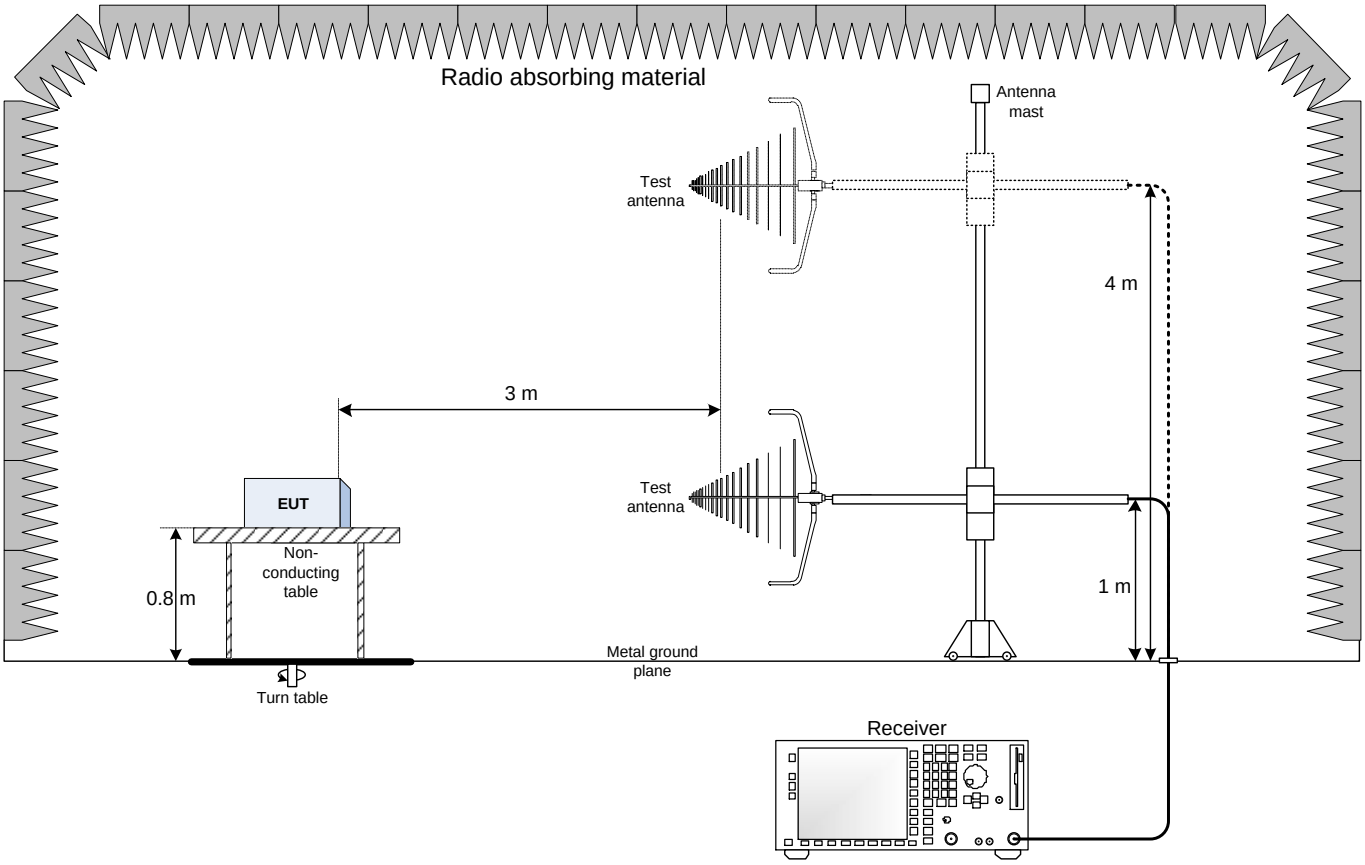
Note: frequency drift was calculated as follows:

Frequency drift (ppm) = $((F_{measured} - F_{reference}) \div F_{reference}) \times 1 \times 10^6$

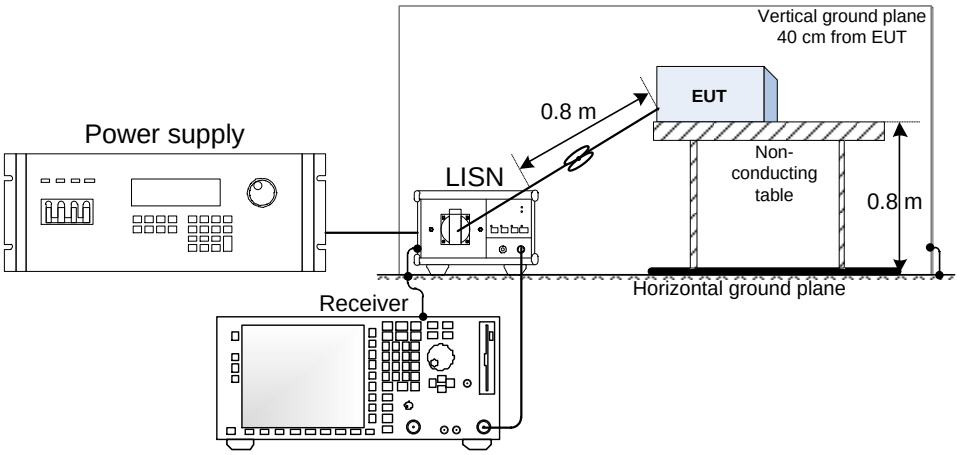
Section 9. Block diagrams of test set-ups

9.1 Radiated emissions set-up



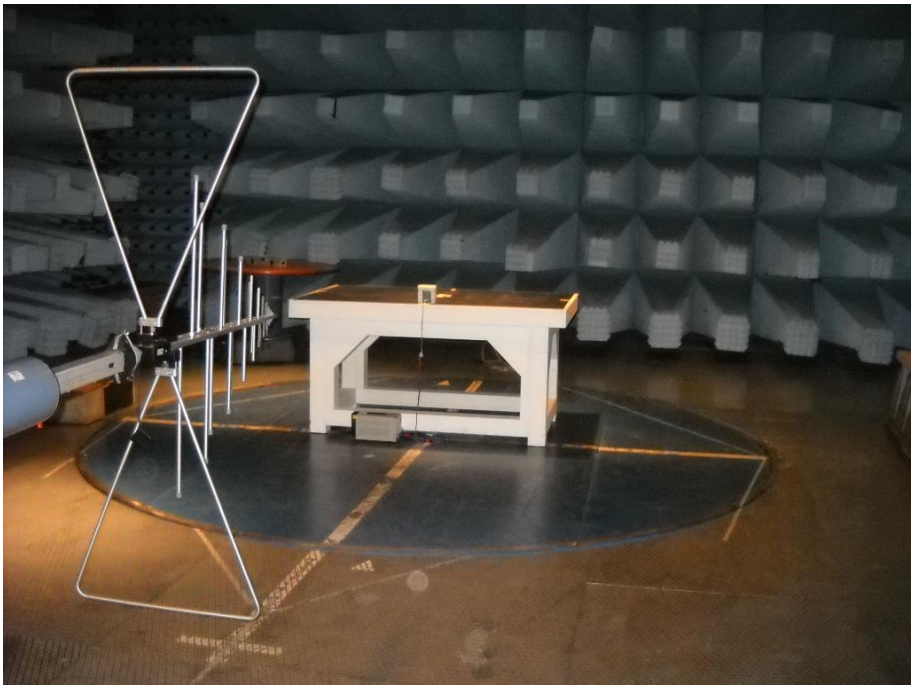


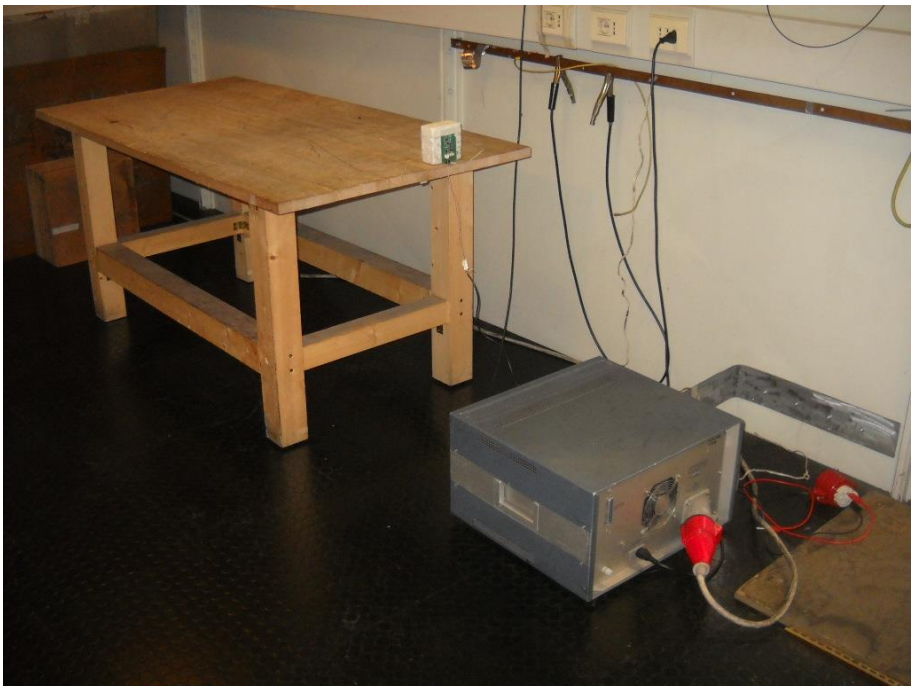
9.2 Conducted emissions set-up



Section 10. Photos

10.1 Photos of the test set-up





10.2 Photos of the EUT

End of report