R F – T E S T R E P O R T

- Human Exposure -

Type / Model Name	:	R&S® QPS Walk2000 P2
Product Description	:	Walk-through security scanner
Applicant	:	Rohde & Schwarz GmbH & Co. KG
Address	:	Mühldorfstraße 15
		81614 MÜNCHEN, GERMANY
Manufacturer	:	Rohde & Schwarz GmbH & Co. KG
Address	:	Mühldorfstraße 15
		81614 MÜNCHEN, GERMANY

Test Result according to the standards listed in clause 1 test standards:	**POSITIVE**

Test Report No. : 80186184-07 Rev1	25. June 2024 Date of issue

Deutsche Akkreditierungsstelle
D-PL-12030-01-03
D-PL-12030-01-04

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FCC ID: KVW-QPW2KP2 IC: 4431C-QPW2KP2

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1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules and Regulations Part 1, Subpart I - Procedures Implementing the National Environmental Policy Act of 1969

Part 1, Subpart I, Section 1.1310	Radiofrequency radiation exposure limits
Part 1, Subpart 2, Section 2.1091	Radiofrequency radiation exposure evaluation: **mobile devices**.
Part 1, Subpart 2, Section 2.1093	Radiofrequency radiation exposure evaluation: **portable devices**.
KDB 447498 D04	RF Exposure procedures and equipment authorisation policies for mobile and portable devices, November 29, 2021.
RSS-102 Issue 5, March 2015	Radio Frequency (RF) Exposure Compliance of Radiocommunication apparatus (All Frequnecy Bands)
Health Canada Notice, January 2021	Localized human exposure limits for radiofrequency fields in the range of 6 GHz to 300 GHz
ISED Notice 2016-DRS0001 September 20, 2016, updated July 2020	Applicability of Latest FCC RF Exposure KDB Procedures and Other Procedures
ISED Notice 2021-DRS0005 July 20, 2021	Introduction of an interim exemption limit for routine localized power density evaluations of transmitters operating in the 6 – 30 GHz frequency range
ANSI C95.1: 2005	IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
ETSI TR 100 028 V1.3.1: 2001-03,	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the Measurement of Mobile Radio Equipment Characteristics—Part 1 and Part 2

2 EQUIPMENT UNDER TEST

2.1 Information provided by the Client

Please note, we do not take any responsibility for information provided by the client or his representative which may have an influence on the validity of the test results.

2.2 Sampling

The customer is responsible for the choice of sample. Sample configuration, start-up and operation is carried out by the customer or according his/her instructions.

2.3 Photo documentation of the EUT – See ATTACHMENT A

2.4 Equipment type, category

Mobile UWB Device

2.5 Short description of the equipment under test (EUT)

The QPS Walk2000 is the next generation of a walk through body scanning, designed to improve individuals' security. The system is meant to be installed in fixed indoor locations, generally in entrances to secured areas. The QPS Walk2000 automatically detects the existence of concealed unauthorized objects on an individual's body. The end device consists of 224 transmitter modules and 448 receiver modules. All measurements were performed on a single transmitter to demonstrate that all requirements are fulfilled.

Number of tested samples:	1
Serial number:	100001
Material number:	1342.5100K02.

2.6 Variants of the EUT

There are no variants.

2.7 Operation frequency and channel plan

The operating frequency band is 3100 MHz to 10600 MHz for FCC and 1990 MHz to 10600 MHz for IC.

2.8 Transmit operating modes

The signal consists of a single pulse with 12 MHz repetition rate.

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2.9 Antennas

The following antennas shall be used with the EUT:

Number	Characteristic	Model number	Plug	f-range (GHz)	Max. Gain (dBi)	Average Gain (dBi)
1	directional linear polarized	1342.4203.00	PCB soldered	3.6 – 9.5	9.9	7.2

2.10 Power supply system utilised

Power supply voltage, V_{nom} : 120 V AC
Power supply V_{nom} (Tx module) : 5 V DC

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3 TEST RESULT SUMMARY

FCC Rule Part	RSS Rule Part	Description	Result
KDB 447498, 2.1	---	1 mW exemption	passed
---	RSS 102, 2.5.2	SAR exclusion consideration	passed

The mentioned RSS Rule Parts in the above table are related to:
RSS 102, Issue 5, March 2015

3.1 Revision history of test report

Test report No	Rev.	Issue Date	Changes
80186184-07	0	05 March 2024	Initial test report
80186184-07	1	25 June 2024	Adding the conducted power in sections 5.1.2, 5.2.3, and 5.3.2

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

3.2 Final assessment

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

Date of receipt of test sample : acc. to storage records

Testing commenced on : 28 November 2023

Testing concluded on : 28 November 2023

Checked by:

Klaus Gegenfurtner
I confirm the correctness and integrity of this document
2024.06.25 11:04:19 +02'00'

Klaus Gegenfurtner
Teamleader Radio

Tested by:

I am the author of this document
2024.06.25 08:52:06 +02'00'

Franz-Xaver Schrettenbrunner
Radio Team

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4 TEST ENVIRONMENT

4.1 Address of the test laboratory

CSA Group Bayern GmbH
Ohmstrasse 1-4
94342 STRASSKIRCHEN
GERMANY

4.2 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15 - 35 °C
Humidity:	30 - 60 %
Atmospheric pressure:	86 - 106 kPa

4.3 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 on basis of the ETSI Technical Report TR 100 028 Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1 and Part 2. The results are documented in the quality system acc. to DIN EN ISO/IEC 17025. 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.

4.4 Conformity Decision Rule

The applied conformity decision rule is based on ILAC G8:09/2019 clause 4.2.1 Binary Statement for Simple Acceptance Rule (w = 0).
Details can be found in the procedure CSA_B_V50_29.

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5 HUMAN EXPOSURE

5.1 RF output power consideration

5.1.1 Description of the test location

Test location: NONE

5.1.2 Test result

The power spectral density and 99% OBW measurements of the device is taken from the FCC and IC test reports 80186184-05 and 80189184-06 from the accredited test laboratory CSA Group Bayern GmbH, Ohmstraße 1-4, 94342 Straßkirchen, Germany.

UWB PSD maximum: -55.09 dBm/MHz = 3.097 nW/MHz
99 % OBW: 6045.279 MHz

As worst-case consideration, the total output power can be found in the 99 % OBW with the UWB PSD maximum as highest level along the whole bandwith.

EIRP = 3.097 nW/MHz × 6045.279 MHz =0.019 mW

Considering a peak gain of 9.9 dBi, this would lead to a maximum conducted output power of **0.0019 mW**.

Remarks: None.

5.2 SAR test exclusion considerations

5.2.1 Applicable standard

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

5.2.2 EUT parameters

The worst-case EIRP is calculated in clause 5.1.

EIRP =0.019 mW
Conducted power 0.0019 mW

5.2.3 1 mW Test Exemption

	Condition for exemption	EUT	Result
frequency	0.1 – 100000 MHz	2400 – 2483.5 MHz	passed
EIRP	< 1 mW	0.019 mW	passed

Overall result: 1 mW Test Exemption is applicable.

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5.3 Exemption limits for routine evaluation - SAR evaluation

5.3.1 Applicable standard

Notice 2021-DRS0005 – "Introduction of an interim exemption limit for routine localized power density evaluations of transmitters operating in the 6 –30 GHz frequency range", published on July 20, 2021.

5.3.2 Cunclusion according to RSS-102.

The worst-case EIRP is calculated in clause 5.1.

EIRP =0.019 mW
Conducted power 0.0019 mW

According to Notice 2021-DRS0005, July 20, 2021 (Introduction of an interim exemption limit for routine localized power density evaluations of transmitters operating in the 6 –30 GHz frequency range):

"A transmitter producing emissions in the 6 –30 GHz frequency range, i.e. where the occupied bandwidth (99% emission bandwidth) is fully contained within this range, is exempt from routine LPD evaluation if the higher of the maximum six-minute time-averaged conducted power or equivalent isotropic radiated power (EIRP), adjusted for tune-up tolerance, is 1 mW (0 dBm) or lower."

Conclusion: The EUT meets the SAR test exclusion criterion in a standalone configuration.

The requirements are **FULFILLED.**

Remarks: None.