



RF – TEST REPORT
- Human Exposure -

Type / Model Name : BMW FBD5S

Product Description : UWB LIN gateway for comfort access function in vehicles

Applicant : Aumovio Germany GmbH

Address : Siemensstraße 12
93055 REGENBURG, GERMANY

Manufacturer : Aumovio Germany GmbH

Address : Siemensstraße 12
93055 REGENBURG, GERMANY

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

POSITIVE

Test Report No. : **80286795-02 Rev_1**

24. June 2026
Date of issue



Deutsche
Akkreditierungsstelle
D-PL-12030-01-00



Deutsche
Akkreditierungsstelle
D-PL-12030-01-00

FCC ID: KR5FBD5SMY23 IC: 7812D-FBD5SMY23

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ATTACHMENT A as separate supplement

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.

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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 V01 RF Exposure procedures and equipment authorisation policies for mobile and portable devices.

ANSI C95.1: 2005 IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz

RSS-102 Issue 6 Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

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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 samples. Sample configuration, start-up and operation is carried out by the customer or according to his/her instructions.

2.3 Photo documentation of the EUT – See ATTACHMENT A

2.4 Equipment type, category

handheld UWB Device, portable equipment

2.5 Short description of the equipment under test (EUT)

The FBD5s is a wireless UWB transceiver with LIN gateway for comfort access function in vehicles. 4 FBD5s anchors are mounted at the outer body of a vehicle. 2 further anchors (FBD5) are mounted inside the vehicle and provide BLE functionality for data transfer and security purposes between smartphone or ID tag. The anchors are connected to a central control unit and paired with a smartphone or wearable ID tag. The FBD5s can also communicate among each other for an initialization procedure. After initialization and training procedure the distance between FBD5s and smartphone or ID tag is measured and the position in relation to the vehicle is determined. The vehicle is unlocked, locked or started in case the smartphone or ID tag is in a permitted area around or inside the vehicle.

Number of tested samples: 1
Serial number: Part-1
Firmware version: A3C04888905

2.6 Variants of the EUT

There are no variants.

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2.7 Operation frequency and channel plan

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

Channel plan FCC:

Channel number	f_c (MHz)
Channel 5	6489.6
Channel 6	6988.8
Channel 8	7488.0
Channel 9	7987.2

Channel plan ISCED

Channel number	f_c (MHz)
Channel 5	6489.6
Channel 6	6988.8
Channel 8	7488.0
Channel 9	7987.2

2.8 Transmit operating modes

Modulation: variable pulse position modulation (PPM) in combination with binary phase shift keying (BPSK).
Data rate: 6.8 Mbit/s

2.9 Antennas

The following antennas shall be used with the EUT:

Number	Characteristic	Model number	Plug	f-range (GHz)	Gain (dBi)	Average Gain (dBi)
1	Omni	PCB antenna	none	3.1 – 10.6	5.9	1
2	Omni	PCB antenna	none	3.1 – 10.6	5.4	2

2.10 Power supply system utilised

Power supply voltage, V_{nom} : 12 V DC

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3 TEST RESULT SUMMARY

FCC Rule Part	RSS Rule Part	Description	Result
KDB 447498, 2.1.2	---	1-mW Test Exemption	passed
---	RSS-102, 6.5	IPD exemption limit	passed

The mentioned RSS Rule Parts in the above table are related to:
RSS-102, Issue 6

3.1 Revision history of test report

Test report No	Rev.	Issue Date	Changes
80283495-02	0	08 May 2026	Initial test report
80283495-02	1	24 June 2026	FCC and IC ID corrected

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 : 12 August 2025

Testing concluded on : 12 August 2025

Checked by:

Tested by:

 Klaus Gegenfurtner
2026.06.24
10:49:30 +02'00'

Klaus Gegenfurtner
Teamleader Radio

 Sabine Kugler
p.p.
2026.06.24 10:28:18
+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
Straubinger Straße 100
94447 PLATTLING
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.

5 HUMAN EXPOSURE

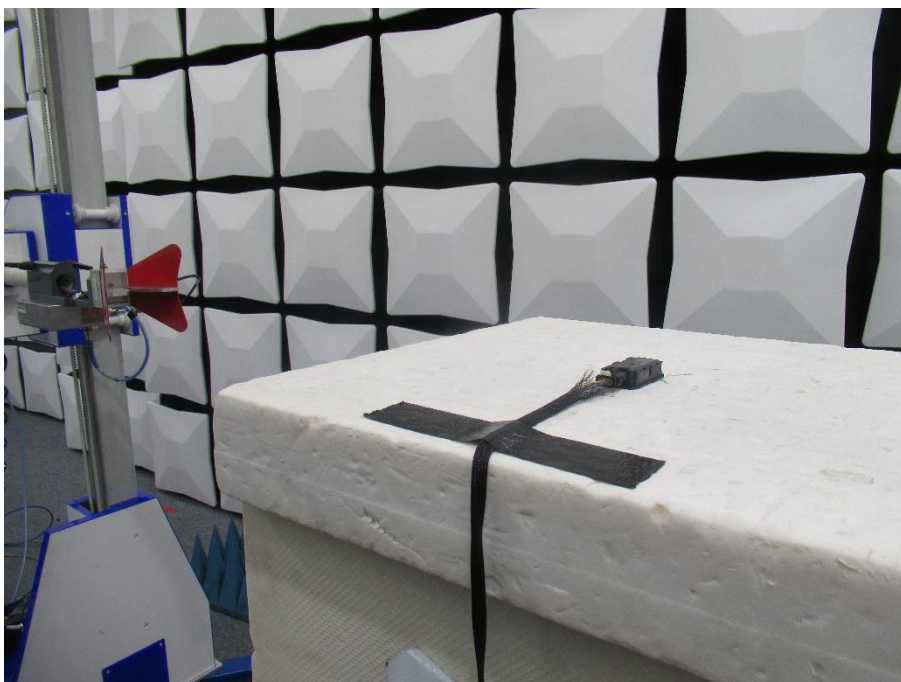
5.1 RF output power

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

5.1.1 Description of the test location

Test location: Fully Anechoic Room FAR1

5.1.2 Photo documentation of the test set-up

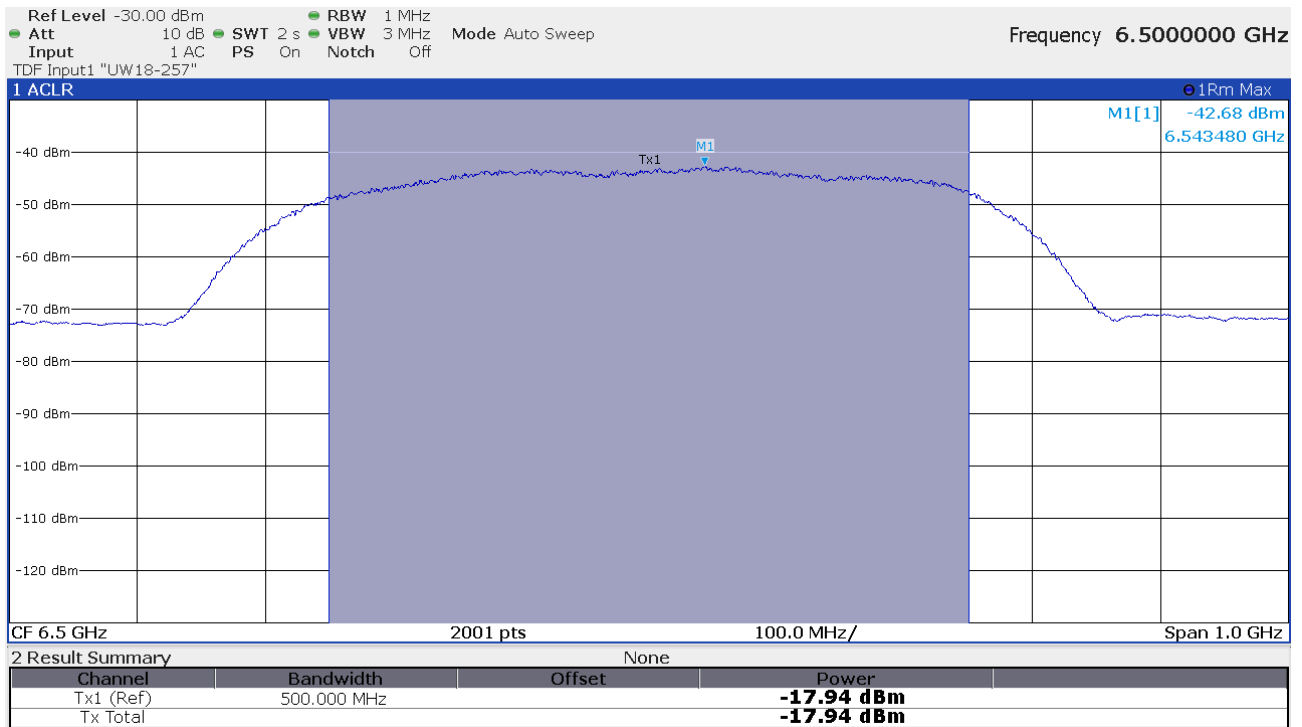
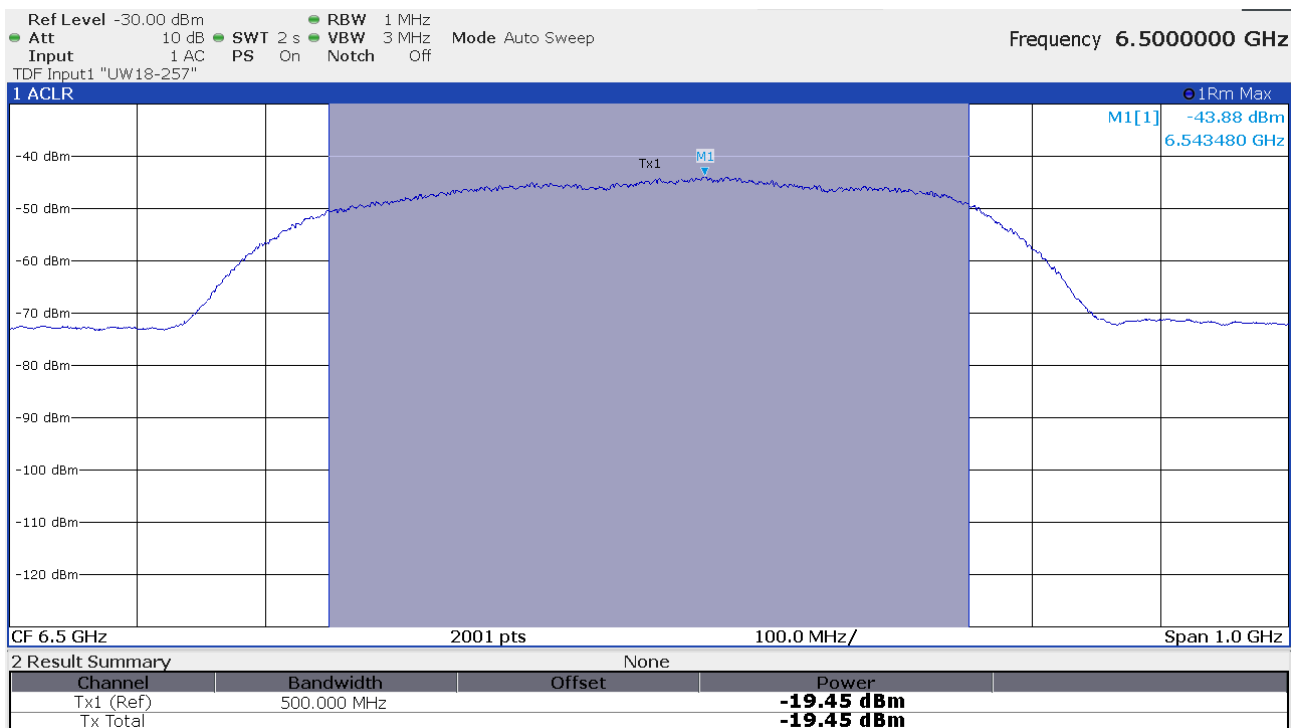


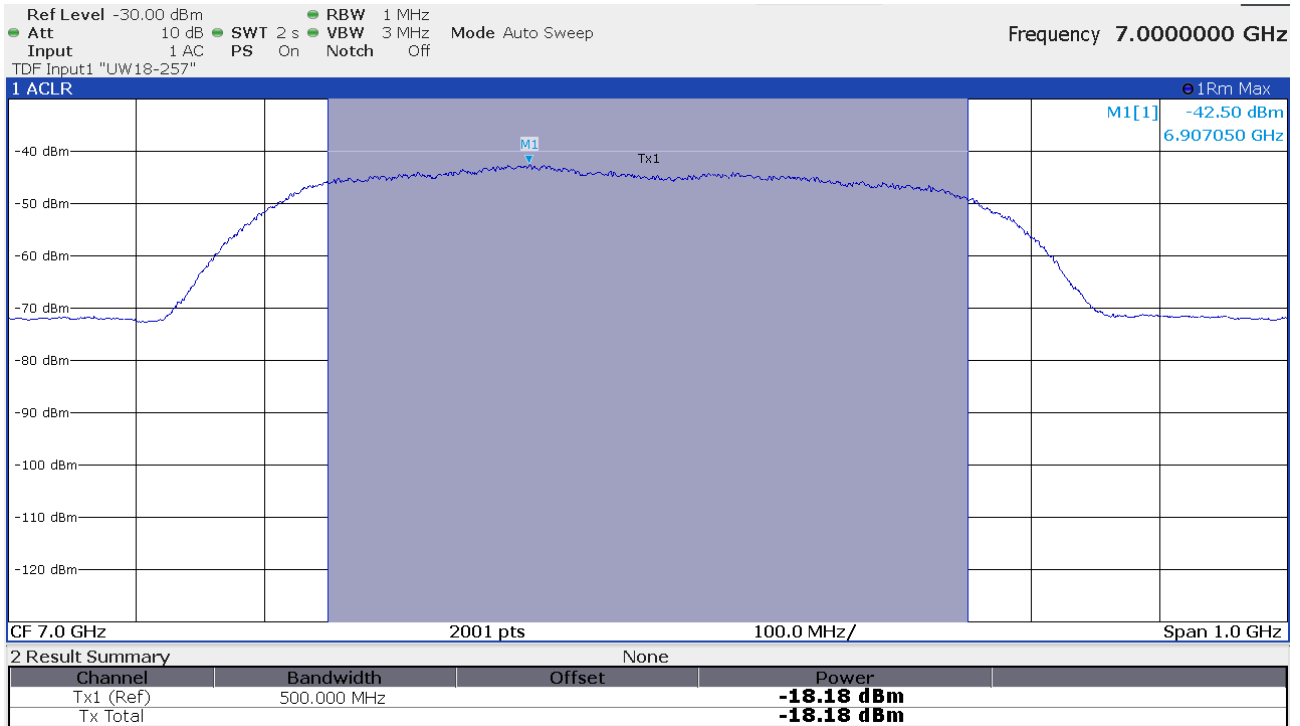
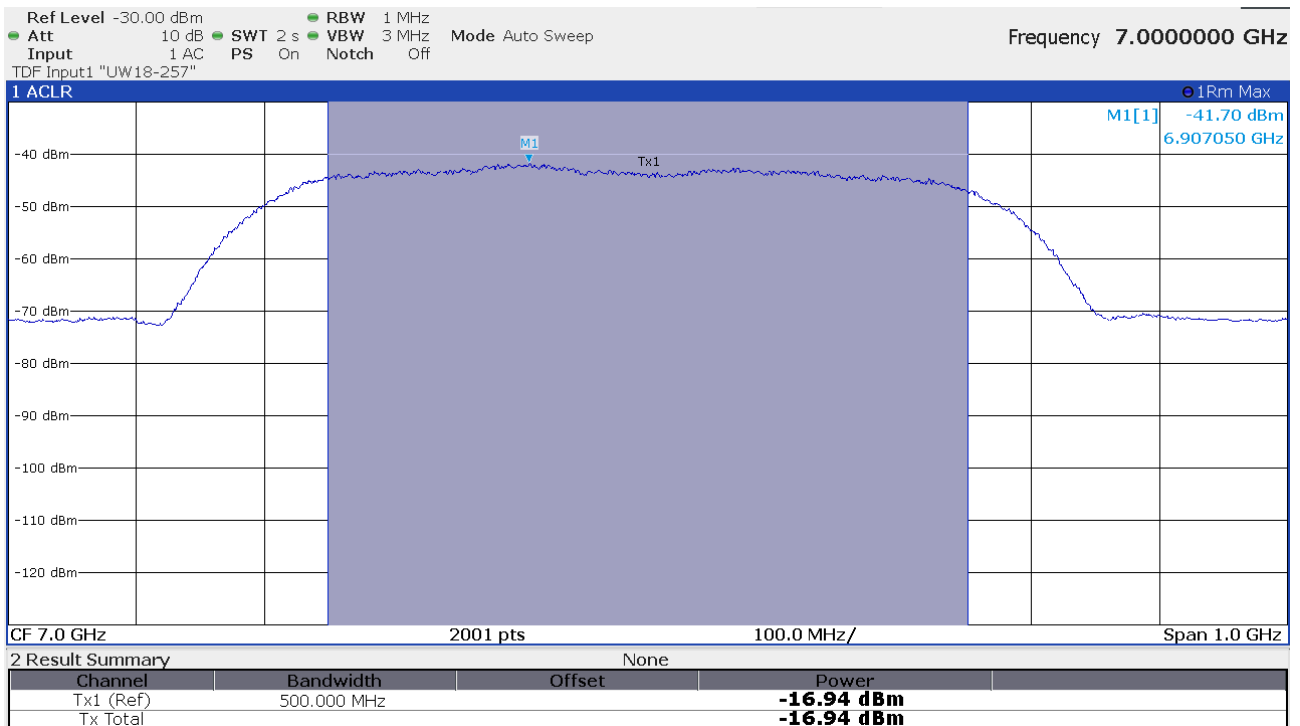
5.1.3 Description of the measurement

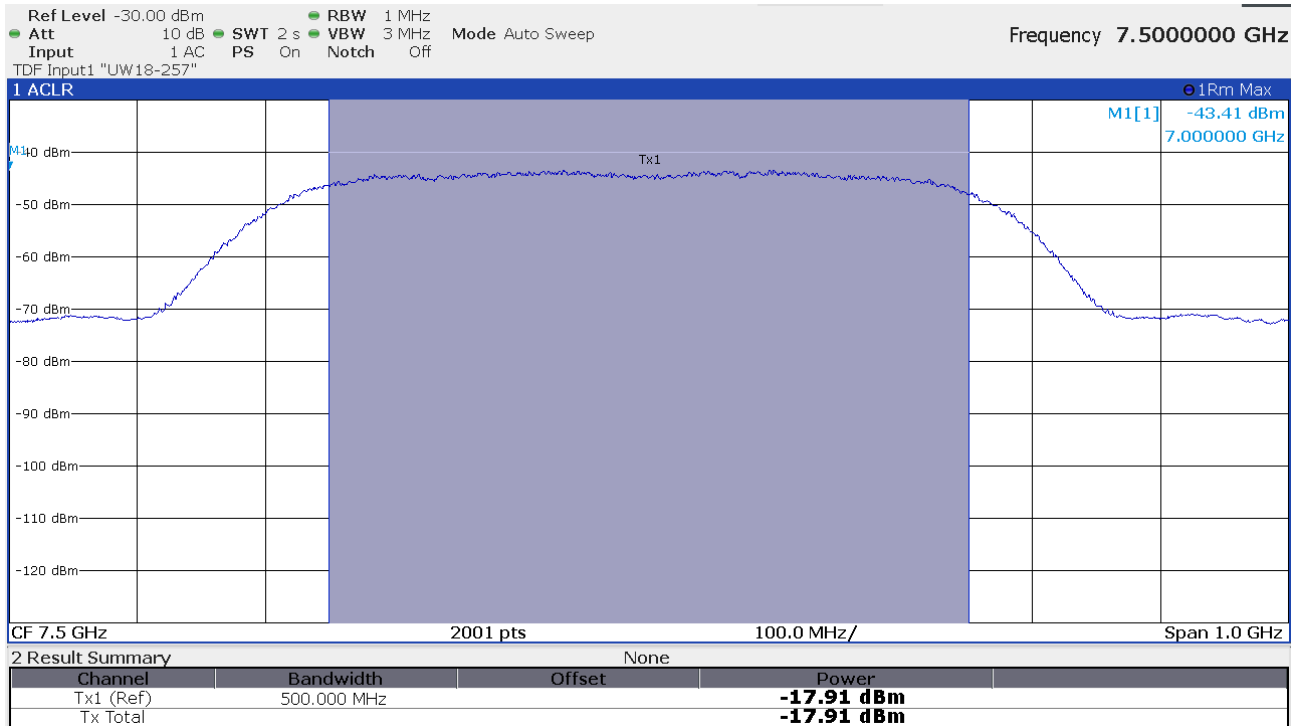
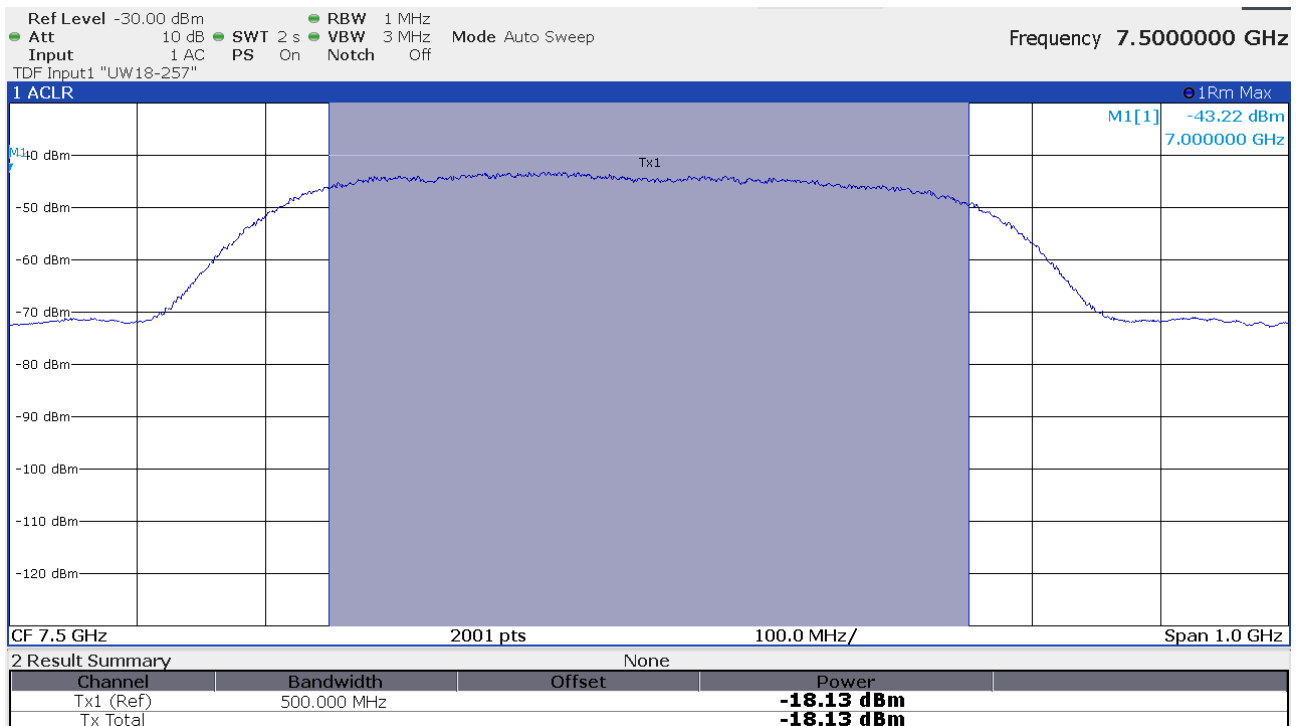
The output power is measured radiated with the channel power function of the spectrum analyser.

5.1.4 Test result

channel	antenna	EIRP (dBm)	EIRP (μW)
5	1	-17.9	16.2
5	2	-19.5	11.2
6	1	-18.2	15.1
6	2	-16.9	20.4
8	1	-17.9	16.2
8	2	-18.1	15.4
9	1	-17.9	16.2
9	2	-18.7	13.5

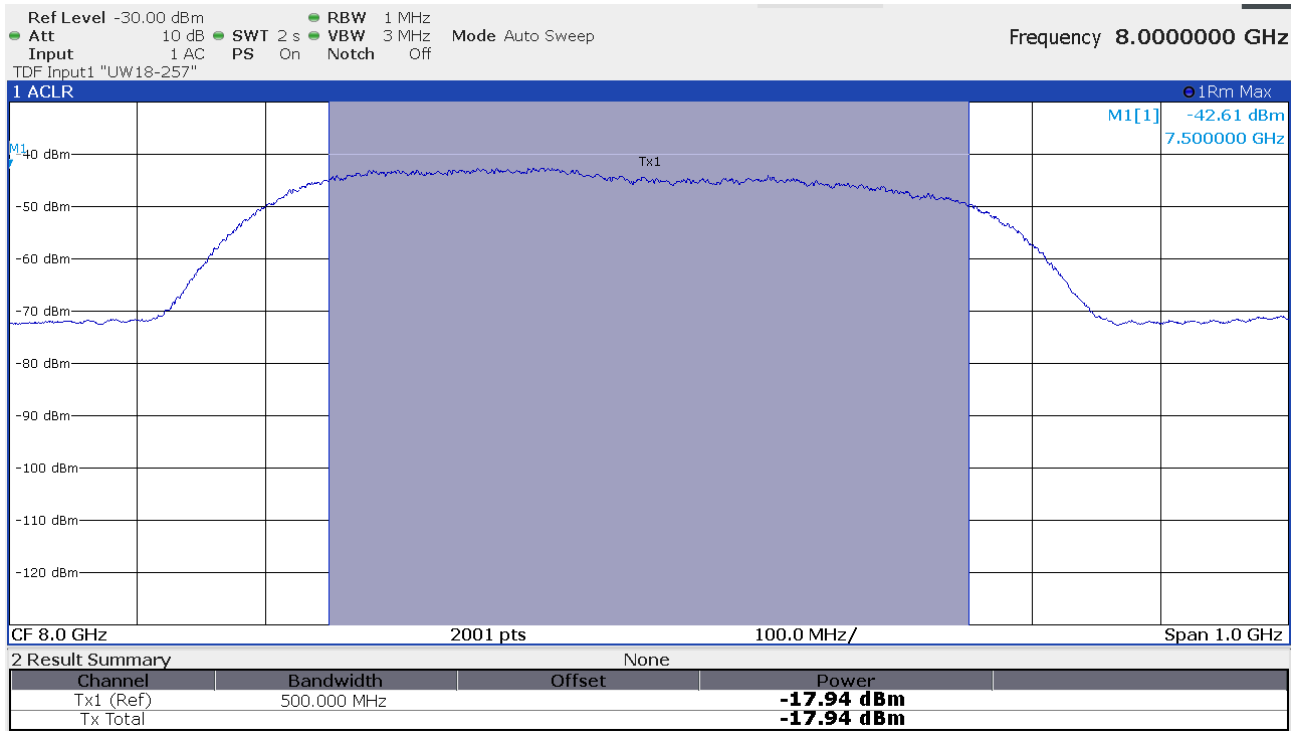
FCC ID: KR5FBD5SMY23 IC: 7812D-FBD5SMY23
Channel 5 antenna 1

Channel 5 antenna 2


FCC ID: KR5FBD5SMY23 IC: 7812D-FBD5SMY23
Channel 6 antenna 1

Channel 6 antenna 2


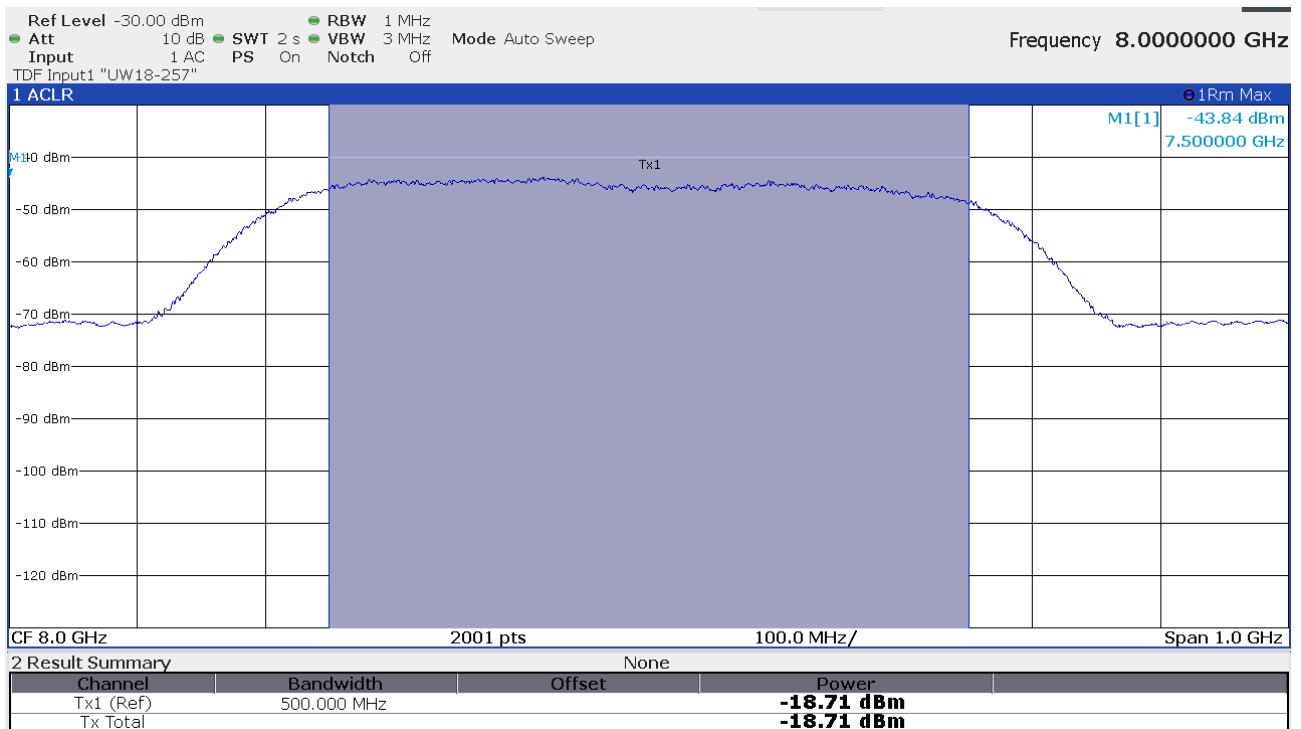
FCC ID: KR5FBD5SMY23 IC: 7812D-FBD5SMY23
Channel 8 antenna 1

Channel 8 antenna 2


FCC ID: KR5FBD5SMY23 IC: 7812D-FBD5SMY23

Channel 9 antenna 1



Channel 9 antenna 2



Remarks: None.

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5.2 RF Exposure Test Exemptions for Single Source according to FCC regulations

5.2.1 Applicable standard

According to KDB 447498 D04 v1, clause 2.1.2 (1-mW Test Exemption)

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 Conclusion according to FCC regulations

The EUTs maximum output power is **20.4 μ W**. The EUT is a single source transmitter. Therefore, the EUT qualifies for test exemption according to KDB 447498.

The requirements are **FULFILLED**.

Remarks: None.

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5.3 RF Exposure Test Exemptions for Single Source according to ISED regulations

5.3.1 Applicable standard

According to RSS-102 issue 6, clause 6.5 (IPD exemption limit)

A transmitter producing emissions in the 6GHz -30 GHz frequency range (i.e. where the occupied bandwidth (99% emission bandwidth) is fully contained within this range) is exempt from routine IPD evaluation if the output power (adjusted for tune-up tolerance) is less than or equal to 1 mW (0 dBm).

5.3.2 Conclusion according to ISED regulations

The EUTs maximum output power is **20.4 μ W**. The EUT is a single source transmitter. According to RSS-220 test report 80286795-01 of the accredited test laboratory CSA Group Bayern GmbH, Straubinger Strasse 100, 94447 Plattling, Germany, the 99% bandwidth of the transmitter is fully contained between 6 GHz and 30 GHz. Therefore, the EUT qualifies for test exemption according to RSS-102.

The requirements are **FULFILLED**.

Remarks: None.

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6 USED TEST EQUIPMENT AND ACCESSORIES

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

Test ID	Model Type	Equipment No.	Next Calib.	Last Calib.	Next Verif.	Last Verif.
HE	ESW26	02-02/03-17-002	25/04/2026	25/04/2025		
	AMF-6D-01002000-22-10P	02-02/17-15-004				
	3117	02-02/24-20-007	20/11/2025	20/11/2024		
	BAM 4.5-P	02-02/50-17-024				
	KK-SF106-2X11N-6,5M	02-02/50-18-016				
	0_5 Meter DC-18GHz	09-16/50-23-003				

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