Nemko

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Test report

381371-3TRFWL

Date of issue: 2020-03-19

Applicant:

Inventis SRL

Corso Stati Uniti, 1/3 – 35127 Padova (PD) – Italia

Product:

Real ear measurement system + Audiometer

Model:

Trumpet REM & AUD Wireless; Trumpet REM & AUD

Trumpet REM Wireless; Trumpet REM; Trumpet AUD

FCC ID:

2AVOO-RE1RA

IC Registration number:

25857-RE1RA

Specifications:

- FCC 47 CFR Part 15 Subpart C

  Intentional radiators

Test location

Company name:	Nemko Spa
Address:	Via del Carroccio, 4
City:	Biassono
Province:	MB
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Website:	www.nemko.com
Site number:	FCC: 682159

Tested by (name, function and signature)	P. Barbieri	(project handler)	
Reviewed by (name, function and signature)	D. Guarnone	(verifier)	
Date:	2020-03-19		

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 ISO/IEC 17025 accreditation.

Copyright notification

Table of contents

Section 1. Report summary

1.1 Applicant and manufacturer

Company name:	Inventis SRL
Address:	Corso Stati Uniti, 1/3
City:	Padova
Province/State:	PD
Postal/Zip code:	35127
Country:	Italy

1.2 Test specifications

FCC 47 CFR Part 15, Subpart C	Intentional radiators

1.3 Test methods

ANSI C63.10 v2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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
381371-3TRFWL	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]
§15.31(m)	Number of frequencies	Pass
§15.203	Antenna requirement	Pass[2]
§15.209	Radiated emission limits; general requirements	Pass
§15.215	Occupied 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.

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	2020-01-24
Nemko sample ID number	381371

3.2 EUT information

Product name	Real ear measurement system + Audiometer
Model	TRUMPET REM & AUD Wireless
Model variant	Trumpet REM & AUD; Trumpet REM Wireless; Trumpet REM; Trumpet AUD
Serial number	RE1RA20100001 and RE1RA20100003

3.3 Technical information

Operating frequency	142.3 kHz
Equipment Class	DCD - Part 15 Low Power Transmitter Below 1705 kHz
Modulation type	ASK
Occupied bandwidth -20 dB, Hz	776
Field strength, dBµV/m @10m	52.50, at 142.3 kHz
Max spurious emission, dBµV/m @3m	41.30, at 260.73 MHz
Power requirements	15 V DC from an external 100 – 240 V ~ 47 – 63 Hz adapter
Antenna information	The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator.

3.4 Product description and theory of operation

Trumpet is a real ear measurement system. A real ear measurement system allows the determination of the intensity of sounds reaching the tympanic membrane of the patient. To this end it uses a couple of microphones, one located at the level of the patient's earlobe (the reference microphone), and one inserted in the patient ear canal through a silicon tube (the probe microphone). The operator, using the system, delivers to the patient sound stimuli different in intensity and in frequency content, and measures the intensity of the sound received by the two microphones. A real ear measurement system is generally used to quantify the gain provided by a hearing aid, when this is worn by the patient. Trumpet can be also an audiometer. An audiometer is a device that helps the operator in defining the patient's auditory sensitivity by generating and delivering to the patient sound stimuli of different types and intensities for diagnostic purposes. The EUT use a Wireless REM probes provided with two Bluetooth radio module and a wireless recharging station.

3.5 EUT exercise details

Normal working in recharging mode with the Maestro 1.11.1 and Commands rev 20X (FW: 3.0.2) software running on the associated PC.

3.6 EUT setup diagram

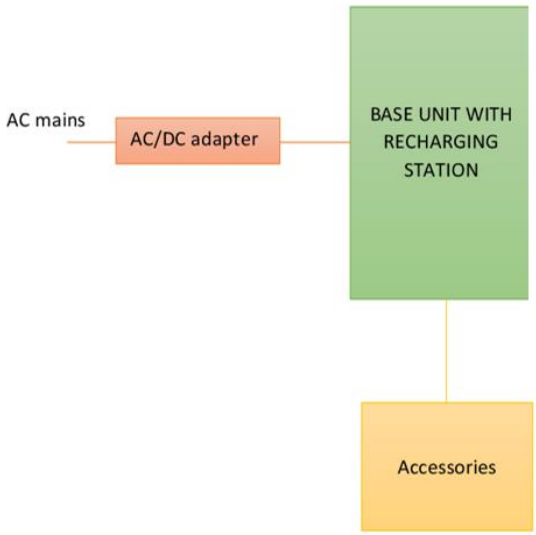


Figure 3.6-1: *Setup diagram*

3.7 EUT sub assemblies

Table 3.7-1: *EUT sub assemblies*

Description	Brand name	Model/Part number	Serial number
Main unit	Inventis srl	TRUMPET REM & AUD Wireless REF 11725	RE1RA20100001 RE1RA20100003
AC/DC adapter	Sinpro	MPU31-106	--
Supra-aural headphones transducers	RadioEar	DD45	--
Supra-aural headphones transducers	RadioEar	TDH39	--
Insert earphones transducer	RadioEar	ER-3C	--
Bone vibrator transducer	RadioEar	B71	--
Monitor headset with boom microphone	Sennheiser	PC3	--
Talk back microphone	--	--	--
Patient response switch	Inventis srl	--	--
RECD loudspeaker	--	--	--

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

In the laboratory, the following ambient conditions are respected for each test reported below:

Temperature	18 – 33 °C
Relative humidity	25 – 70 %
Air pressure	860 – 1060 mbar

The following instruments are used to monitor the environmental conditions:

Equipment	Manufacturer	Model no.	Asset no.	Cal date	Next cal.
Thermo-hygrometer data loggers	Testo	175-H2	20012380/305	2019-01	2021-01
Thermo-hygrometer data loggers	Testo	175-H2	38203337/703	2019-01	2021-01
Barometer	Castle	GPB 3300	072015	2019-12	2020-12

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 measurement uncertainty was calculated for each test and quantity listed in this test report, according to CISPR 16-4-2 and other specific test standard and is documented in Nemko Spa working manual WML1002.

The assessment of conformity for each test performed on the equipment is performed not taking into account the measurement uncertainty. The two following possible verdicts are stated in the report:

P (Pass) - The measured values of the equipment respect the specification limit at the points tested. The specific risk of false accept is up to 50% when the measured result is close to the limit.

F (Fail) - One or more measured values of the equipment do not respect the specification limit at the points tested. The specific risk of false reject is up to 50% when the measured result is close to the limit.

Hereafter Nemko's measurement uncertainties are reported:

EUT	Type	Test	Range	Measurement Uncertainty	Notes
Transmitter	Conducted	Frequency error	0.001 MHz ÷ 40 GHz	0.08 ppm	(1)
		Carrier power RF Output Power	0.009 MHz ÷ 30 MHz	1.1 dB	(1)
			30 MHz ÷ 18 GHz	1.5 dB	(1)
			18 MHz ÷ 40 GHz	3.0 dB	(1)
			40 MHz ÷ 140 GHz	5.0 dB	(1)
		Adjacent channel power	1 MHz ÷ 18 GHz	1.4 dB	(1)
		Conducted spurious emissions	0.009 MHz ÷ 18 GHz	3.0 dB	(1)
			18 GHz ÷ 40 GHz	4.2 dB	(1)
			40 GHz ÷ 220 GHz	6.0 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	0.009 MHz ÷ 26.5 GHz	6.0 dB	(1)
			26.5 GHz ÷ 66 GHz	8.0 dB	(1)
			66 GHz ÷ 220 GHz	10 dB	(1)
		Effective radiated power transmitter	10 kHz ÷ 26.5 GHz	6.0 dB	(1)
			26.5 GHz ÷ 66 GHz	8.0 dB	(1)
			66 GHz ÷ 220 GHz	10 dB	(1)

EUT	Type	Test	Range	Measurement Uncertainty	Notes
Receiver	Radiated	Radiated spurious emissions	0.009 MHz ÷ 26.5 GHz	6.0 dB	(1)
			26.5 GHz ÷ 66 GHz	8.0 dB	(1)
			66 GHz ÷ 220 GHz	10 dB	(1)
		Sensitivity measurement	1 MHz ÷ 18 GHz	6.0 dB	(1)
	Conducted	Conducted spurious emissions	0.009 MHz ÷ 18 GHz	3.0 dB	(1)
			18 GHz ÷ 40 GHz	4.2 dB	(1)
			40 GHz ÷ 220 GHz	6.0 dB	(1)

NOTES:
(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 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)	Rohde & Schwarz	ESU8	100202	2020-01	2021-01
EMI receiver (20 Hz ÷ 8 GHz)	Rohde & Schwarz	ESW44	101620	2019-08	2020-08
Trilog Antenna (30 MHz ÷ 7 GHz)	Schwarzbeck	VULB 9162	9162-025	2018-07	2021-07
Bilog antenna (1 ÷ 18 GHz)	Schwarzbeck	STLP 9148	9148-123	2018-07	2021-07
Preamplifier (1 ÷ 18 GHz)	Schwarzbeck	BBV 9718	9718-137	2019-09	2020-09
Loop antenna	Rohde & Schwarz	HFH2-Z2	831247/011	2017-10	2020-10
Controller	Maturo	FCU3.0	10041	NCR	NCR
Tilt antenna mast	Maturo	TAM4.0-E	10042	NCR	NCR
Turntable	Maturo	TT4.0-5T	2.527	NCR	NCR
Semi-anechoic chamber	Nemko	10m semi-anechoic chamber	530	2019-09	2021-09
Shielded room	Siemens	10m control room	1947	NCR	NCR
LISN three phase (9 kHz ÷30 MHz)	Rohde & Schwarz	ESH2-Z5	872 460/041	2019-09	2020-09
Shielded room	Siemens	Conducted emission test room	1862	NCR	NCR

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

Section 8. Testing data

8.1 FCC 15.31(m) Number of frequencies

8.1.1 Definitions and limits

Measurements on intentional radiators or receivers shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table.

Table 8.1-1: *Frequency Range of Operation*

Frequency range over which the device operates (in each band)	Number of test frequencies required	Location of measurement frequency inside the operating frequency range
1 MHz or less	1	Center (middle of the band)
1–10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near center and 1 near low end

Note: “near” means as close as possible to or at the centre / low end / high end of the frequency range over which the device operates.

8.1.2 Test summary

Test date	2020-01-30
Test engineer	P. Barbieri
Verdict	Pass

8.1.3 Observations, settings and special notes

None

8.1.4 Test data

Table 8.1-2: *Test channels selection*

Start of Frequency, kHz	End of Frequency, kHz	Frequency range bandwidth, kHz	Low channel, kHz	Mid channel, kHz	High channel, kHz
--	--	--	--	142.3[1]	--

[1] Operating frequency (typ.)

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

8.2.1 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.

Table 8.2-1: *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.

8.2.2 Test summary

Test date:	2020-02-06
Test engineer:	P. Barbieri
Verdict:	Pass

8.2.3 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.

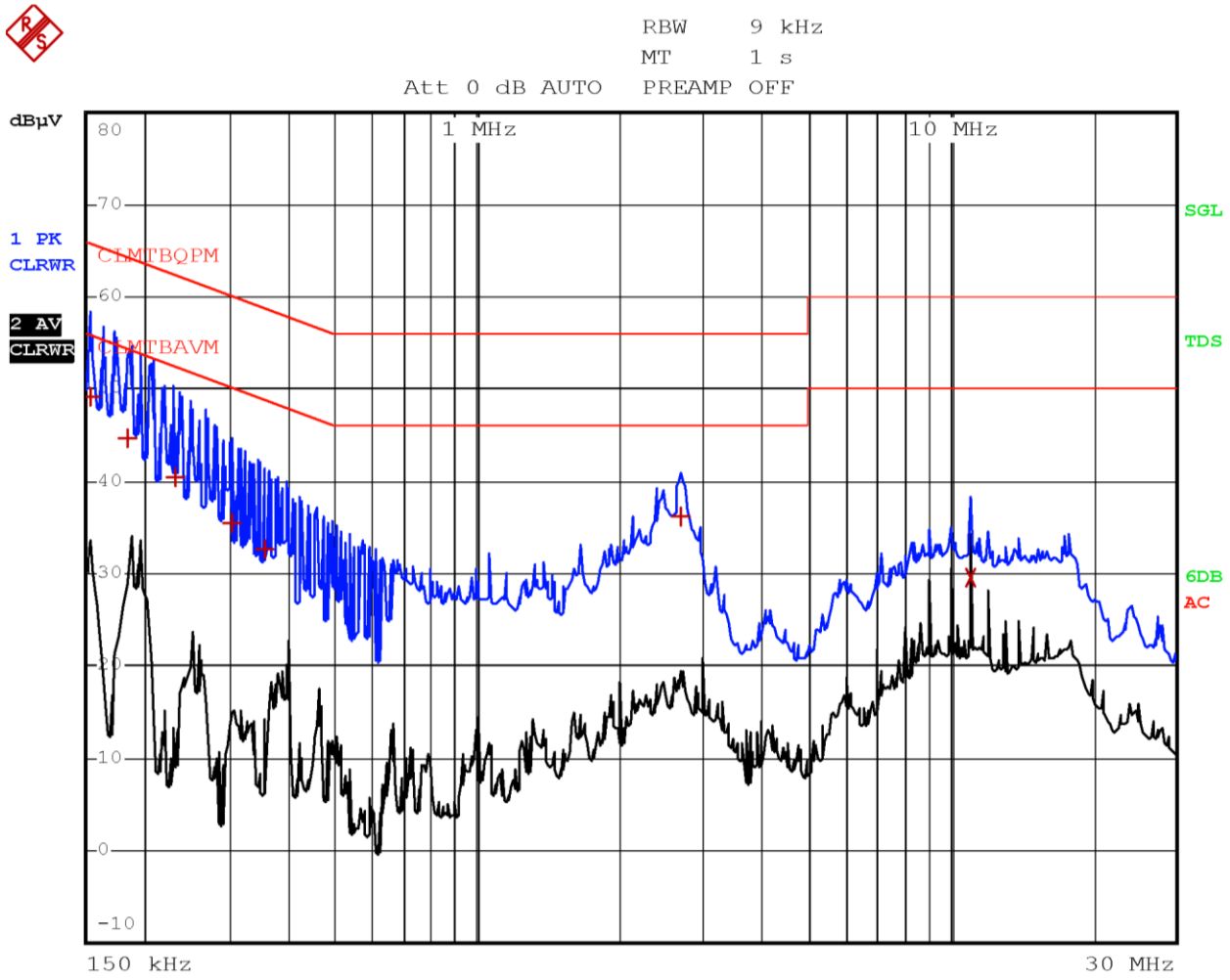
Receiver settings for preview measurements:

Resolution bandwidth:	9 kHz
Detector mode:	Peak and Average
Trace mode:	Max Hold
Measurement time:	10 ms

Receiver settings for final measurements:

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

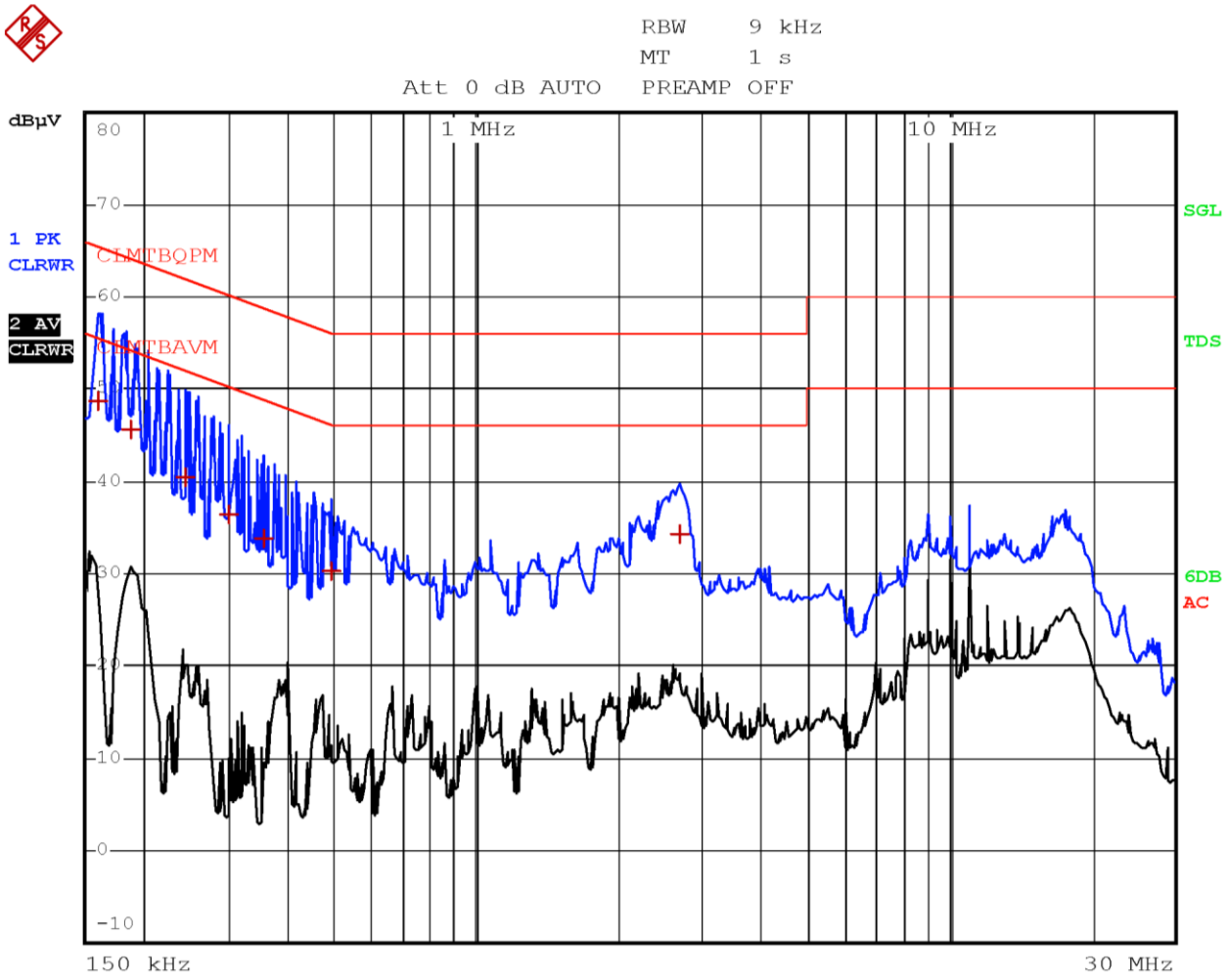
8.2.4 Test data



Plot 8.2-1: *Conducted emissions on phase line*

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1540	49.1	65.8	-16.7	QP
0.1860	44.7	64.2	-19.5	QP
0.2340	40.5	62.3	-21.8	QP
0.3020	35.5	60.2	-24.7	QP
0.3540	32.7	58.9	-26.2	QP
2.7140	36.2	56.0	-19.8	QP
11.0420	29.7	50.0	-20.3	Av

8.2.4 Test data, continued



Plot 8.2-2: *Conducted emissions on neutral line*

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1620	48.7	65.4	-16.7	QP
0.1900	45.7	64.0	-18.3	QP
0.2420	40.4	62.0	-21.6	QP
0.2980	36.5	60.3	-23.8	QP
0.3540	33.9	58.9	-25.0	QP
0.4940	30.4	56.1	-25.7	QP
2.7020	34.2	56.0	-21.8	QP

8.3 FCC 15.209(a) 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.

Table 8.3-1: *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.

8.3.2 Definitions and limits, continued

Table 8.3-2: *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			

8.3.3 Test summary

Test date:	2020-02-05 to 2020-05-10
Test engineer:	P. Barbieri
Verdict:	Pass

8.3.4 Observations, settings and special notes

The spectrum was searched from 9 kHz to the 2 GHz (maximum internal frequency excluding the Bluetooth radio module is 178.79 MHz from CPU clock). Radiated measurements were performed at a distance of 10 m for frequency below 30 MHz and 3 m for frequency above.

Receiver settings for preview measurements below 1000 MHz :

Resolution bandwidth:	200 Hz / 9 kHz / 120 kHz
Detector mode:	Peak
Trace mode:	Max Hold
Measurement time:	10 ms

Receiver settings for final measurements below 1000 MHz:

Resolution bandwidth:	200 Hz / 9 kHz / 120 kHz
Detector mode:	Quasi-Peak
Trace mode:	Max Hold
Measurement time:	1000 ms

Receiver settings for preview measurements above 1000 MHz:

Resolution bandwidth:	1 MHz
Detector mode:	Peak and average
Trace mode:	Max Hold
Measurement time:	10 ms

8.3.5 Test data

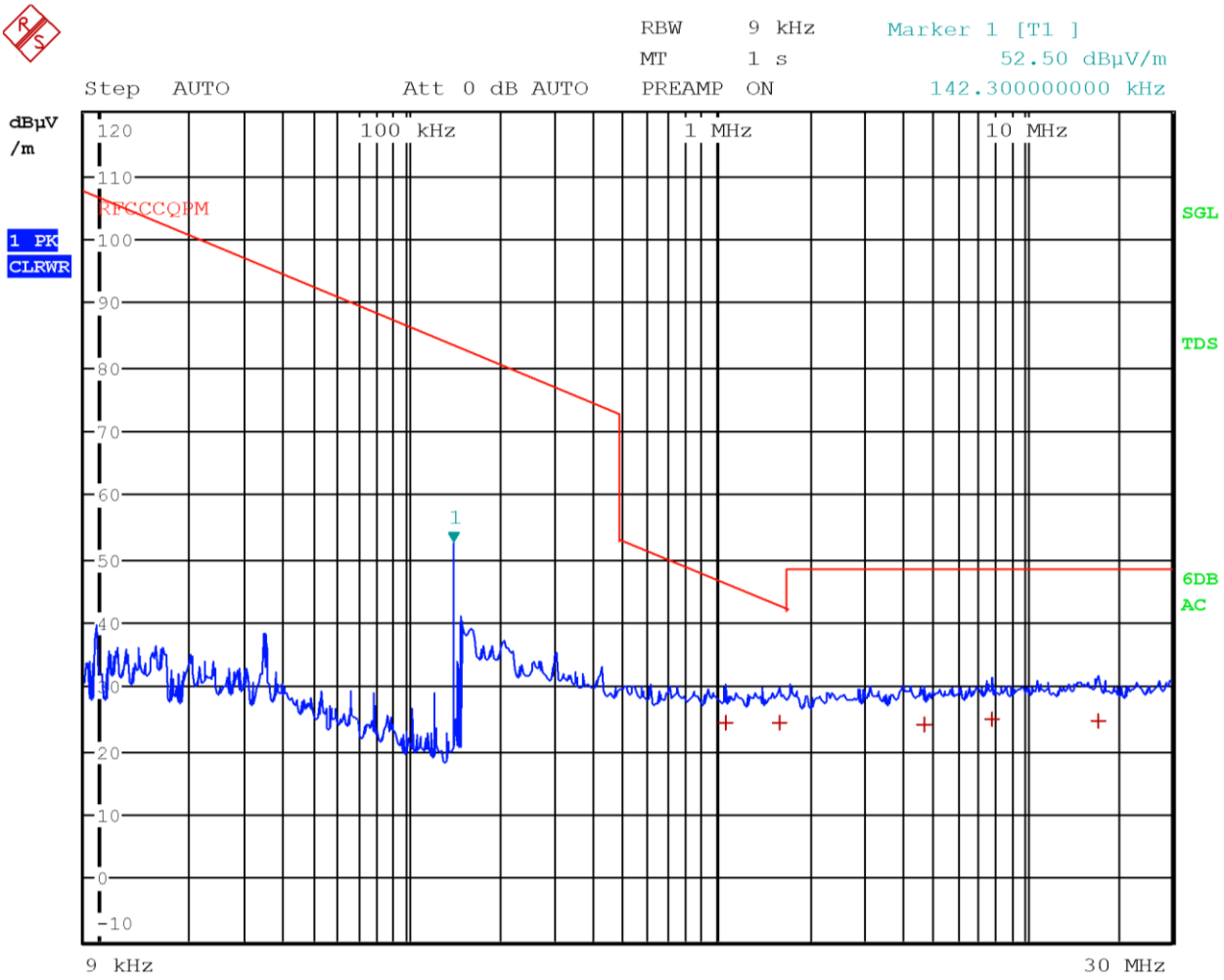


Figure 8.3-1: *Radiated field strength measurement results for frequency below 30 MHz*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1.0680	24.5	46.2	-21.7	QP
1.6013	24.2	42.6	-18.4	QP
4.7535	24.1	48.6	-24.5	QP
7.9328	24.8	48.6	-23.8	QP
17.4278	24.5	48.6	-24.1	QP

8.3.5 Test data, continued

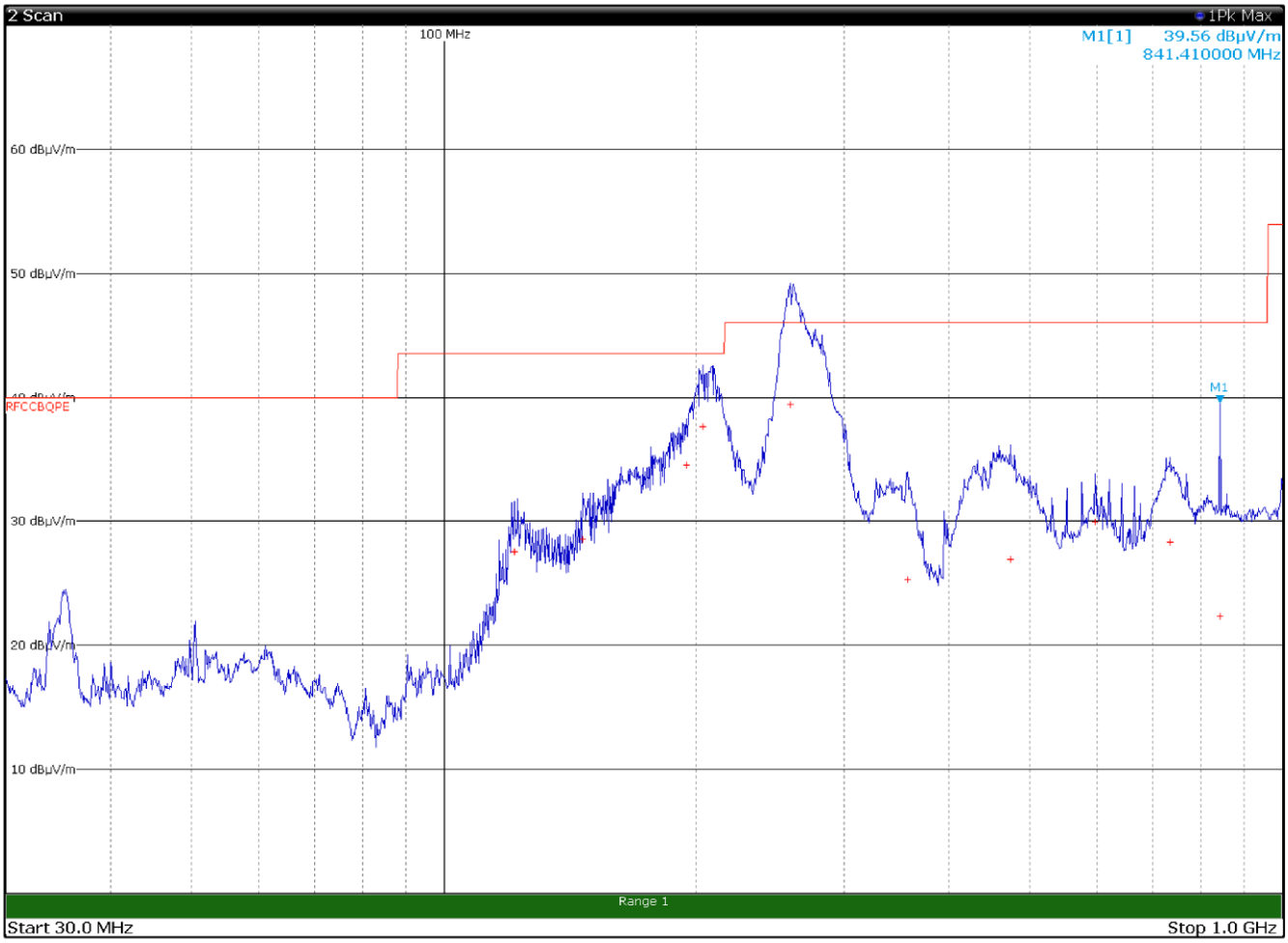


Figure 8.3-2: *Radiated field strength measurement results for frequency above 30 MHz – Antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
121.3800	27.6	43.5	-15.9	QP
146.4600	28.6	43.5	-14.9	QP
194.6400	34.6	43.5	-8.9	QP
203.6700	37.7	43.5	-5.8	QP
258.8700	39.4	46.0	-6.6	QP
356.8800	25.3	46.0	-20.7	QP
473.7600	27.0	46.0	-19.0	QP
598.3500	30.0	46.0	-16.0	QP
733.8300	28.3	46.0	-17.7	QP
841.4100	22.4	46.0	-23.6	QP

8.3.5 Test data, continued

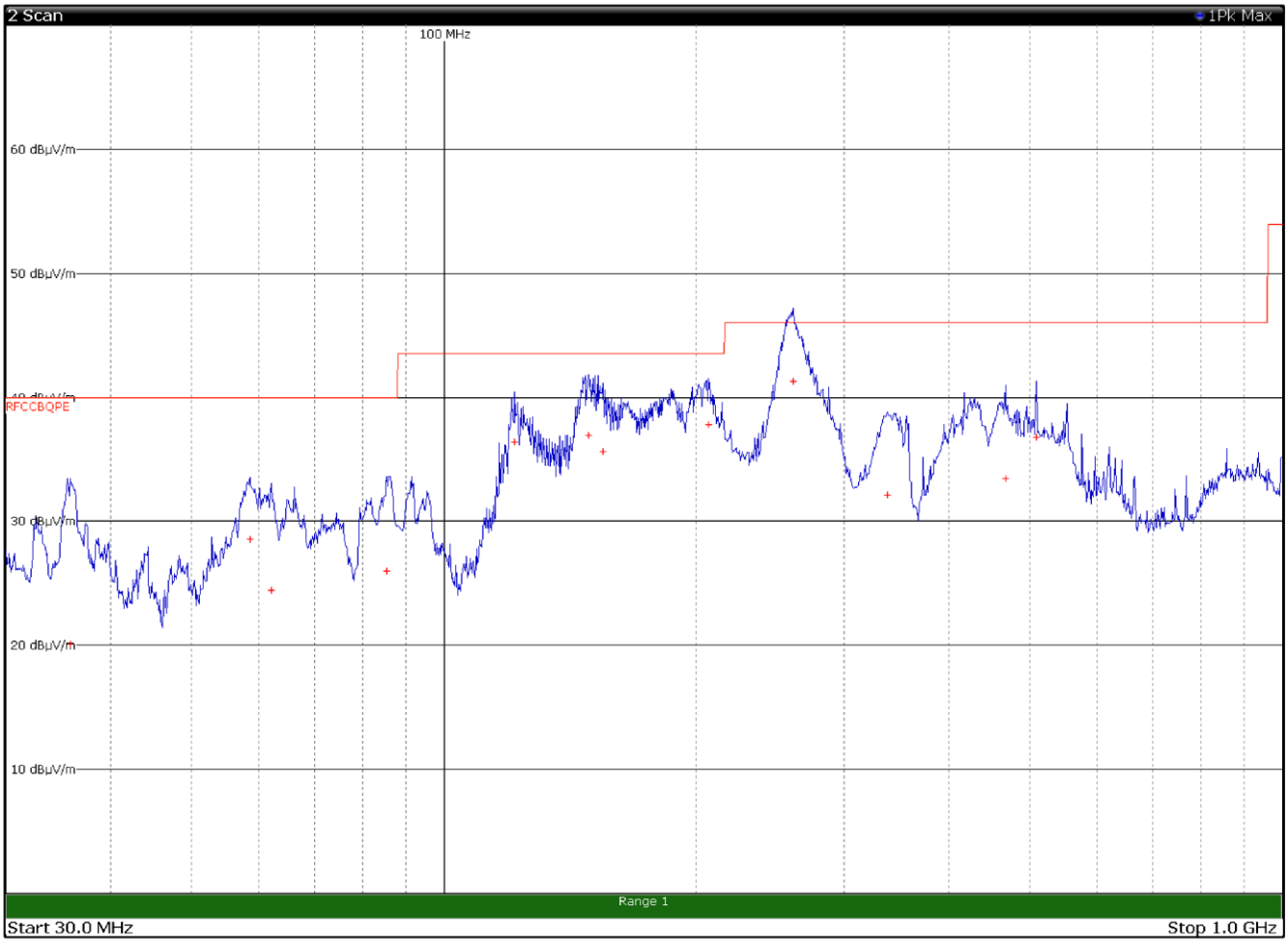


Figure 8.3-3: *Radiated field strength measurement results for frequency above 30 MHz – Antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
35.7900	20.1	40.0	-19.9	QP
58.5900	28.6	40.0	-11.4	QP
62.2200	24.5	40.0	-15.5	QP
85.4100	26.0	40.0	-14.0	QP
121.3500	36.4	43.5	-7.1	QP
148.4400	37.0	43.5	-6.5	QP
154.4700	35.7	43.5	-7.8	QP
206.6400	37.8	43.5	-5.7	QP
260.7300	41.3	46.0	-4.7	QP
337.7400	32.2	46.0	-13.8	QP
466.9500	33.5	46.0	-12.5	QP
508.0500	36.9	46.0	-9.1	QP

8.3.5 Test data, continued

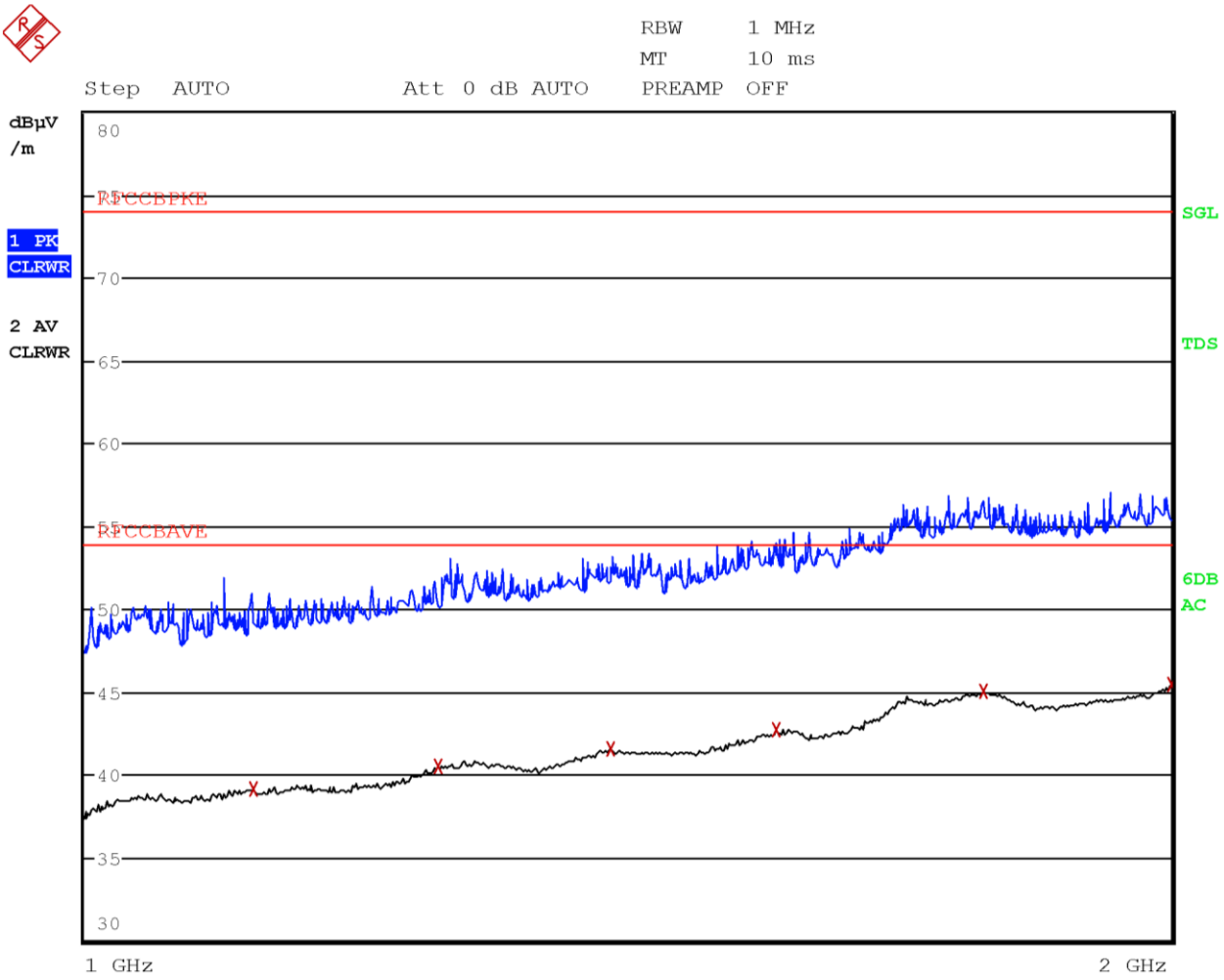


Figure 8.3-4: *Radiated field strength measurement results for frequency above 1000 MHz – Antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1113.2000	39.2	54.0	-14.8	Av
1252.0000	40.6	54.0	-13.4	Av
1398.8000	41.7	54.0	-12.3	Av
1553.2000	42.8	54.0	-11.2	Av
1774.4000	45.1	54.0	-8.9	Av
1998.8000	45.5	54.0	-8.5	Av

8.3.5 Test data, continued

Figure 8.3-5: *Radiated field strength measurement results for frequency above 1000 MHz – Antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1116.8000	39.2	54.0	-14.8	Av
1257.6000	40.7	54.0	-13.3	Av
1403.6000	41.6	54.0	-12.4	Av
1552.4000	42.8	54.0	-11.2	Av
1776.0000	45.1	54.0	-8.9	Av
2000.0000	45.4	54.0	-8.6	Av

8.4 FCC 15.215(c) Occupied bandwidth

8.4.1 Definitions and limits

FCC:
(c) 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. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. 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.

8.4.2 Test summary

Test date	2020-03-19	Temperature	23 °C
Test engineer	P. Barbieri	Air pressure	1002 mbar
Verdict	Pass	Relative humidity	31 %

8.4.3 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

8.4.4 Test data

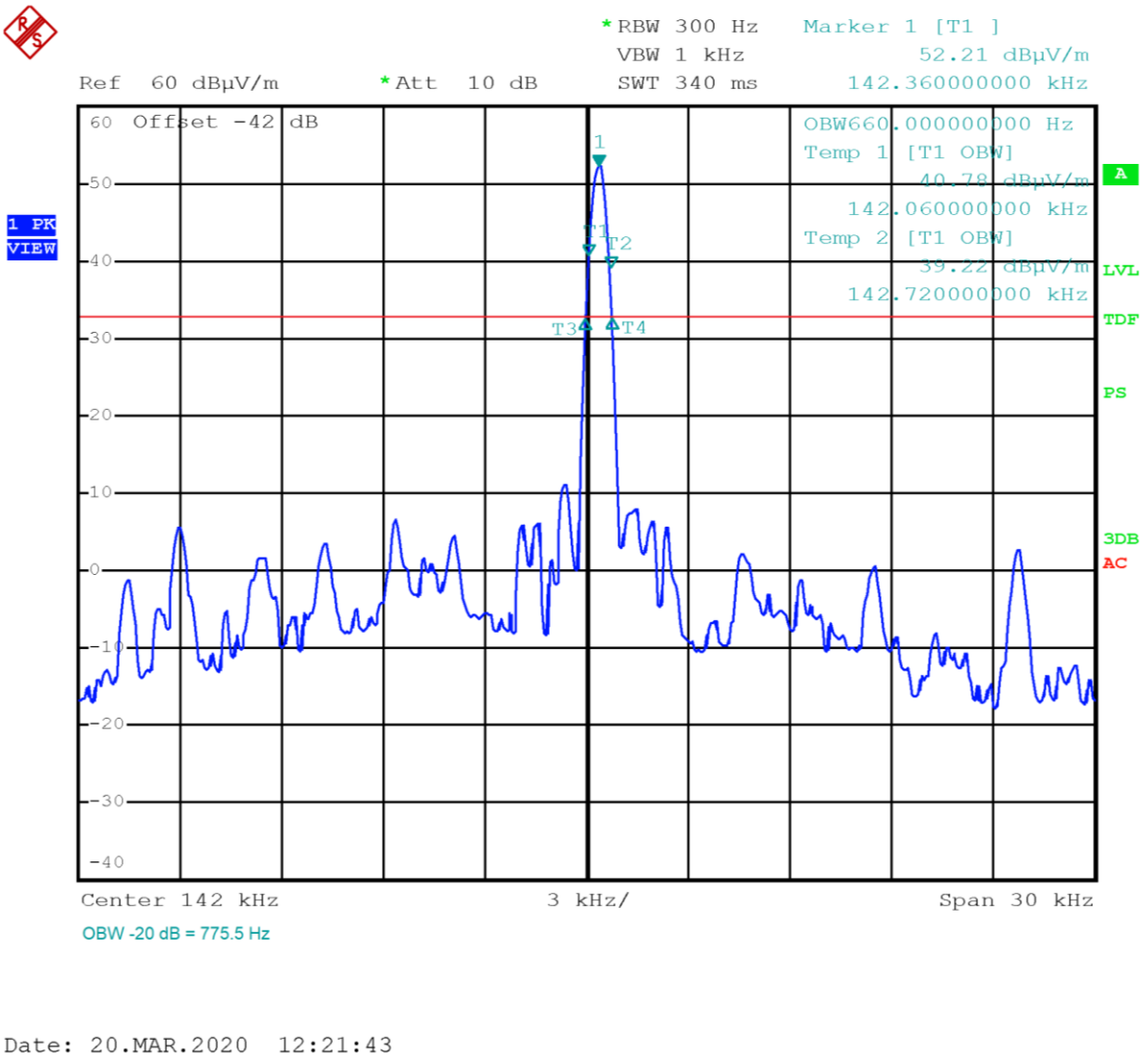
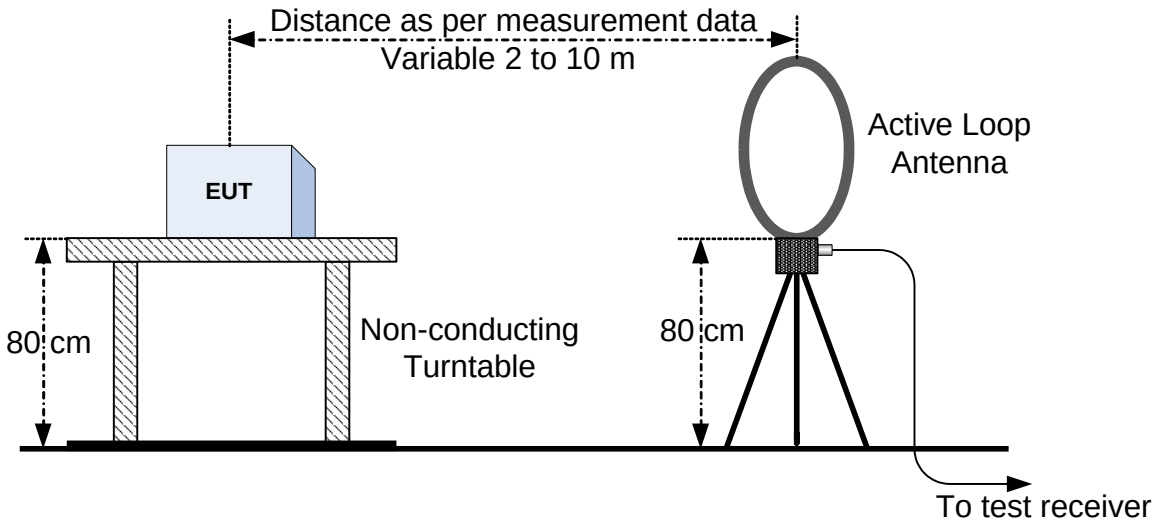
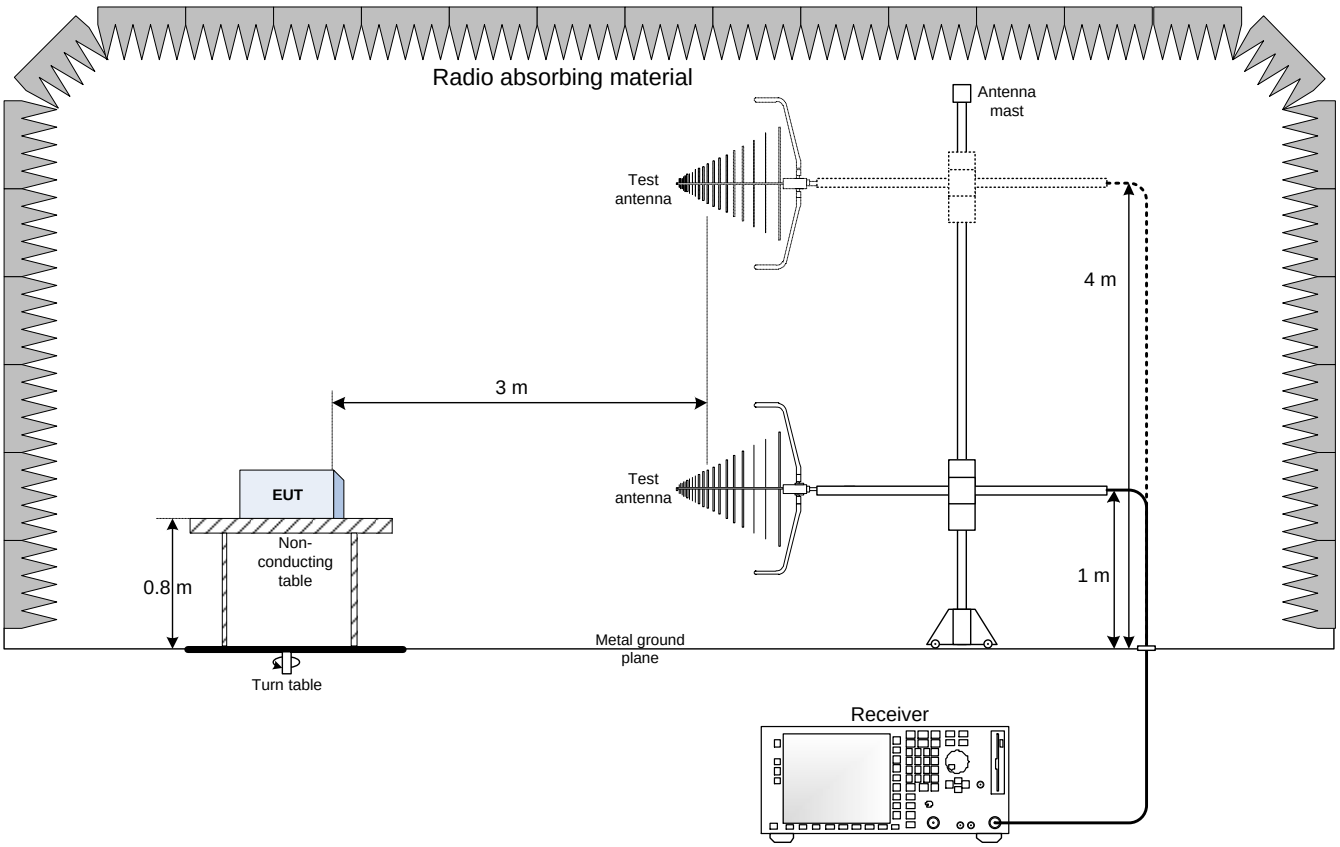


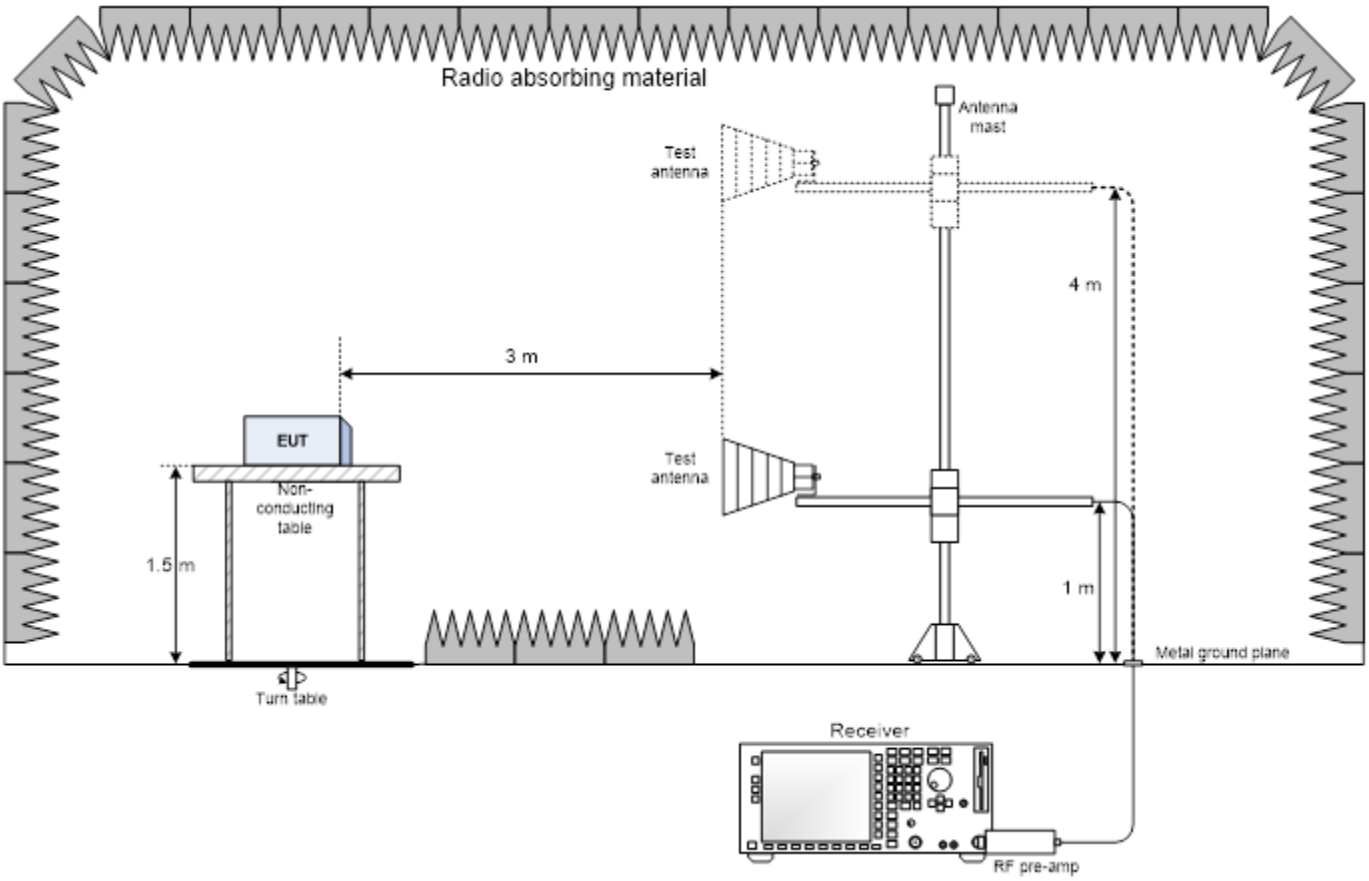
Figure 8.4-1: *-20 dB occupied bandwidth measurements results*

Section 9. Block diagrams of test set-ups

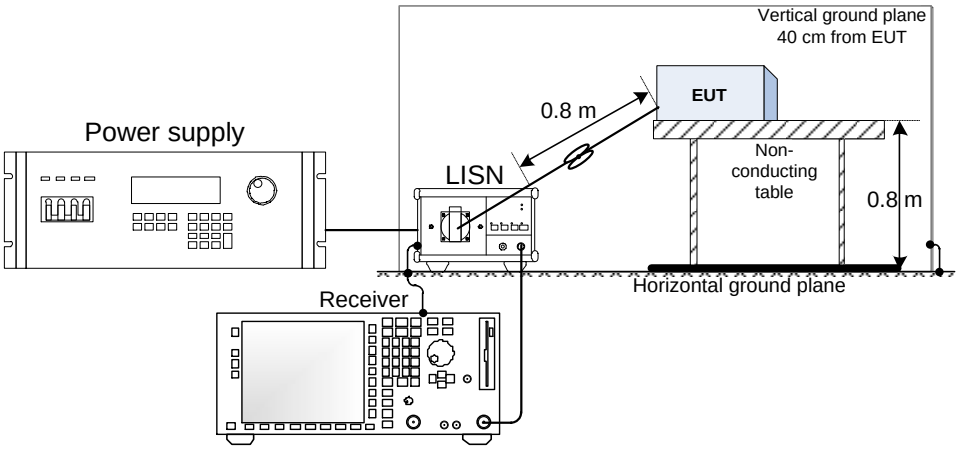
9.1 Radiated emissions set-up





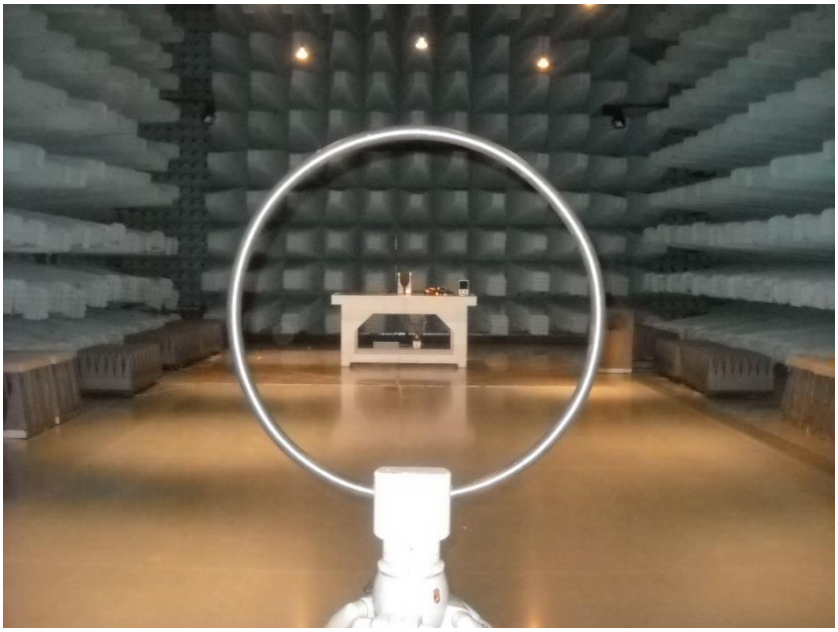


9.2 Conducted emissions set-up

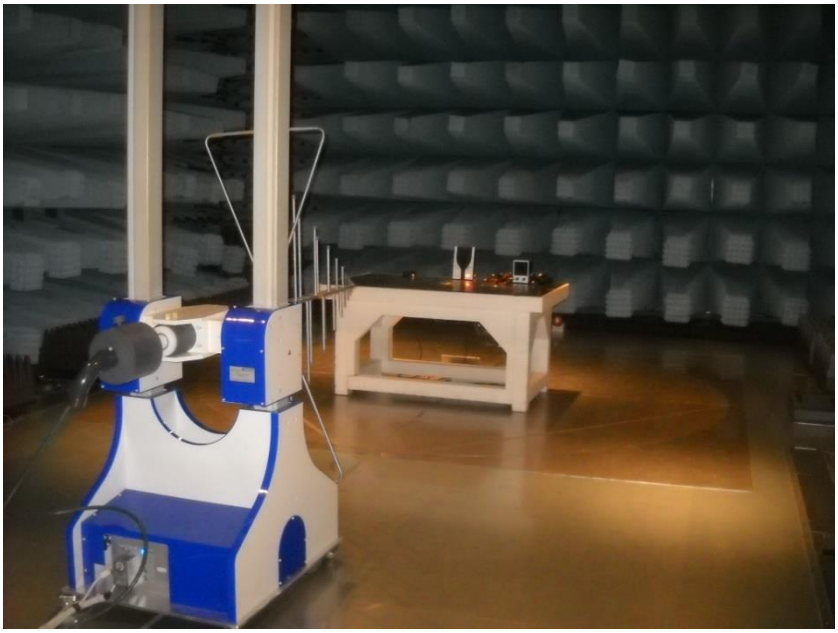


Section 10. Photos

10.1 Photos of the test set-up

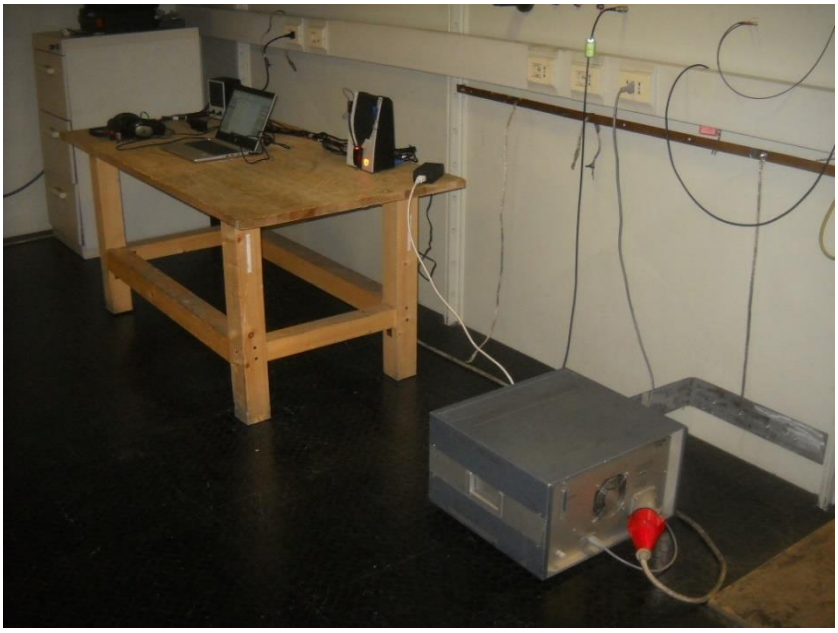


Set-up for radiated emission test below 30 MHz



Set-up for radiated emission test below 1 GHz

Set-up for radiated emission test above 1 GHz (REM probe)



Set-up for conducted emission test

10.2 Photos of the EUT

End of report