



RF-TEST REPORT

- Jp, ARIB-T106 -

Type / Model Name : RR21

Product Description : UHF RFID Reader

Applicant : race result AG

Address : Joseph-von-Fraunhofer-Str. 11
76327 PFINZTAL, GERMANY

Manufacturer : race result AG

Address : Joseph-von-Fraunhofer-Str. 11
76327 PFINZTAL, GERMANY

Test Result according to the standards listed in clause 1 test standards:	POSITIVE
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Test Report No. : 80240901-01 Rev_3	07. January 2026 Date of issue
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Deutsche
Akkreditierungsstelle
D-PL-12030-01-01
D-PL-12030-01-02

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test results
without the written permission of the test laboratory.

Contents

1	<u>TEST STANDARDS</u>	<u>4</u>
2	<u>SUMMARY</u>	<u>5</u>
2.1	General remarks	5
2.2	Revision history of test report	5
2.3	Final assessment	6
3	<u>EQUIPMENT UNDER TEST</u>	<u>7</u>
3.1	Photo documentation of the EUT – Detailed photos see Attachment A	7
3.2	Power supply system utilised	7
3.3	Short description of the equipment under test (EUT)	7
3.4	EUT operation mode:	7
3.5	EUT configuration:	7
3.6	Antenna	7
4	<u>TEST ENVIRONMENT</u>	<u>8</u>
4.1	Address of the test laboratory	8
4.2	Statement regarding the usage of logos in test reports	8
4.3	Environmental conditions	8
4.4	Statement of the measurement uncertainty	8
4.5	Measurement protocol for MIC	9
4.6	Determination of worst case measurement conditions	9
5	<u>TEST CONDITIONS AND RESULTS</u>	<u>10</u>
5.1	Frequency tolerance	10
5.2	Occupied bandwidth	14
5.3	Intensity of spurious emissions	16
5.4	RF section	23
5.5	Antenna power	24
5.6	Output power tolerance	26
5.7	Limit on secondary radiated emissions	26
5.8	Absolute gain, EIRP	27
5.9	Transmission time control	28
5.10	Adjacent channel leakage power	32
5.11	Receiving from responding device	36
5.12	Carrier sense	36
5.13	Conformance to RF exposure	37
6	<u>USED TEST EQUIPMENT AND ACCESSORIES</u>	<u>39</u>

6.1	Full name of calibration companies	39
6.2	Calibration information	39
6.3	Test systems	39

Attachement A is provided as separate supplementary

1 TEST STANDARDS

The tests were performed according to following standards:

Specified Low Power Radio Equipment	Certification Ordinance Article 2, Clause 1, Item 6
STD-T106, December 4th, 2019	920MHz-Band RFID Equipment for Premises Radio Station and Land Mobile Radio Station
Public notice No. 88/2004: Table No. 1	Measuring Method for Intensity of Spurious Emissions or Extraneous Emission
Mobile Identification	Table No. 22, Chapter 12 (Section 10) Table No. 22, Chapter 13 (Section 10)
Table No. 20	Test methods for radio equipment mentioned in the Certification Regulations Article 2, Item 1, No. 6.

2 SUMMARY

2.1 General remarks

The EUT is an interrogator in the frequency range 916.7 MHz to 920.9 MHz. It provides 4 channels and reads RF tags.

According to customer specification the device works on following channels:

Channel unit number	Centre frequency (MHz)
1	916.8
2	918.0
3	919.2
4	920.4

The device will be installed and programmed via special software from professional workers and not from the general public.

The manufacturer provided special test software with free power setting. All tests were performed with the country setting for Japan provided by the manufacturer's software.

There are no variants of the EUT.

It is not possible to set the EUT in receiving mode only.

The EUT does support LBT function.

2.2 Revision history of test report

Test report No	Rev.	Issue Date	Changes
80196737-00	0	24 March 2025	Initial test report
	1	15 April 2025	Clause 5.6.2: unit changed to W Clause 5.12: clarification of carrier sense Clause 5.13.3: formula clarification for r determination Clause 5.13.4: clarification of linear gain
	2	23 July 2025	Clause 5.1: implementation of Table No. 20 measurement data Clause 6: Update of used equipment
	3	07 January 2026	Clause 1: Art. 2, clause 1 changed to item 6 Clause 5.3.5: Art. 2, clause 1 changed to item 6 Clause 5.6.1: Art. 2, clause 1 changed to item 6 Clause 5.6.2: Art. 2, clause 1 changed to item 6 Clause 5.8.2: Art. 2, clause 1 changed to item 6 Clause 5.8.4: Art. 2, clause 1 changed to item 6

The test report with the highest revision number replaces the previous test reports.

2.3 Final assessment

The equipment under test **fulfills** the EMI requirements cited in clause 1 test standards.

Date of receipt of test sample : acc. to storage records
Testing commenced on : 13. February 2025
Testing concluded on : 23. July 2025

Checked by:


Klaus
Gegenfurtner
2026.01.07
10:38:58 +01'00'

Klaus Gegenfurtner
Teamleader Radio

Tested by:


I am the author of
this document
2026.01.07
10:33:35 +01'00'

Franz-Xaver Schrettenbrunner
Radio Team

3 EQUIPMENT UNDER TEST

3.1 Photo documentation of the EUT – Detailed photos see Attachment A

3.2 Power supply system utilised

Power supply voltage, Vnom : 14.4 V DC

The extreme voltages are: Vmin = 12.96 V DC Vmax = 15.84 V DC

3.3 Short description of the equipment under test (EUT)

The UHF RFID Reader (Ultra High Frequency Radio Frequency Identification) is designed to read information stored on RFID tags. The device is DC powered and managed by an external controller via a CAN Bus (Controller Area Network).

Number of tested samples: 1
Serial number: 250204061

3.4 EUT operation mode:

The equipment under test is operated during the measurement under the following conditions:

continuous Tx mode (modulated)
continuous Tx mode (unmodulated)
stand-by mode

3.5 EUT configuration:

The following peripheral devices and interface cables are connected during the measurements:

- Notebook Model : Lenovo Thinkpad E14 Gen3
- CAN-USB adaptor Model : Peak IPEH
- Laboratory power supply Model : Hameg HM8143

3.6 Antenna

The following antennas shall be used with the EUT:

Number	Characteristic	Model number	Plug	Frequency range (MHz)	Peak Gain (dBi)
1	omni	RR21 internal antenna	PCB	902 - 928	3.7

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

**CSA Group Bayern GmbH
Ohmstrasse 1-4
94342 STRASSKIRCHEN
GERMANY**

4.2 Statement regarding the usage of logos in test reports

The accreditation and notification body logos displayed in this test report are only valid for standards listed in the accreditation or notification scope of CSA Group Bayern GmbH.

4.3 Environmental conditions

During the measurement the environmental conditions were as follows:

All tests are performed in a calibrated climatic chamber with a temperature of 20.0 °C and humidity of 50.0 %.

4.4 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. It is noted that the expanded measurement uncertainty corresponds to the measurement results from the standard measurement uncertainty multiplied by the coverage factor $k = 2$. The true value is located in the corresponding interval with a probability of 95 %. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 / 11.2003 „Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements“ and is documented in the quality system acc. to DIN EN ISO/IEC 17025. For all measurements shown in this report, the measurement uncertainty of the test laboratory, CSA Group Bayern GmbH, is below the measurement uncertainty as defined by CISPR. Therefore, no special measures must be taken into consideration with regard to the limits according to CISPR. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

4.5 Measurement protocol for MIC

4.5.1 Test methodology

In compliance with the equipment regulations the test methods of Appendix 20 No.1 are subject of this test report and the limits applies of the Radio Law, Technical Certification Regulations and Ordinance Regulating Radio Equipment or further notifications of MIC.

4.5.2 Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral with its characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum disturbances from the unit.

4.6 Determination of worst case measurement conditions

All measurements were performed conducted.

5 TEST CONDITIONS AND RESULTS

5.1 Frequency tolerance

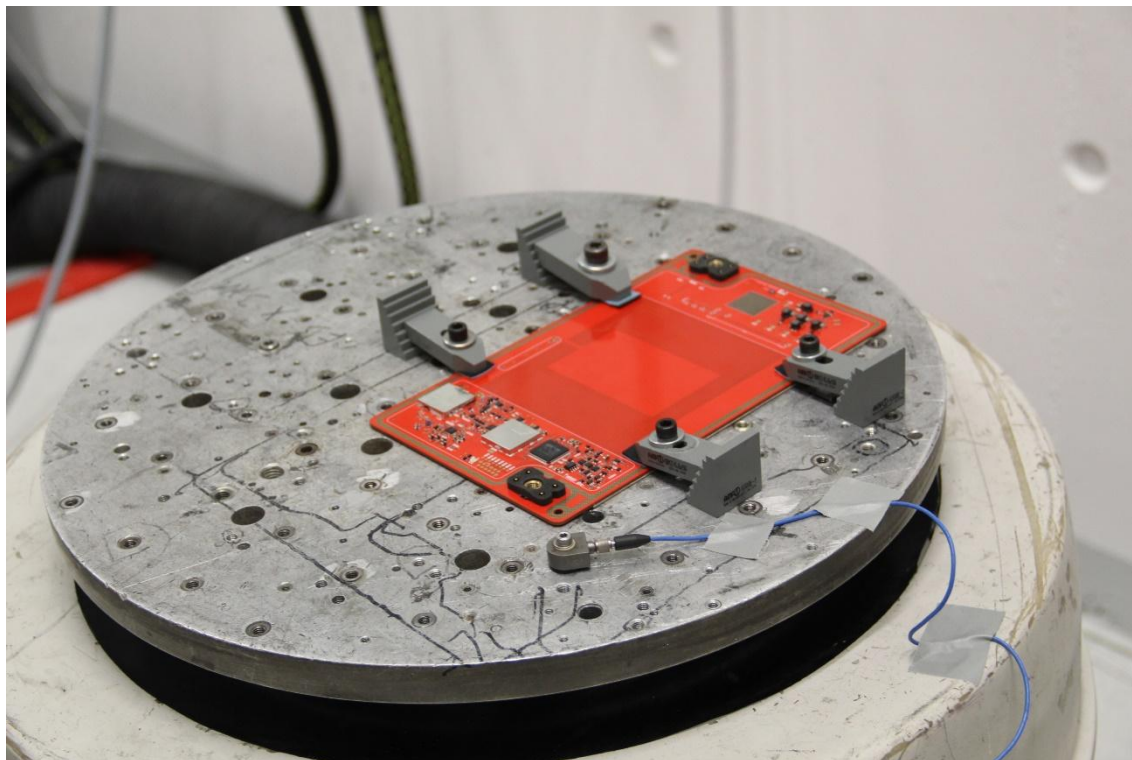
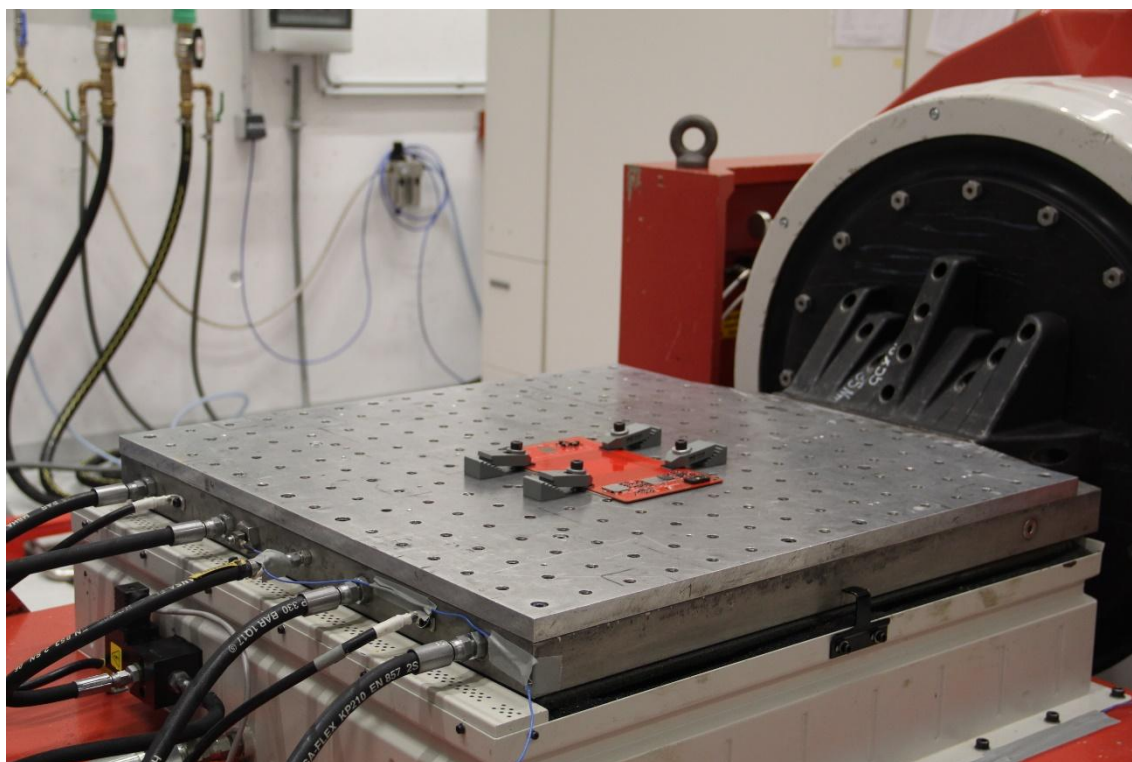
For test instruments and accessories used see section 6 Part MB.

5.1.1 Description of the test location

Test location: Shielded Room SR7

5.1.2 Photo documentation of the test set-up





5.1.3 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter I, Section 2, Article 5:
The frequency deviation of the upper and lower limit frequency has to be inside of the appropriate frequency band.

5.1.4 Measurement description

Spectrum analyser settings:

RBW: 1 kHz VBW: 1 kHz Detector: max. Peak
Trace mode: max. Hold Span: 0.5 MHz

The measurements are performed before and after vibration tests according to Table No. 20:

5.1.5 Test result

Before vibration tests:

EUT settings: TX1, P30			Test results		
		Center frequency	20 ppm limit	Frequency deviation	
Test frequency 916.8 MHz		(MHz)	(± kHz)	(kHz)	(ppm)
T_{nom}	V_{nom}	916.7991	18.3	0.9	1.0
T_{nom}	V_{min}	916.7991	18.3	0.9	1.0
T_{nom}	V_{max}	916.7991	18.3	0.9	1.0
Test frequency 919.2 MHz					
T_{nom}	V_{nom}	919.1991	18.4	0.9	1.0
T_{nom}	V_{min}	919.1991	18.4	0.9	1.0
T_{nom}	V_{max}	919.1991	18.4	0.9	1.0
Test frequency 920.4 MHz					
T_{nom}	V_{nom}	920.3994	18.4	0.6	0.7
T_{nom}	V_{min}	920.3994	18.4	0.6	0.7
T_{nom}	V_{max}	920.3994	18.4	0.6	0.7
Uncertainty				$\pm 1 \times 10^{-6}$	

After vibration tests:

EUT settings: TX1, P30			Test results		
		Center frequency	20 ppm limit	Frequency deviation	
Test frequency 916.8 MHz		(MHz)	(± kHz)	(kHz)	(ppm)
T_{nom}	V_{nom}	916.7993	18.3	0.7	0.8
T_{nom}	V_{min}	916.7993	18.3	0.7	0.8
T_{nom}	V_{max}	916.7993	18.3	0.7	0.8
Test frequency 919.2 MHz					
T_{nom}	V_{nom}	919.1993	18.4	0.7	0.8
T_{nom}	V_{min}	919.1993	18.4	0.7	0.8
T_{nom}	V_{max}	919.1993	18.4	0.7	0.8
Test frequency 920.4 MHz					
T_{nom}	V_{nom}	920.3993	18.4	0.7	0.8
T_{nom}	V_{min}	920.3993	18.4	0.7	0.8
T_{nom}	V_{max}	920.3993	18.4	0.7	0.8
Uncertainty				$\pm 1 \times 10^{-6}$	

Limit according to Ordinance Regulating Radio Equipment, Chapter I, Section 2, Article 5:

Table 1, Note 35

Frequency tolerance limit (ppm)
± 20

The requirements are **FULFILLED**.

Remarks: Measurements are performed with unmodulated signal.

5.2 Occupied bandwidth

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

5.2.1 Description of the test location

Test location: Shielded Room SR7

5.2.2 Photo documentation of the test set-up



5.2.3 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter I, Section 2, Article 6:
The occupied bandwidth shall be $(200 \times n)$ kHz or less.

5.2.4 Measurement description

The measurement was performed according to Table No.20 by using the spectrum analyser function "occupied bandwidth". The bandwidth was set to 99%. The f1 and the f2 marker are automatically set to the lower limit frequency and the upper limit frequency.

Spectrum analyser settings:

RBW: 3 kHz

Trace mode: max Hold

VBW:

Span:

3 kHz

0.6 MHz (because of the small OBW).

Detector:

max Peak

5.2.5 Test result

Channel	Center frequency	Lower Frequency	Upper Frequency	99% OBW	Limit
No.	(MHz)	(MHz)	(MHz)	(kHz)	(kHz)
1	916.7995	916.7491	916.8499	100.8	< 200
3	919.1970	919.1483	919.2457	97.4	< 200
4	920.3974	920.3466	920.4482	101.6	< 200

Limit according to Equipment Regulation Article 6, No. 2, Appendix 8:
It is (200 × n) kHz or less.

The requirements are **FULFILLED**.

Remarks:

None.

5.3 Intensity of spurious emissions

For test instruments and accessories used see section 6 Part **SEC 1-3**.

5.3.1 Description of the test location

Test location: Shielded Room SR7

5.3.2 Photo documentation of the test set-up



5.3.3 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter I, Section 2, Article 7:
The permissible values for the intensity of spurious or unwanted emissions shall be as stipulated in Table 3.

5.3.4 Description of Measurement

The spurious emissions are measured using a spectrum analyser and the methods set out in annex 1. The EUT is set to the worst case emission using all tests channels. The sweep time of the analyser is set to 20 ms, the sweep count is set to 1000, this means a total sweep time of 20 s in trace mode "avgpwr".

5.3.5 Test result

Frequency band	Worst-case emission (MHz)	Worst-case emission (dBm)	Margin (dB)
30 – 710 MHz	30.03	-79.4	-43.4
710 – 900 MHz	847.60	-65.0	-7.0
900 – 915 MHz	914.84	-59.8	-1.8
915 – 915.7 MHz	915.45	-59.8	-20.8
915.7 – 923.5 MHz (Except 100 x (n+1) from the center frequency of radio channel)	916.60	-44.0	-15.0
	920.60	-42.1	-13.1
923.5 – 930 MHz	924.99	-57.7	-18.7
930 – 1000 MHz	945.51	-62.5	-4.5
1000 – 1215 MHz	1006.2	-64.6	-16.6
1215 – 5000 MHz	9255.5	-62.0	-32.0

Limit according to Ordinance Regulating Radio Equipment, Article 2, Clause 1, Item 6:

Frequency band	Permissible value of the unwanted emission	Reference bandwidth
30 – 710 MHz	≤ -36 dBm	100 kHz
710 – 900 MHz	≤ -58 dBm	1 MHz
900 – 915 MHz	≤ -58 dBm	100 kHz
915 – 915.7 MHz	≤ -39 dBm	100 kHz
915.7 – 923.5 MHz (Except 100 x (n+1) from the center frequency of radio channel)	≤ -29 dBm	100 kHz
923.5 – 930 MHz	≤ -39 dBm	100 kHz
930 – 1000 MHz	≤ -58 dBm	100 kHz
1000 – 1215 MHz	≤ -48 dBm	1 MHz
1215 – 5000 MHz	≤ -30 dBm	1 MHz

(Note: That n is the number of unit channel to be used at the same time as one radio channel)

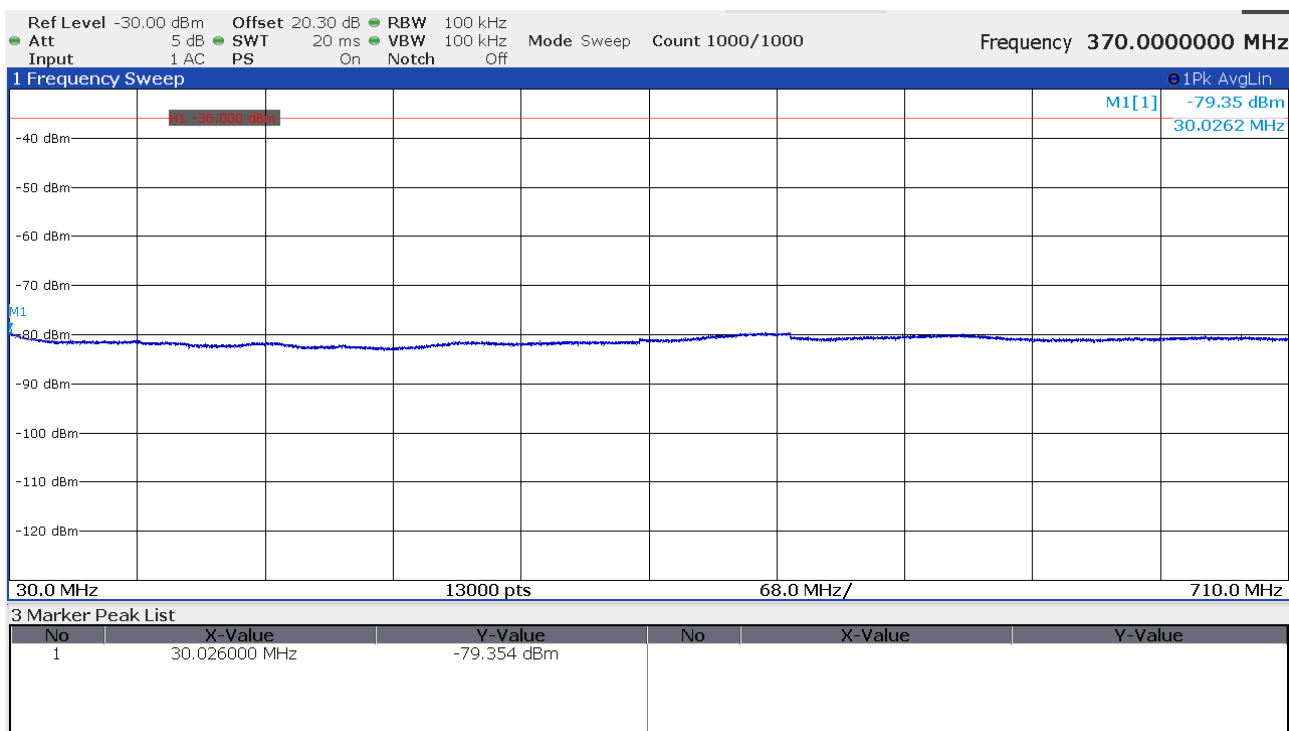
The requirements are **FULFILLED**.

Remarks: For detailed test results please refer to the following section.

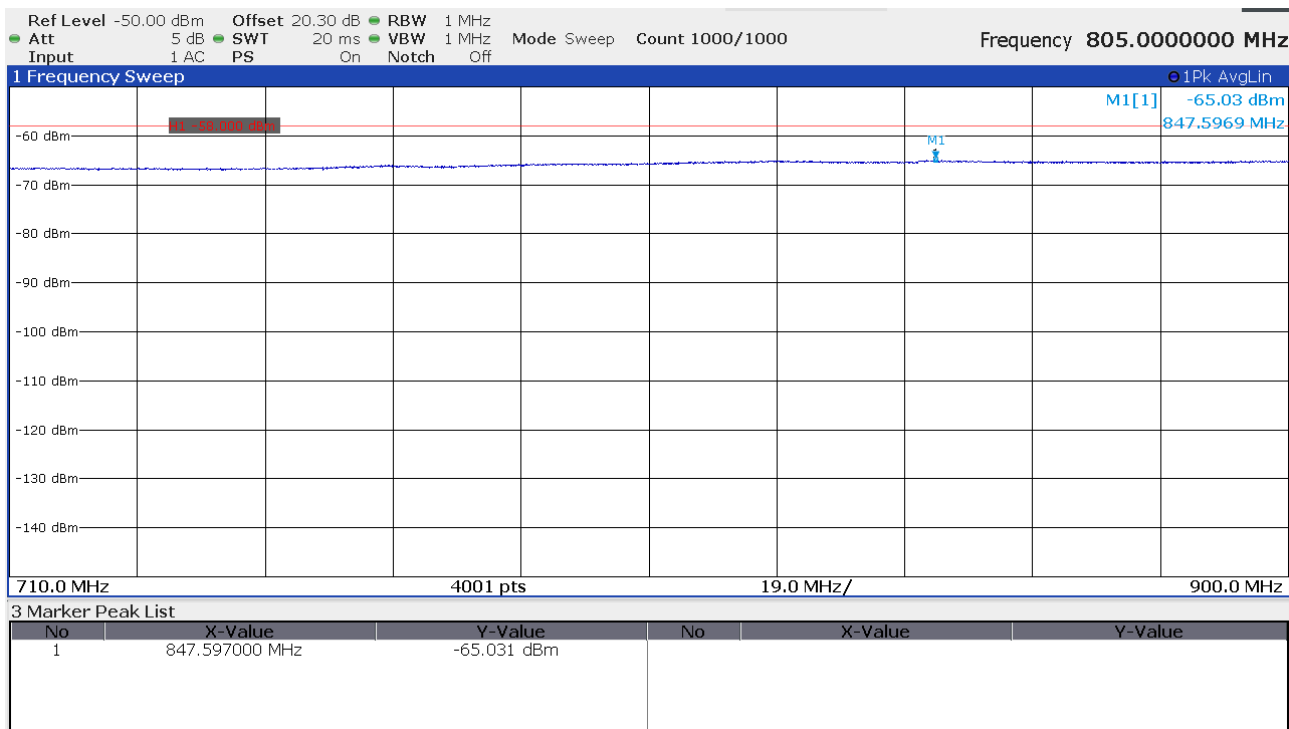
All channels were active in hopping mode.

5.3.6 Test diagram

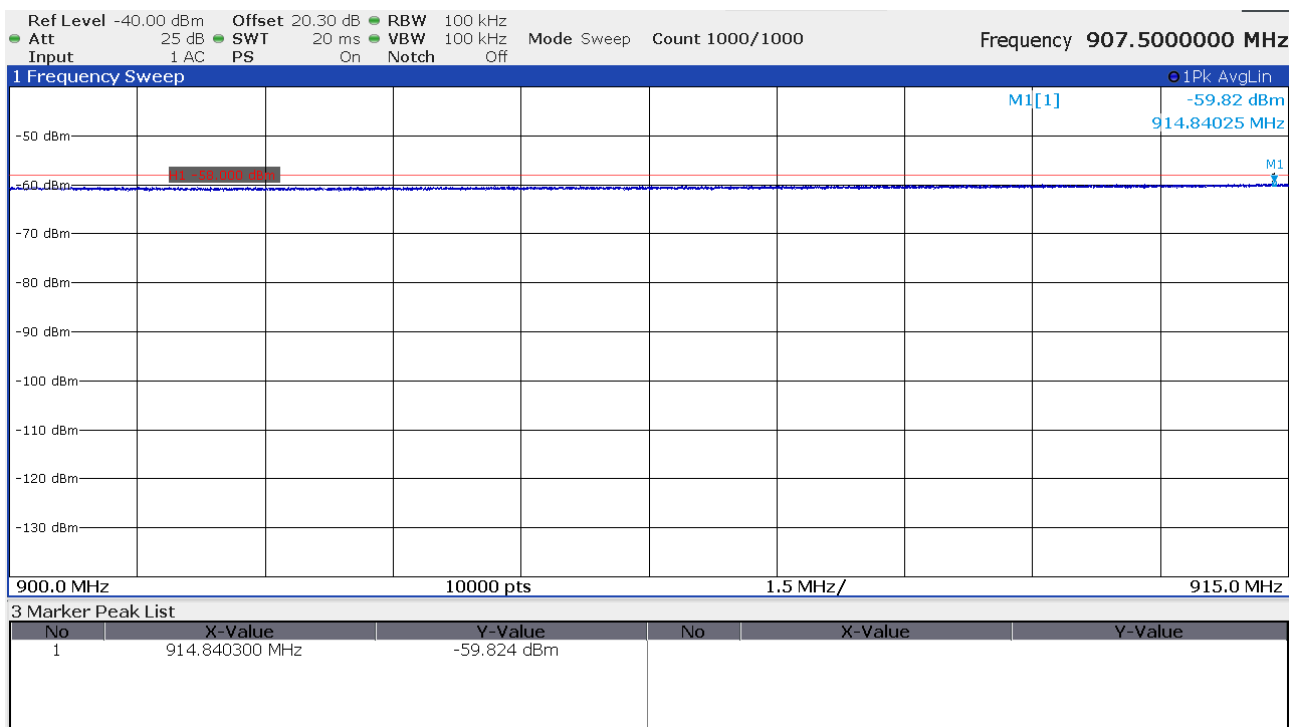
30 MHz – 710 MHz



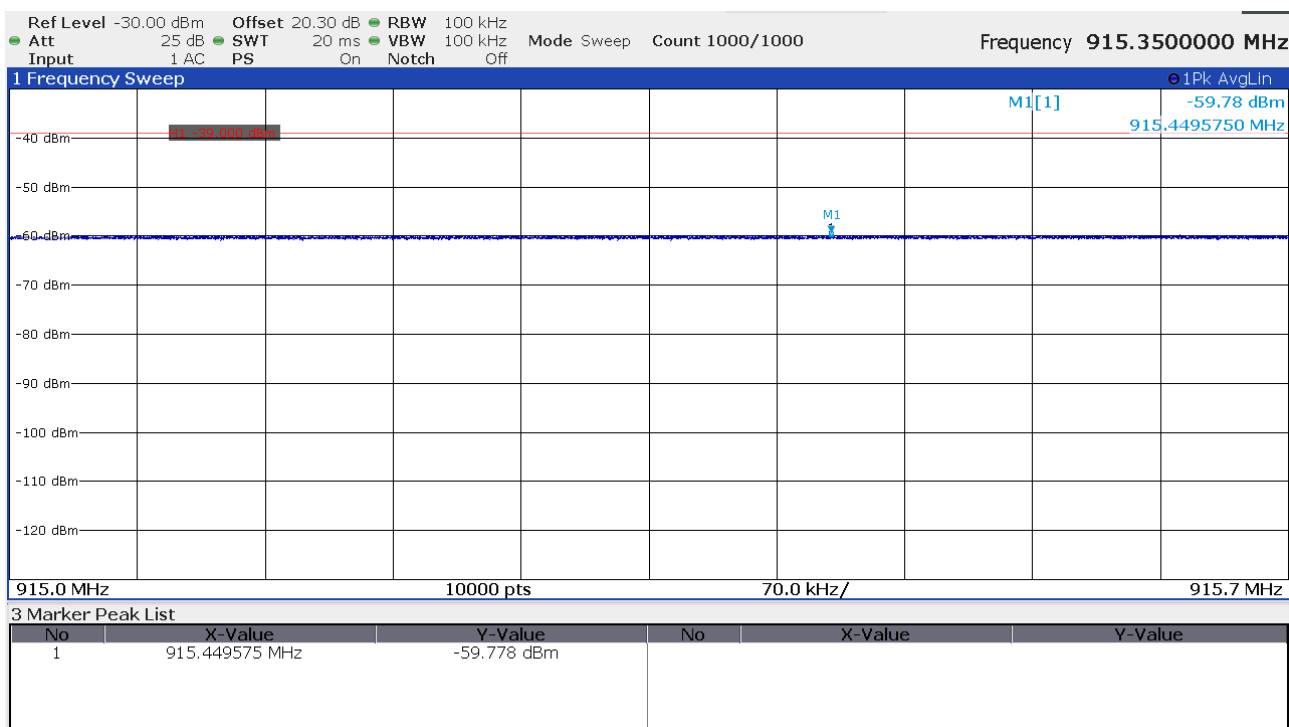
710 MHz – 900 MHz



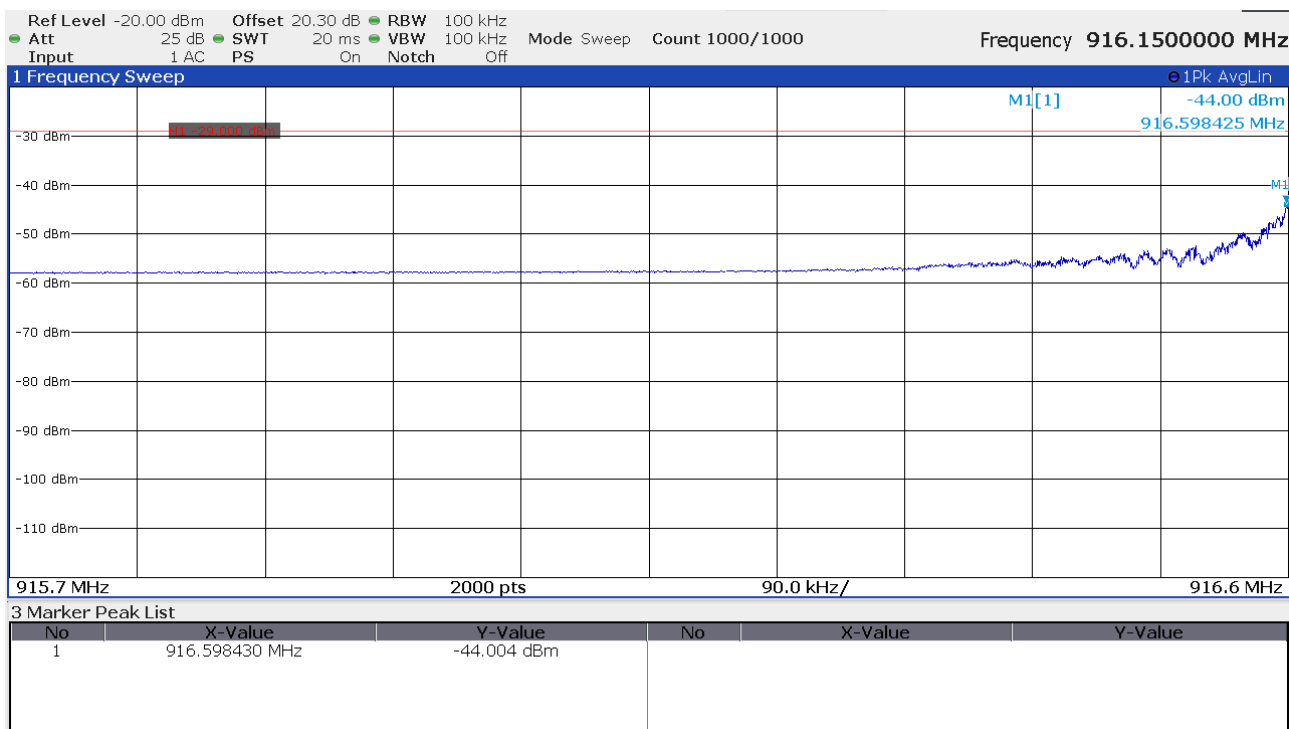
900 MHz – 915 MHz



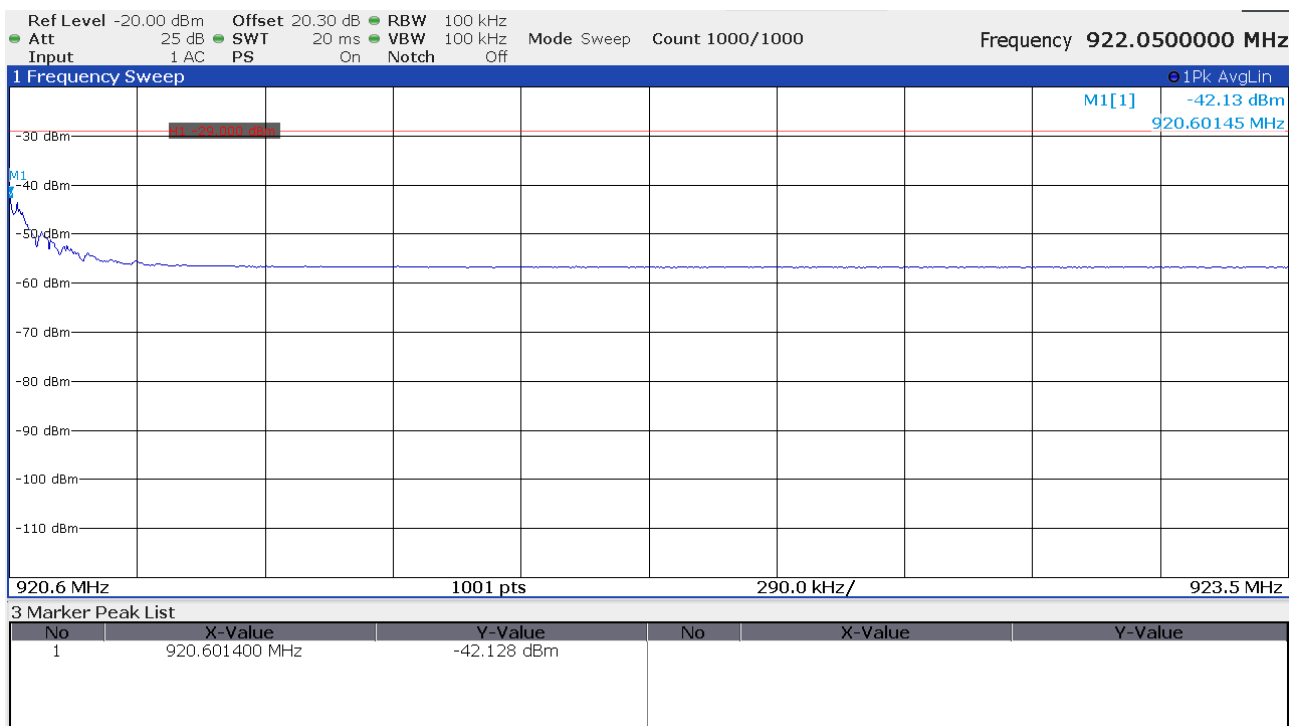
915.0 MHz – 915.7 MHz



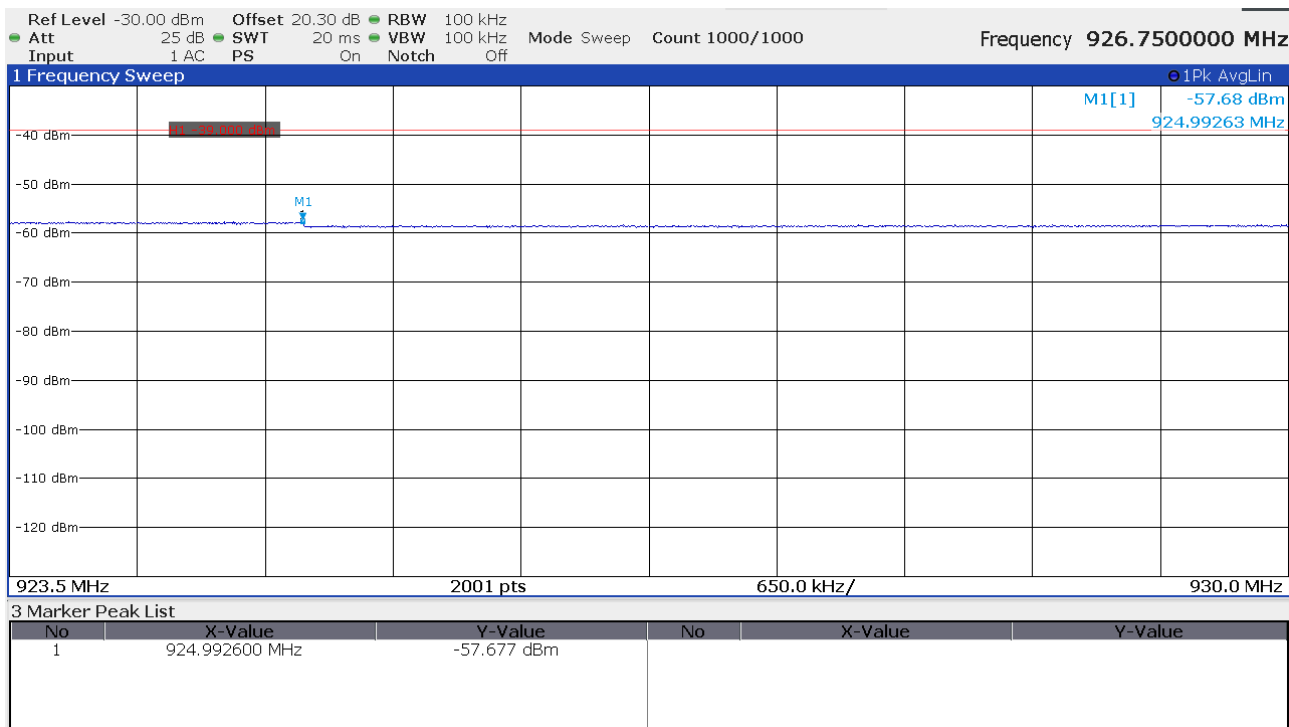
915.7 MHz – 916.6 MHz



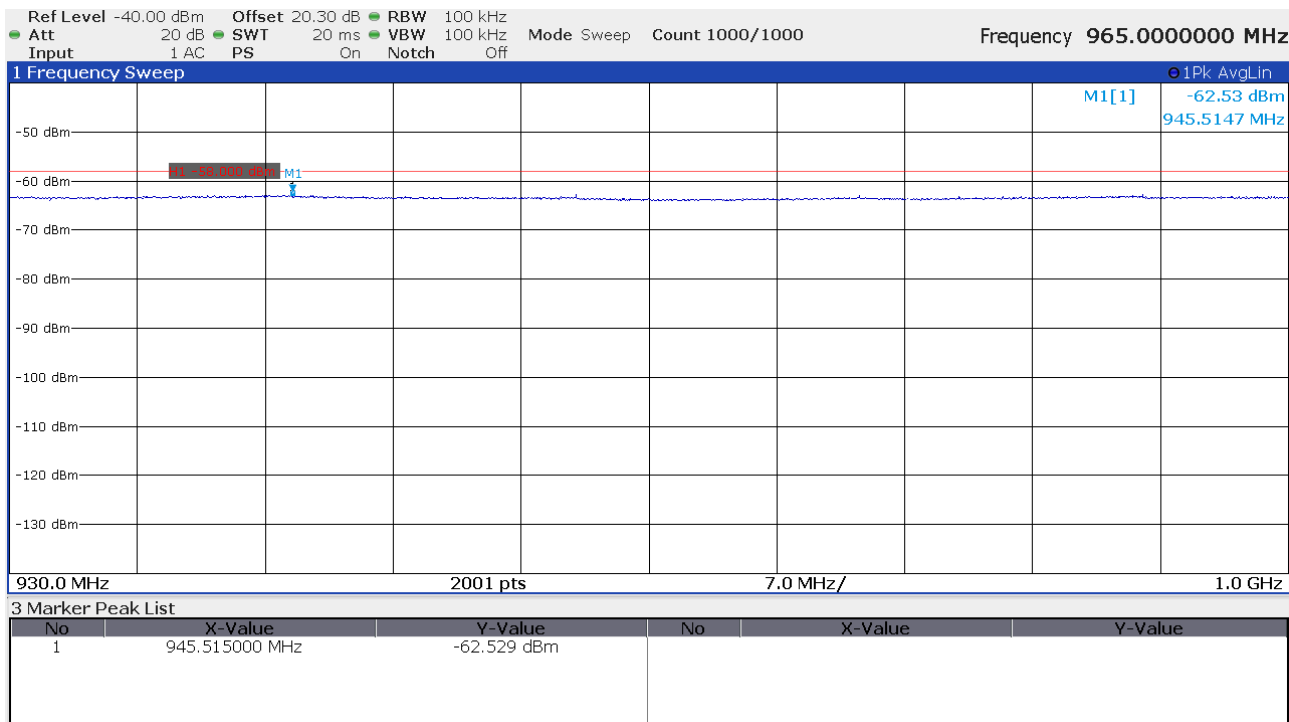
920.6 MHz – 923.5 MHz



923.5 MHz – 930 MHz



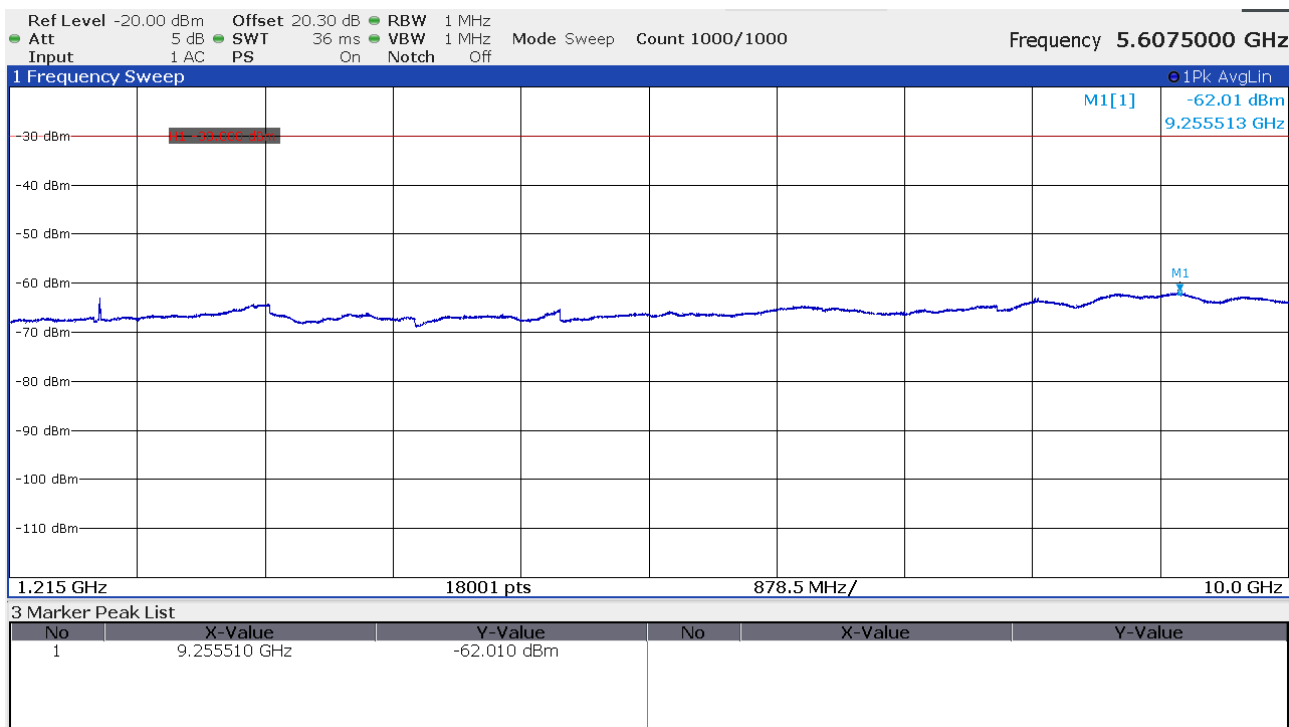
930.0 MHz – 1000 MHz



1000 MHz – 1215 MHz



1215 MHz – 10000 MHz



5.4 RF section

5.4.1 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter IV, Section 4.10, Article 49.9:
Modulation unit and the RF unit except the antenna system, it cannot be opened easily.

The RF and modulation sections are built with SMD devices and have no devices, which are adjustable. A handle of the devices can only be done by special tools. This avoids manipulation.

The radio equipment is housed separately in a single cabinet and cannot be opened easily.

Remarks: None.

5.5 Antenna power

For test instruments and accessories used see section 6 Part **CPC 2**.

5.5.1 Description of the test location

Test location: Shielded Room SR7

5.5.2 Photo documentation of the test set-up



5.5.3 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter I, Section 2, Article 14:
The antenna power of the transmitter is limited.

5.5.4 Description of Measurement

The setup of the Equipment under test will be in accordance to annex 20. The measurement is done with the voltage tolerance $\pm 10\%$. The result of the worst case is recorded.

5.5.5 Test result

Test conditions: TX, Port1		Measured antenna power (dBm)		
Antenna		CH1	CH3	CH4
T_{nom}	V_{nom}	29.94	29.97	29.96
T_{nom}	$V_{-10\%}$	29.94	29.97	29.96
T_{nom}	$V_{+10\%}$	29.94	29.97	29.96
Measurement uncertainty		± 3 dB		

Limit according to Notification No.378 of MIC:

Less than 1 W (30 dBm)

The requirements are **FULFILLED**.

Remarks: None.

5.6 Output power tolerance

5.6.1 Applicable standard

According to Ordinance Regulating Radio Equipment, Article 2, Clause 1, Item 6:
Antenna power tolerance is limited.

5.6.2 Calculation of the antenna power tolerance

Rated mean antenna power level	$P_R =$	1.0	(W)
Measured output power max	$P_{Max} =$	0.993	(W)
Measured output power min	$P_{Min} =$	0.986	(W)
Maximum deviation +	$P_{Max} - P_R =$	-0.007	(W)
Maximum deviation -	$P_{Min} - P_R =$	-0.014	(W)
Maximum power tolerance +		-0.7	%
Maximum power tolerance -		-1.4	%

Limit according to Ordinance Regulating Radio Equipment, Article 2, Clause 1, Item 6:
The permissible upper deviation of the antenna power shall be +20%.
The permissible lower deviation of the antenna power shall be -80%.

The requirements are **FULFILLED**.

Remarks: None.

5.7 Limit on secondary radiated emissions

5.7.1 Description of the test location

Test location: NONE

Remarks: The measurement is not applicable. The EUT cannot be set in RX only.

5.8 Absolute gain, EIRP

For test instruments and accessories used see section 6 Part **CPC 2**.

5.8.1 Description of the test location

Test location: Shielded Room SR7

5.8.2 Applicable standard

According to Ordinance Regulating Radio Equipment, Article 2, Clause 1, Item 6:
The absolute gain of the transmitting antenna shall be 6 dBi or less.

5.8.3 Description of Measurement

The transmitter output is connected to the spectrum analyser. The center frequency of the spectrum analyser is set to the channel frequency. This measurement is performed at normal test conditions.

Analyser settings:

RBW: 1 MHz, VBW: 1 MHz, Detector: Max peak, Span: 0.6 MHz

5.8.4 Test result

For the calculation the antenna with the highest gain is used (see antenna 1 in section 3.4):

CH1	effective Gain	A	P [EIRP]	EIRP limit	Margin
Antenna	(dBi)	(dBm)	(W)	(W)	(W)
	3.7	29.94	2.3	4.0	-1.7

CH3	effective Gain	A	P [EIRP]	EIRP limit	Margin
Antenna	(dBi)	(dBm)	(W)	(W)	(W)
	3.7	29.97	2.3	4.0	-1.7

CH4	effective Gain	A	P [EIRP]	EIRP limit	Margin
Antenna	(dBi)	(dBm)	(W)	(W)	(W)
	3.7	29.96	2.3	4.0	-1.7

Limit according to Ordinance Regulating Radio Equipment, Article 2, Clause 1, Item 6:

The absolute gain of the transmitting antenna shall be 6 dBi or less. However, when the equivalent isotropically radiated power is equal to or less than the value obtained by applying an antenna power of 1 W to the antenna with its absolute gain being 6 dBi, the shortage can be compensated by the Antenna Gain.

The requirements are **FULFILLED**.

Remarks: None.

5.9 Transmission time control

For test instruments and accessories used see section 6 Part **CPC 2**.

5.9.1 Description of the test location

Test location: Shielded Room SR7

5.9.2 Photo documentation of the test set-up



5.9.3 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter IV, Section 4.10, Article 49.9:
The radio equipment shall be equipped with a transmission time restriction device which complies with the technical conditions notified separately by MIC.

5.9.4 Test result

The EUT was set into normal operation mode. All four channels are active.

Channel	TX burst length	Limit Transmitting time	Transmission quiescence time	Limit transmission quiescence time	Result
No.	(ms)	(s)	(ms)	(ms)	
1	3.84	≤ 4	96.16	> 50	passed
3	3.84	≤ 4	96.16	> 50	passed
4	3.84	≤ 4	96.16	> 50	passed

Limit according to Notification No.407 of MIC:

It stopped and the launch of the radio waves within 4 seconds transmission time after launch the radio waves, It is one that does not transmit thereafter transmission pause time 50 ms unless after a lapse.

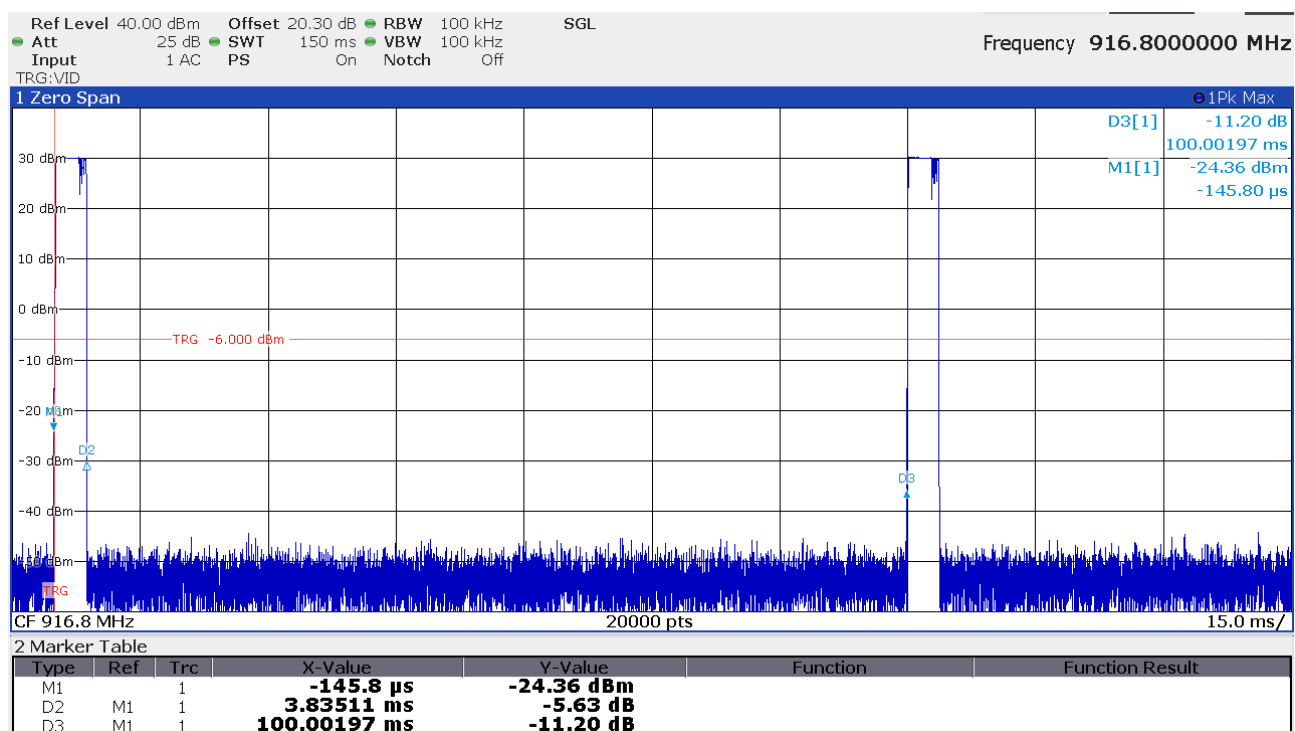
Limit transmitting time (s)	Limit transmission quiescence time (ms)
< 4	> 50

The requirements are **FULFILLED**.

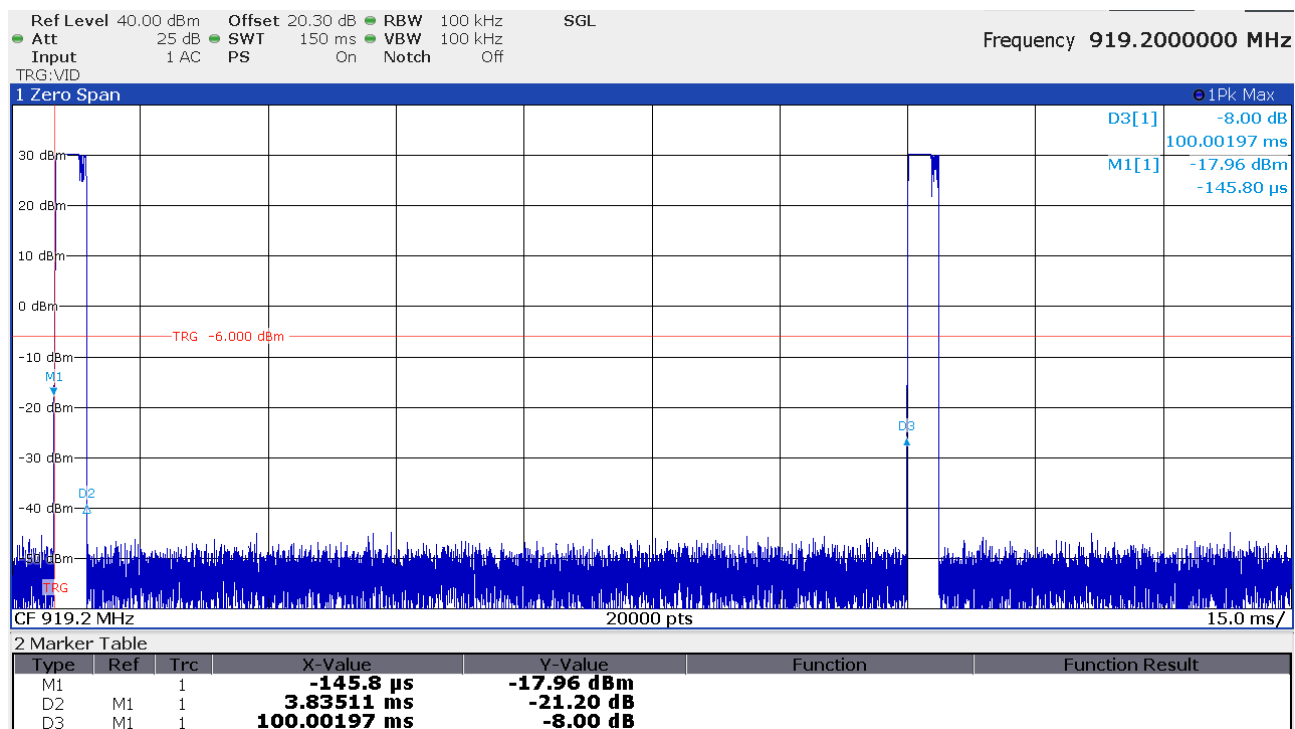
Remarks: For detailed results, please see the test protocol below.

5.9.5 Test protocol

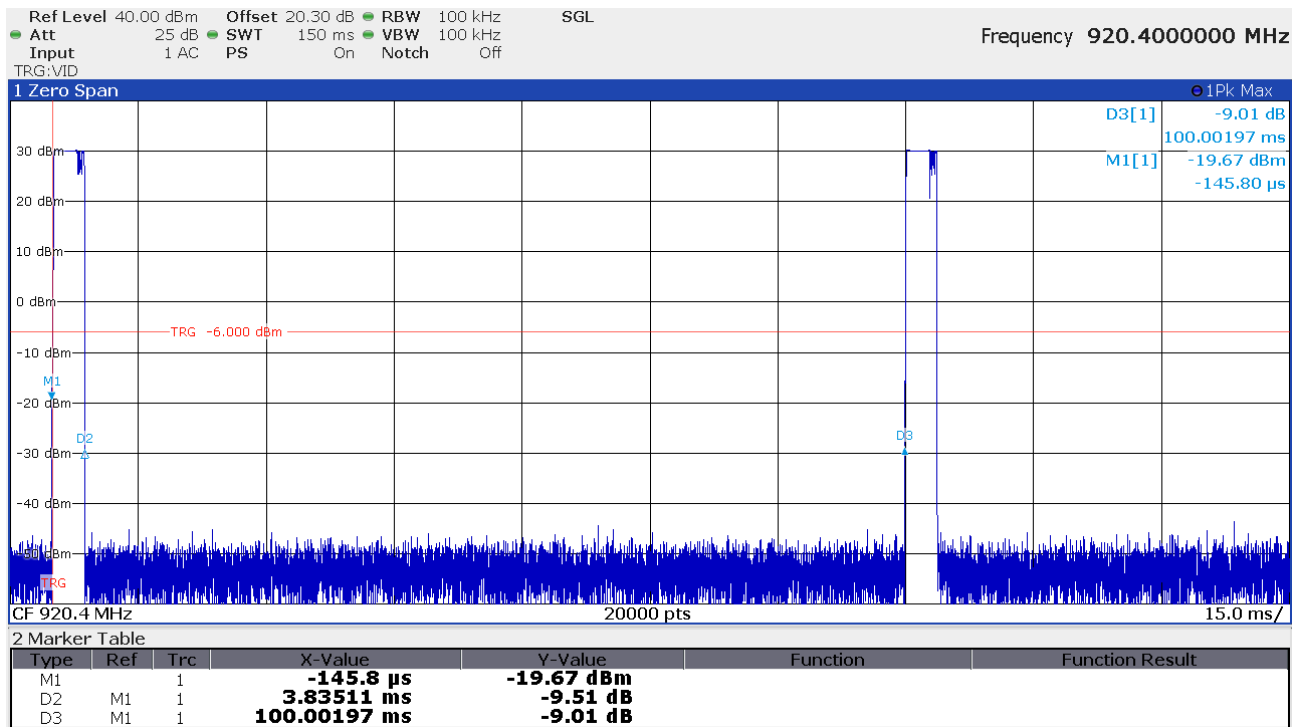
CH1



CH3



CH4



5.10 Adjacent channel leakage power

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

5.10.1 Description of the test location

Test location: Shielded Room SR7

5.10.2 Photo documentation of the test set-up



5.10.3 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter IV, Section 4.10, Article 49.9:
Adjacent channel leakage power shall comply with the conditions defined in the item below:

5.10.4 Description of Measurement

The transmitter output connected to the spectrum analyser through an attenuator. The center frequency of the spectrum analyser is set to the fundamental frequency. The observed values are recorded in dBm, absolute to the channel power. These measurements performed at normal test conditions. The channel power is P30.

Analyser settings:

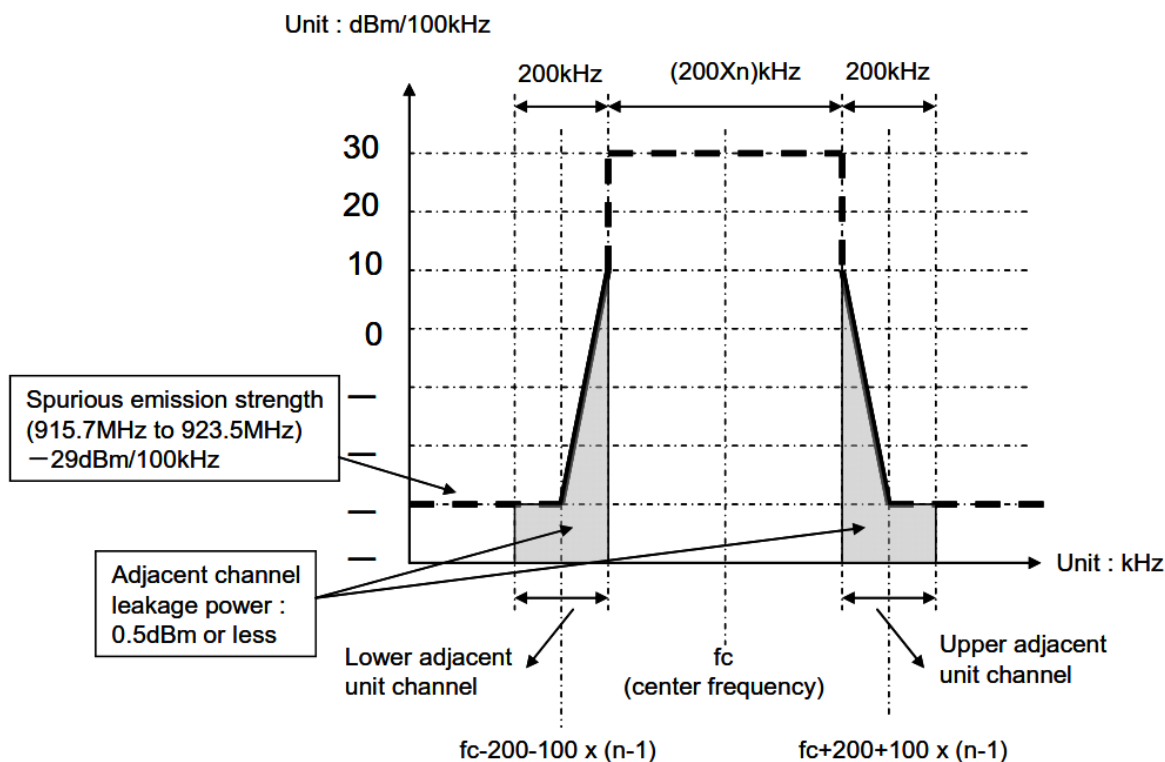
RBW: 10 kHz, VBW: 30 kHz, Detector: Max peak, Span: 624 kHz;

5.10.5 Test result

Channel		Adjacent channel power			
No.	f	-200 kHz	+200 kHz	Limit	Margin
	(MHz)	(dBm/200 kHz)	(dBm/200 kHz)	(dBm)	(dB)
1	916.8	-3.7	-2.6	0.5	-3.1
3	919.2	-3.3	-1.7	0.5	-2.2
4	920.4	-2.6	-1.3	0.5	-1.8

Limit according to Ordinance Regulating Radio Equipment, Chapter IV, Section 4.10, Article 49.14:

Adjacent channel leakage power shall be as follows:

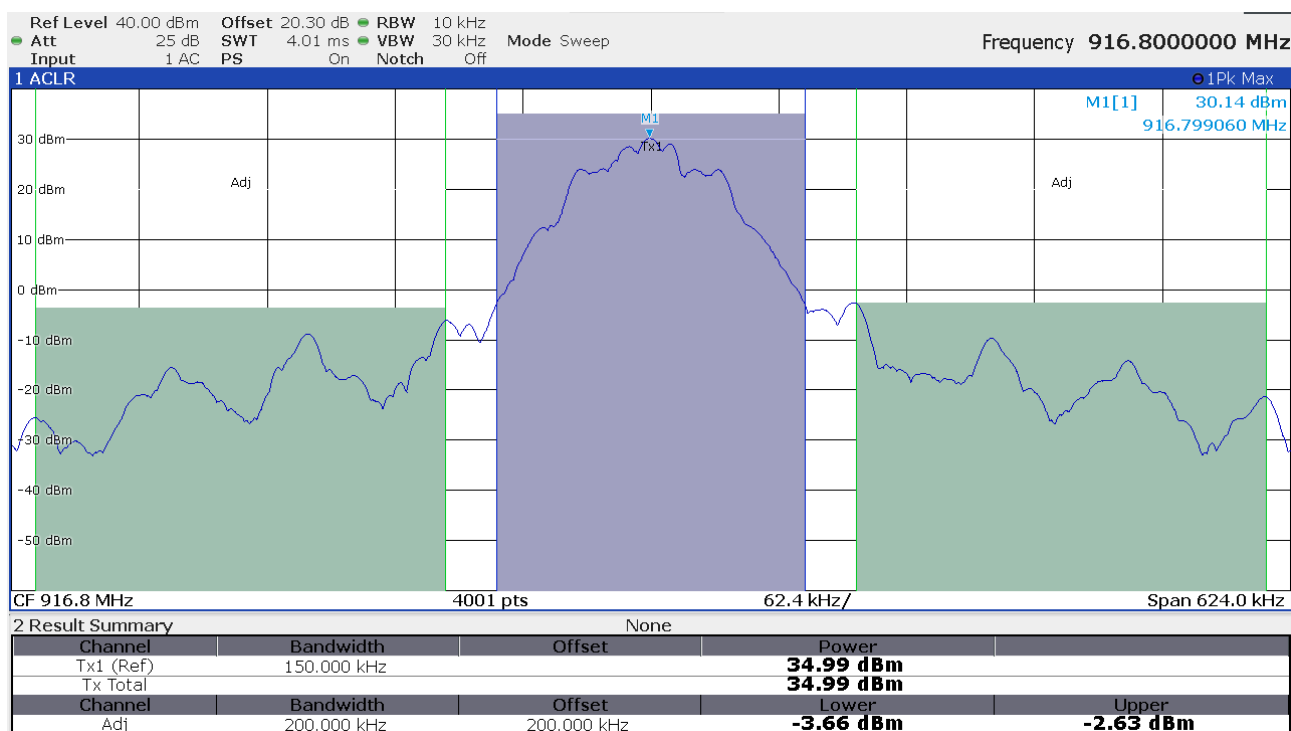


The requirements are **FULFILLED**.

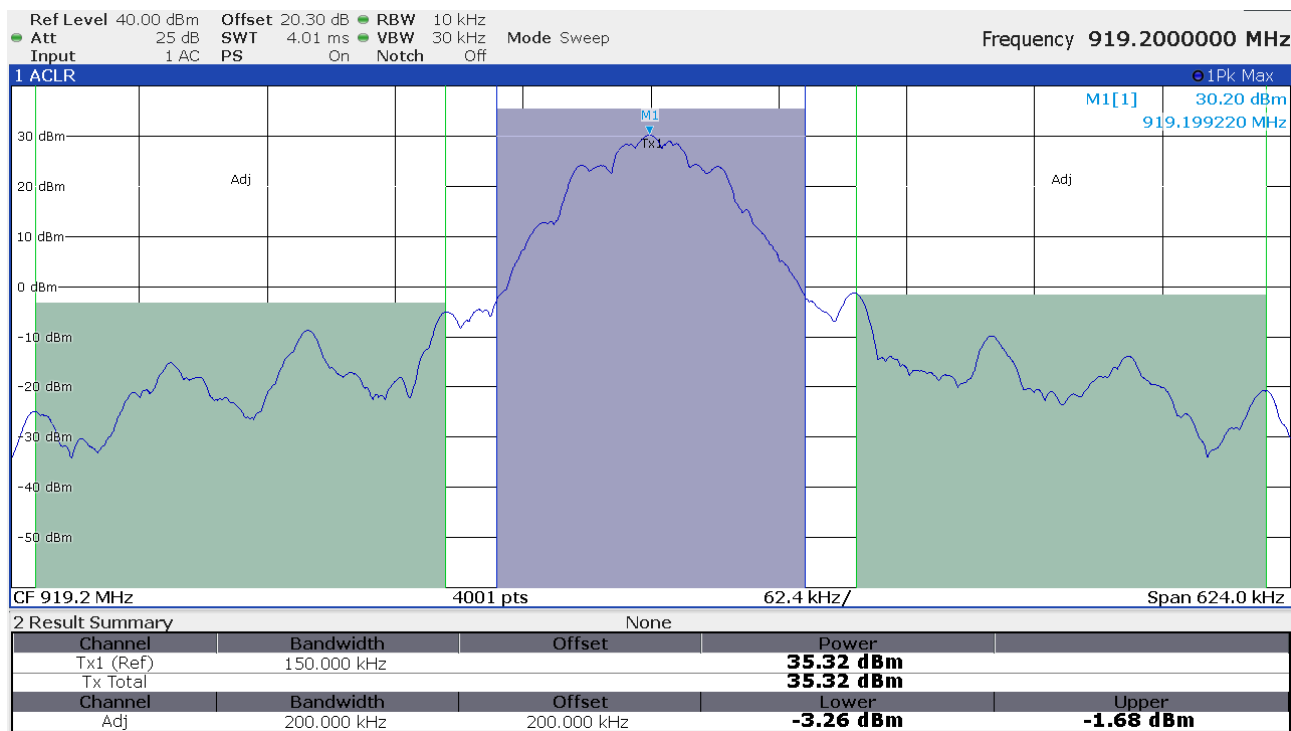
Remarks: For detailed results, please see the test protocol below.

5.10.6 Test protocol ACLP

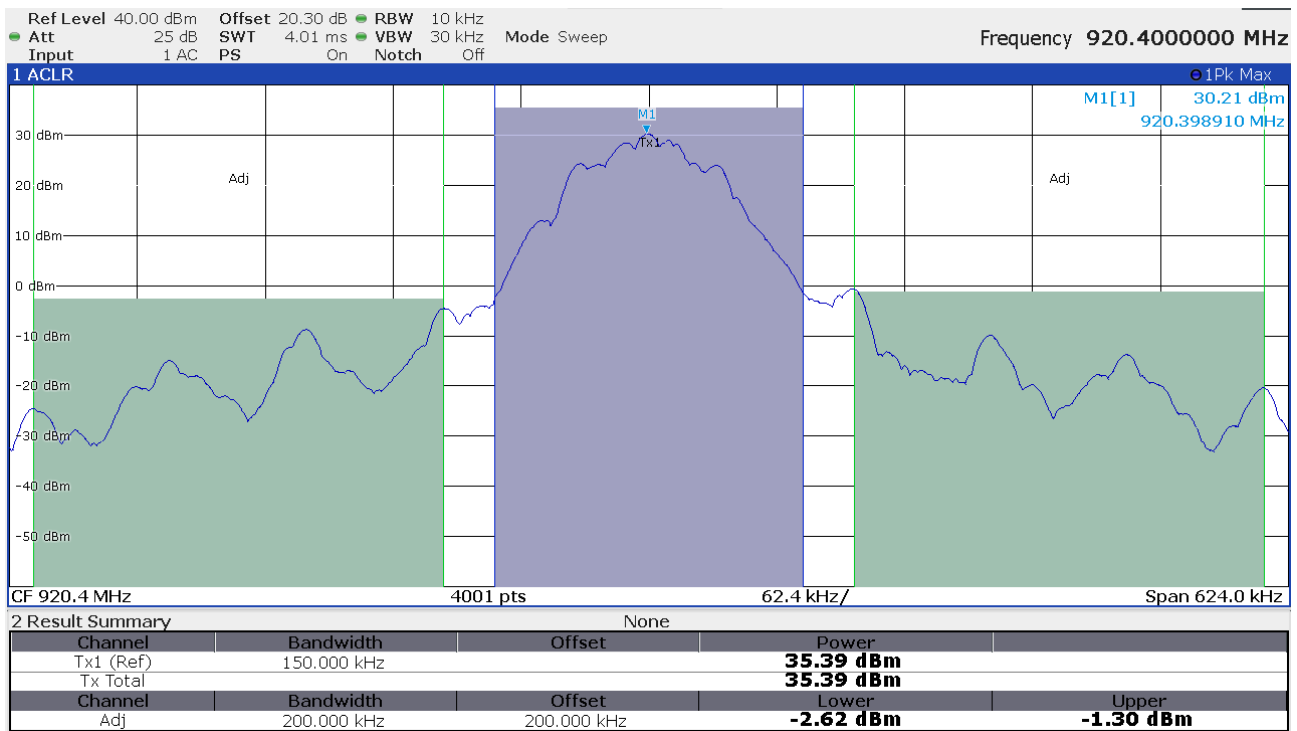
CH1



CH3



CH4



The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

5.11 Receiving from responding device

5.11.1 Applicable standard

According to Ordinance Regulating Radio Equipment, Chapter IV, Section 4.10, Article 49.9:

The radio equipment shall be capable of receiving emissions of a frequency radiated from the device for responding.

5.11.2 Test result

The receiving of the responding device is the sense of the application. This application works "Good".

The requirements are **FULFILLED**.

Remarks: None.

5.12 Carrier sense

5.12.1 Description of the test location

Test location: NONE

Remarks: The device has no LBT function.

The EUT only uses frequencies with which LBT is not mandatory.

5.13 Conformance to RF exposure

For test instruments and accessories used see section 6 Part **CPC2**.

5.13.1 Description of the test location

Test location: Shielded room SR7

5.13.2 Applicable standard

According to Enforcement of Article 21, Item 3:

The radio equipment emits electric field strength, the power flux density and magnetic field strength intensity of the radio wave and has to show conformance to RF exposure.

5.13.3 Description of Measurement

The maximum total power input to the antenna has been measured conducted as described in clause 5.5 of this document. Through the Friis transmission formula, the known maximum gain of the antenna and the maximum power, the MPE can be calculated in a defined distance away from the product.

Friis transmission formula:
$$P_d = \frac{P_{out} * G}{4 * \pi * r^2}$$

where

P_d = power density (mW/cm²)

P_{out} = output power to antenna (mW)

G = gain of antenna (linear scale)

r = distance between antenna and observation point (cm)

5.13.4 Test result

The EUT uses an antenna with 3.7 dBi. This is equal to a linear gain of 2.34.

The MPE limit for each frequency is calculate with $(f/1500)$ mW/cm².

To get the minimum distance to the EUT, Friis Formula is used by calculating

$$r = \sqrt{\left(\frac{P_{out} * G}{4 * \pi * Pd} \right)}$$

Channel No.	Frequency [MHz]	P _{out} * G		Distance at limit [cm]	MPE-limit [mW/cm ²]
		[dBm]	[mW]		
1	916.8	33.64	2312	17.4	0.611
3	919.2	33.67	2328	17.4	0.613
4	920.4	33.66	2323	17.4	0.614

Note: Do not enter the area around the transmitting antenna closer the distance limit.

Limit according to Enforcement Appendix, Item 2:

Frequency range	Frequency electric field strength	Magnetic field strength	Power flux density	Average time
	(V/m)	(A/m)	(mW/cm ²)	(Minutes)
more than 300 MHz and below 1.5 GHz	1.585 f ^{1/2}	f ^{1/2} /237.8	f/1500	6

Note: f is in units of MHz.

The requirements are **FULFILLED**.

Remarks: None.

6 USED TEST EQUIPMENT AND ACCESSORIES

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

6.1 Full name of calibration companies

- Rohde & Schwarz GmbH & Co. KG
- Gossen Metrawatt GmbH
- 1A Cal GmbH Gesellschaft für Metrologie
- SPEKTRA Schwingungstechnik und Akustik GmbH Dresden

6.2 Calibration information

The calibrations are conducted in foreign countries, which is equivalent to calibration conducted by the NICT or a designated calibration agency under Article 102-18-1 of the Radio Act.

6.3 Test systems

Test ID	Model Type	Kind of Equipment	Equipment No.	Next Calib.	Last Calib.	Calibrated by
ACP	ESW26	Spectrum Analyzer	02-02/03-17-002	16/04/2025	16/04/2024	Rohde & Schwarz
	METRAHIT WORLD	multimeter	02-02/32-15-001	27/11/2025	27/11/2024	Gossen Metrawatt
	HM 8143	power supply	02-02/50-10-016			
	SF104/11N/11N/300MM	RF cable	02-02/50-13-008			
	18N50W-20dB	20 dB attenuator	02-02/50-16-031			
CPC 2	ESW26	Spectrum Analyzer	02-02/03-17-002	16/04/2025	16/04/2024	Rohde & Schwarz
	METRAHIT WORLD	multimeter	02-02/32-15-001	27/11/2025	27/11/2024	Gossen Metrawatt
	HM 8143	power supply	02-02/50-10-016			
	SF104/11N/11N/300MM	RF cable	02-02/50-13-008			
	18N50W-20dB	20 dB attenuator	02-02/50-16-031			
MB	ESW26	Spectrum Analyzer	02-02/03-17-002	16/04/2025	16/04/2024	Rohde & Schwarz
	METRAHIT WORLD	multimeter	02-02/32-15-001	27/11/2025	27/11/2024	Gossen Metrawatt
	HM 8143	power supply	02-02/50-10-016			
	SF104/11N/11N/300MM	RF cable	02-02/50-13-008			
	18N50W-20dB	20 dB attenuator	02-02/50-16-031			
	V830-335T	Shaker	01-04/47-04-001			
	V875-640	Schwingprüfsystem	01-04/47-11-001			
	VibPilot VP4-E	Shaker Controller	01-04/47-20-001	14/03/2026	14/03/2025	1A CAL GmbH
	VibPilot	Shaker Controller	01-04/47-22-001	31/03/2026	31/03/2025	1A CAL GmbH
	355M102	ICP Accelerometer	01-04/50-15-003	12/03/2026	12/03/2025	SPEKTRA GmbH
	TLD355M102	ICP Accelerometer	01-04/50-20-002	07/11/2025	07/11/2024	SPEKTRA GmbH
	VibControl	Software	01-04/68-21-001			
SEC 1-3	ESW26	Spectrum Analyzer	02-02/03-17-002	16/04/2025	16/04/2024	Rohde & Schwarz
	METRAHIT WORLD	multimeter	02-02/32-15-001	27/11/2025	27/11/2024	Gossen Metrawatt
	HM 8143	power supply	02-02/50-10-016			
	SF104/11N/11N/300MM	RF cable	02-02/50-13-008			
	18N50W-20dB	20 dB attenuator	02-02/50-16-031			