

Prüfbericht-Nr.: <i>Test report no.:</i>	CN256T71 001	Auftrags-Nr.: <i>Order no.:</i>	158308752	Seite 1 von 59 <i>Page 1 of 59</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2025-03-18	
Auftraggeber: <i>Client:</i>	Carrera Toys GmbH Rennbahn Allee 1, 5412 Puch, Salzburg, Austria			
Prüfgegenstand: <i>Test item:</i>	Short Range Device - Remote Control Toy Transceiver (2.4GHz)			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	50052007			
Auftrags-Inhalt: <i>Order content:</i>	FCC and ISCED Certification			
Prüfgrundlage: <i>Test specification:</i>	FCC Part 15 Subpart C, ANSI C63.10-2013, RSS-247 Issue 3, RSS-Gen Issue 5+Amendment 1+Amendment 2			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2025-03-18			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003947971-001 to 003			
Prüfzeitraum: <i>Testing period:</i>	2025-04-08 - 2025-04-17			
Ort der Prüfung: <i>Place of testing:</i>	Hong Kong			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland Hong Kong Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by/ reviewed by:</i>		genehmigt von: <i>authorized by:</i>		
X 		X 		
Datum: <i>Date:</i>		Ausstellungsdatum: <i>Issue date:</i>		
2025-04-29		2025-04-29		
Stellung / Position:		Stellung / Position:		
Assistant Test Engineer		Authorizer		
Sonstiges / Other: "Decision Rule" document announced in our website (https://www.tuv.com/landingpage/en/qm-gcn/) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report. FCC ID: YFA50052007 IC ID: 12260A-50052007				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht * Legend: P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
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Anmerkungen Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

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Product Information

PMN: 50052007	HVIN: 50052007
FVIN: N/A	HMN: N/A

Manufacturers declarations

Bluetooth Radio	Transmitter
Operating frequency range	2402 - 2480 MHz
Type of modulation	GFSK
Number of channels	40
Channel separation	2 MHz
Type of antenna	PCB Antenna
Antenna gain (dBi)	-2.30 dBi
Power level	fix
General	
Type of equipment	Portable Used Device
Connection to public utility power line	No
Nominal voltage	3.7 VDC
Independent Operation Modes	Transceiver

Product function and intended use

The equipment under test (EUT) is a 2.4GHz RC toy transceiver with Bluetooth Low Energy (BLE). It is powered by battery and USB-C 5VDC.

FCC ID: YFA50052007 / IC ID: 12260A-50052007

Models	Product description
50052007	Short Range Device - Remote Control Toy Transceiver (2.4GHz)

Submitted documents

Nil

Independent Operation Modes

The basic operation modes are:

- Transmitting mode.

For further information refer to User Manual

Related Submittal(s) Grants

This is a single application for certification of the transmitter.

Remark

During the test, channel and power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power was selected according to the instruction given by the manufacturer. The setting of the RF output power expected by the customer shall be fixed on the firmware of the end product.

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Test Set-up and Operation Mode

Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level.
The test modes were adapted accordingly in reference to the instructions for use.

Test Operation and Test Software

Test operation should refer to test methodology.

- Test mode samples with maximum RF output power and duty cycle and capable to transmit continuously at the lowest, middle and highest frequency channels is provided by the applicant for the testing.

Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Item	Manufacturer	Model	S/N
Adapter	LG	MCS-H05UR	RC640055134

Countermeasures to achieve EMC Compliance

- None

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Test Methodology

Radiated Emission

The radiated emission measurements of the transmitter part were performed according to the procedures in ANSI C63.10-2013.

For measurement below 1GHz - the equipment under test (EUT) was placed at the middle of the 80 cm height turntable. For measurement above 1GHz - the EUT was placed at the middle of the 1.5 m height turntable and RF absorbing material was placed on ground plane between turntable and measuring antenna. During the testing, the EUT was operated standalone and arranged for maximum emissions. The EUT was tested in three orthogonal planes.

The investigation is performed with the EUT rotated 360 °, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.

All radiated tests were performed at an antenna to EUT with 3 meters distance, unless stated otherwise in particular parts of this test report.

Field Strength Calculation

The field strength at 3 m was established by adding the meter reading of the spectrum analyzer to the factors associated with antenna correction factor, cable loss, preamplifiers and filter attenuation.

The equation is expressed as follow:

$$FS = R + AF + CF + FA - PA$$

Where

- FS = Field Strength in dBuV/m at 3 meters.
- R = Reading of Spectrum Analyzer in dBuV.
- AF = Antenna Factor in dB.
- CF = Cable Attenuation Factor in dB.
- FA = Filter Attenuation Factor in dB.
- PA = Preamplifier Factor in dB.

FA and PA are only be used for the measuring frequency above 1 GHz.

Conducted Emission Calculation

Receiver reading R_r (dB μ V)
LISN insertion loss L_I (dB)
Cable loss C_I (dB)

$$\text{Result (dB}\mu\text{V)} = R_r + L_I + C_I$$

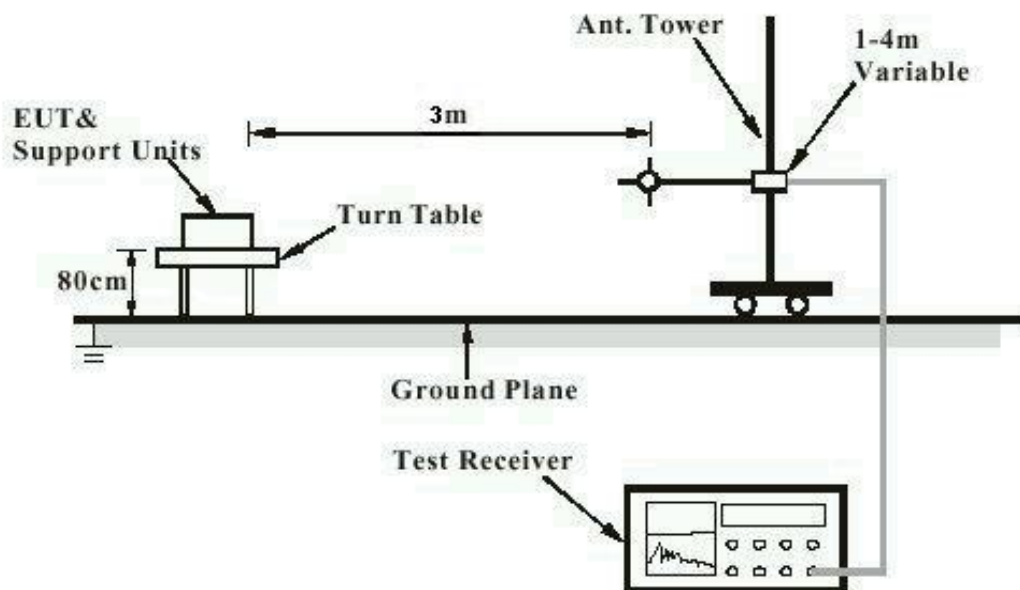
Sample: $R_r = 40.2$ dB μ V
 $L_I = 10.2$ dB
 $C_I = 0.3$ dB

$$\text{Result} = 40.2 + 10.2 + 0.3 = 50.7 \text{ dB}\mu\text{V}$$

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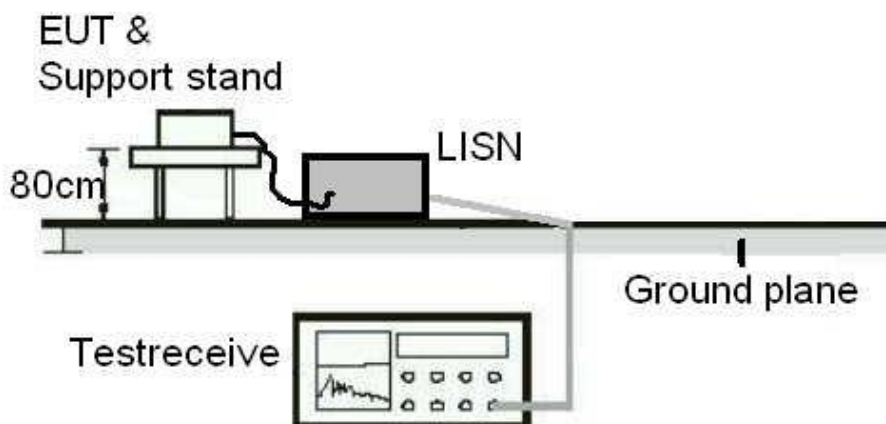
Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



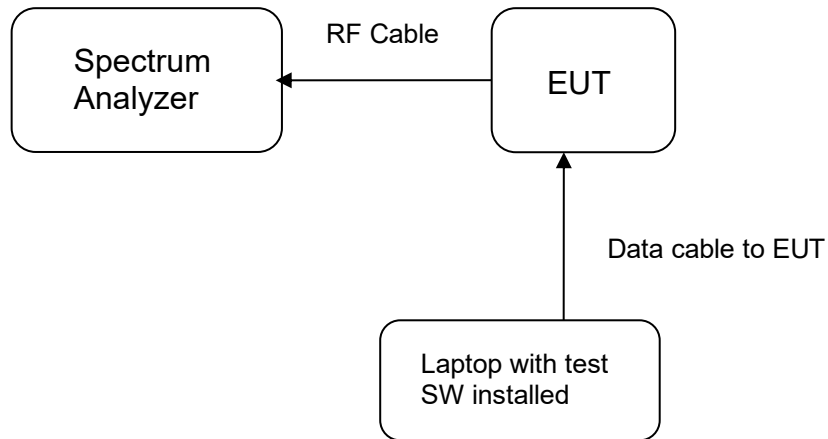
Note: Measurements above 1 GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)



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Diagram of Equipment Configuration for Antenna-port Conducted Measurement (if applicable)



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Test Facility

Test Laboratory Information

TÜV Rheinland Hong Kong Ltd.

Address: 3-4/F, Fou Wah Industrial Building, 10-16 Pun Shan Street, Tsuen Wan, N.T., Hong Kong

Tel.: +852 2192 1000

Fax: +852 2192 1001

Email: service-gc@tuv.com

The test facility is recognized or accredited by the following organizations:

FCC

Designation Number : HK0013

ISED/IC

Company Number : 26152

Hong Kong Productivity Council

Address: LG1/F, HKPC Building 78 Tat Chee Avenue, Kowloon, Hong Kong

Tel.: +852 2788 6396

Fax: +852 2788 5405

Email: emc@hkpc.org

The test facility is recognized or accredited by the following organizations:

FCC

Designation Number : HK0012

ISED/IC

Company Number : 4780A

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List of Test and Measurement Instruments

Hong Kong Productivity Council

Radiated Emission

Equipment	Manufacturer	Type	Cal. Date	Due Date
Multi-functional Anechoic Chamber (NSA)	Albatross	---	2025-01-06	2026-01-06
Multi-functional Anechoic Chamber (VSWR)	Albatross	---	2025-01-04	2026-01-04
Test Receiver	Rohde & Schwarz	ESU40	2024-03-21	2025-03-21
Double-Ridged Waveguide Horn	EMCO	3117	2022-11-21	2025-05-21
Bi-conical Antenna	Rohde & Schwarz	HK116	2022-10-24	2025-04-24
Log Periodic Antenna	Rohde & Schwarz	HL223	2022-10-25	2025-04-25
Cable	SF118/11N/11 N/12000MM	Huber+Suhner	2025-01-06	2026-01-06
Microwave amplifier	COM-POWER Corporation	PAM-118A	2024-03-03	2025-03-03
High Pass Filter	Trilithic	23042	2023-10-29	2025-10-29

TÜV Rheinland Hong Kong Ltd.

Conducted Emission on AC mains port

Equipment	Manufacturer	Type	Cal. Date	Due Date
EMI Test Receiver	R & S	ESR3	2024-09-10	2025-09-10
Two-Line V-network	R & S	ENV216	2024-10-22	2025-10-22
RF Coaxial Cable	R & S	N/A	2024-08-23	2025-08-23

Radio Test

Equipment	Manufacturer	Type	Cal. Date	Due Date
Spectrum Analyzer	R & S	FSV40	2024-08-07	2025-08-06

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Measurement Uncertainty

The estimated combined standard uncertainty for powerline conducted emissions measurements is $\pm 3.22\text{dB}$.

The estimated combined standard uncertainty for radiated emissions measurements is $\pm 2.44\text{dB}$ (9kHz to 30MHz) and $\pm 5.92\text{dB}$ (30MHz to 1000MHz) and is $\pm 4.92\text{dB}$ (1GHz to 18GHz).

The estimated combined standard uncertainty for antenna conducted emission is $\pm 1.94\text{dB}$

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for the level of confidence is approximately 95%.

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Results FCC Part 15 - Subpart C / RSS-247 Issue 3

FCC 15.203 – Antenna Requirement 1		Pass
FCC Requirements:	No antenna other than that furnished by the responsible party shall be used with the device	
Results:	a) Antenna type	PCB Antenna
	b) Manufacturer and model no.:	N/A
	c) Peak Gain:	-2.30 dBi
Verdict:	Pass	

FCC 15.204 – Antenna Requirement 2		Pass
FCC Requirements:	An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator.	
Results:	Only one integral antenna can be used.	
Verdict:	Pass	

RSS-Gen 6.3 – External Control		Pass
IC Requirements:	The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the limits prescribed in the applicable RSS.	
Results:	The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard.	
Verdict:	Pass	

RSS-Gen 8.3 – Antenna Requirement		Pass
IC Requirements:	When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer.	
Results:	a) Antenna type	PCB Antenna
	b) Manufacturer:	N/A
	c) Model no.:	N/A
	d) Peak Gain:	-2.30 dBi
Verdict:	Pass	

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FCC 15.207 / RSS-Gen 8.8 – Conducted Emission on AC Mains

Pass

Test Specification : ANSI C63.10-2013
Test date : 2025-04-10
Mode of operation : TX mode
Port of testing : AC Mains input port of power supply
Supply voltage : 120VAC 60Hz
Temperature : 22.1°C
Humidity : 61.4%

Requirement: 15.207(a), RSS-Gen 8.8

Results: For test protocols please refer to Appendix 1

Mode: Charging and normal playing Live measurement

Frequency (MHz)	Quasi-peak (dBμV)	Limit QP (dBμV)	Average (dBμV)	Limit AV (dBμV)	Verdict
0.555	27.0	56.0	17.3	46.0	Pass
0.850	36.0	56.0	23.3	46.0	Pass
5.611	32.8	60.0	20.6	50.0	Pass

Mode: Charging and normal playing Neutral measurement

Frequency (MHz)	Quasi-peak (dBμV)	Limit QP (dBμV)	Average (dBμV)	Limit AV (dBμV)	Verdict
0.560	26.1	56.0	12.5	46.0	Pass
0.852	35.6	56.0	20.0	46.0	Pass
5.602	30.8	60.0	17.9	50.0	Pass

Remarks: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.
The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30MHz does not exceed the limits. For test Results plots refer to Appendix 1, page 2.

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FCC 15.247 (a)(2) / RSS-247 5.2 – 6dB Bandwidth Measurement

Pass

FCC/ IC Requirement: Systems using digital modulation techniques may operate in the 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.

Test Specification : ANSI C63.10-2013
Test date : 2025-04-09
Mode of operation : Tx mode
Port of testing : Antenna port
Supply voltage : 3.7 VDC
Temperature : 21.7°C
Humidity : 55.7%

Results: For test protocols please refer to Appendix 1

Channel Frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (kHz)
2402	2401.676	2402.184	507.58
2440	2439.674	2440.184	510.13
2480	2479.675	2480.181	506.17

RSS-Gen 6.7 – Occupied Bandwidth

Pass

FCC/ IC Requirement: N/A

Test Specification : RSS-Gen
Test date : 2025-04-09
Mode of operation : Tx mode
Port of testing : Antenna port
Supply voltage : 3.7 VDC
Temperature : 21.7°C
Humidity : 55.7%

Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.
For test protocols refer to Appendix 1.

Channel Frequency (MHz)	Left (MHz)	Right (MHz)	99% bandwidth (MHz)
2402	2401.513	2402.525	1.012
2440	2439.516	2440.525	1.009
2480	2479.515	2480.526	1.012

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FCC 15.247(b)(3) / RSS-247 5.4 – Maximum Peak Conducted Output Power **Pass**

FCC/ IC Requirement: For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt (30dBm)

Test Specification : ANSI C63.10-2013
Test date : 2025-04-09
Mode of operation : Tx mode
Port of testing : Antenna port
Supply voltage : 3.7 VDC
Temperature : 21.7°C
Humidity : 55.7%

Results: For test protocols please refer to Appendix 1

Frequency (MHz)	Measured Output Power (dBm)	Limit (dBm)	Verdict
2402	1.06	30.0	Pass
2440	1.87	30.0	Pass
2480	2.29	30.0	Pass

FCC 15.247(e) / RSS-247 5.2 – Power Spectral Density **Pass**

FCC/ IC Requirement: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test Specification : ANSI C63.10-2013
Test date : 2025-04-09
Mode of operation : Tx mode
Port of testing : Antenna port
Supply voltage : 3.7 VDC
Temperature : 21.7°C
Humidity : 55.7%

Results: For test protocols refer to Appendix 1

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FCC 15.247(d) / RSS-247 5.5 – Spurious Conducted Emissions

Pass

Test Specification : ANSI C63.10-2013
Test date : 2025-04-08 to 2025-04-09
Mode of operation : Tx mode
Port of testing : Antenna port
Supply voltage : 3.7 VDC
Temperature : 21.7°C
Humidity : 55.7%

FCC Requirement: In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.
Only the worst case is shown below. For test protocols refer to Appendix 1

Operating frequency (MHz)	Spurious frequency (MHz)	Spurious level (dBm)	Reference value (dBm)	Limit (dBm)	Margin (dB)	Verdict
2402	4803.990	-39.85	-0.81	-20.81	-19.04	Pass
	7206.010	-30.31	-0.81	-20.81	-9.5	Pass
	9608.030	-33.64	-0.81	-20.81	-12.83	Pass
2440	4880.090	-38.63	0.02	-19.98	-18.65	Pass
	7320.210	-31.91	0.02	-19.98	-11.93	Pass
	9760.220	-36.10	0.02	-19.98	-16.12	Pass
2480	4959.680	-39.32	-0.92	-20.92	-18.40	Pass
	7440.100	-36.94	-0.92	-20.92	-16.02	Pass
	9919.220	-43.10	-0.92	-20.92	-22.18	Pass

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FCC 15.205 / RSS-Gen 8.9 – Radiated Emissions in Restricted Frequency Bands

Pass

Test Specification : ANSI C63.10-2013
Test date : 2025-04-17
Mode of operation : Tx mode
Port of testing : Antenna port
Frequency range : 30 MHz – 25 GHz
Supply voltage : 3.7 VDC
Temperature : 25.2°C
Humidity : 50%

FCC Requirement: In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission general limits.

Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.
All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.

TX Frequency: 2402 MHz

Vertical Polarization

Frequency MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	35.5	74.0 / PK
2390.000	18.5	54.0 / AV
2400.000	50.2	74.0 / PK
2400.000	21.7	54.0 / AV
4804.000	45.0	74.0 / PK
4804.000	30.1	54.0 / AV
7206.000	49.2	74.0 / PK
7206.000	33.1	54.0 / AV

TX Frequency: 2402 MHz

Horizontal Polarization

Frequency MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	60.1	74.0 / PK
2390.000	29.7	54.0 / AV
2400.000	52.3	74.0 / PK
2400.000	35.8	54.0 / AV
4804.000	52.0	74.0 / PK
4804.000	36.9	54.0 / AV
7206.000	52.3	74.0 / PK
7206.000	35.8	54.0 / AV

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TX Frequency: 2440 MHz			Vertical Polarization		
	Frequency MHz		Level dBuV/m		Limit/ Detector dBuV/m
	4880.004		47.6		74.0 / PK
	4880.004		32.5		54.0 / AV
	7320.008		56.5		74.0 / PK
	7320.008		39.8		54.0 / AV
TX Frequency: 2440 MHz			Horizontal Polarization		
	Frequency MHz		Level dBuV/m		Limit/ Detector dBuV/m
	4880.004		51.7		74.0 / PK
	4880.004		36.6		54.0 / AV
	7320.003		56.2		74.0 / PK
	7320.003		39.6		54.0 / AV
TX Frequency: 2480 MHz			Vertical Polarization		
	Frequency MHz		Level dBuV/m		Limit/ Detector dBuV/m
	2483.500		46.6		74.0 / PK
	2483.500		27.7		54.0 / AV
	4960.004		51.3		74.0 / PK
	4960.004		36.2		54.0 / AV
	7440.008		53.4		74.0 / PK
	7440.008		37.0		54.0 / AV
TX Frequency: 2480 MHz			Horizontal Polarization		
	Frequency MHz		Level dBuV/m		Limit/ Detector dBuV/m
	2483.500		52.9		74.0 / PK
	2483.500		33.4		54.0 / AV
	4960.000		53.3		74.0 / PK
	4960.000		38.2		54.0 / AV
	7440.008		55.2		74.0 / PK
	7440.008		39.5		54.0 / AV

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Appendix 1

Test Results

Prüfbericht-Nr.:
Test report no.:

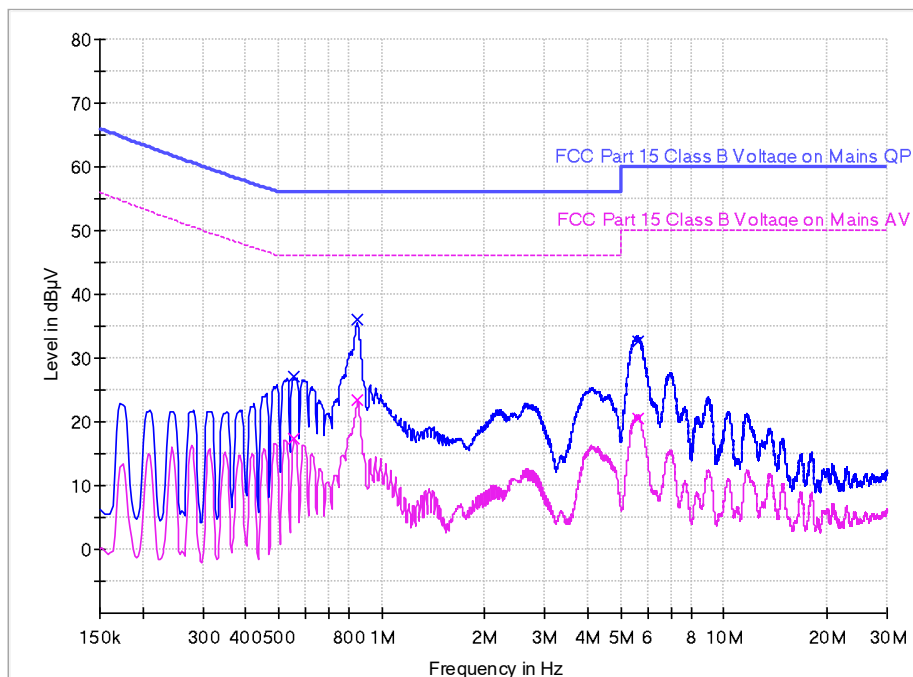
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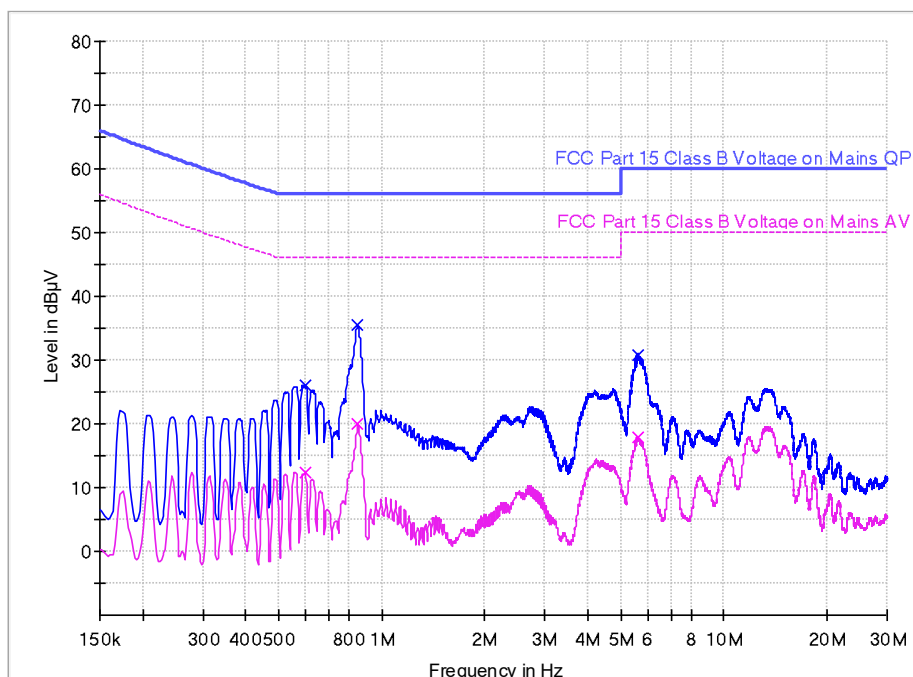
Test results of Conducted Emission on AC Mains

Conducted Emission (150 kHz - 30 MHz) - Cont TDS (QP+AV)



Mode: Charging and normal playing, Line: L1

Conducted Emission (150 kHz - 30 MHz) - Cont TDS (QP+AV)



Mode: Charging and normal playing, Line: N

Prüfbericht-Nr.:
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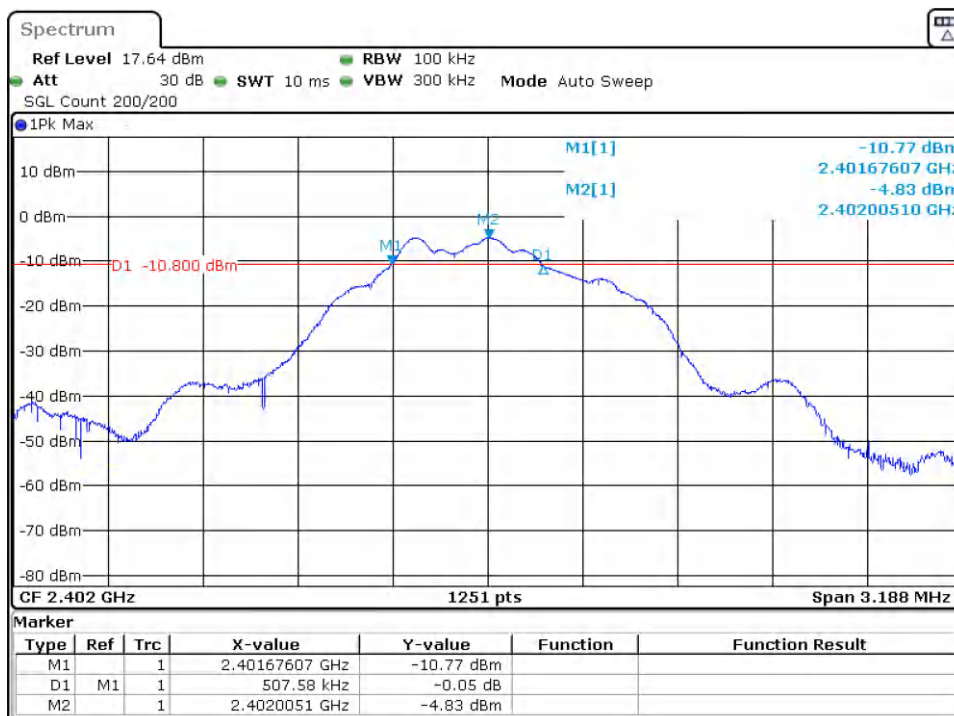
Absatz
Clause

Anforderungen - Prüfungen /
Requirements - Tests

Messergebnisse – Bemerkungen/
Measuring results - Remarks

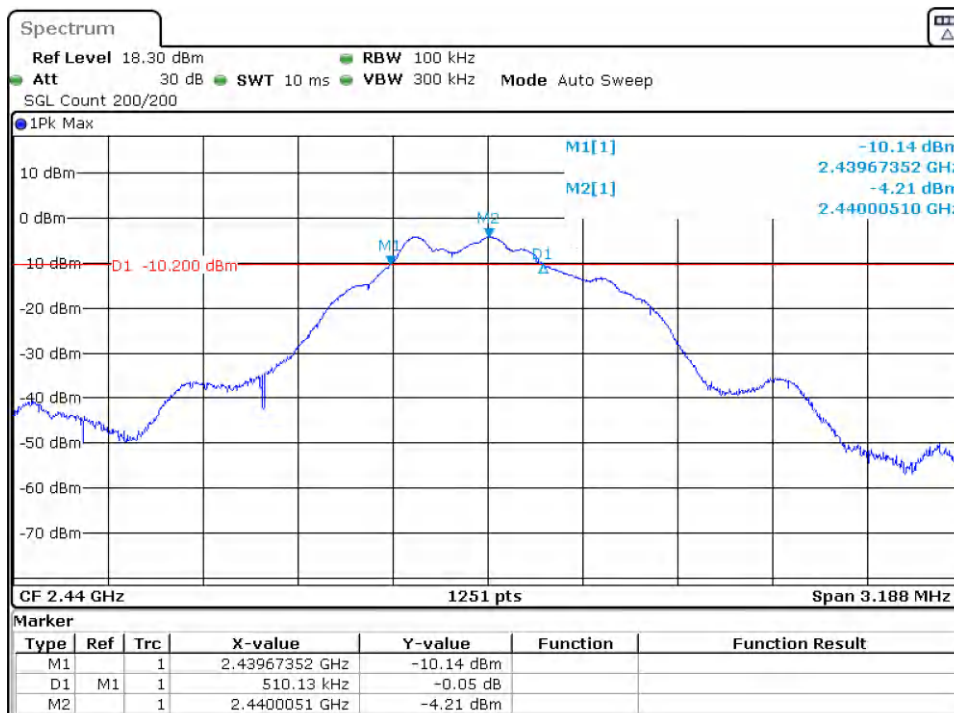
Ergebnis
Result

Test results of 6 dB Bandwidth Measurement



Date: 9.APR.2025 11:19:49

TX Frequency 2402MHz



Date: 9.APR.2025 11:47:40

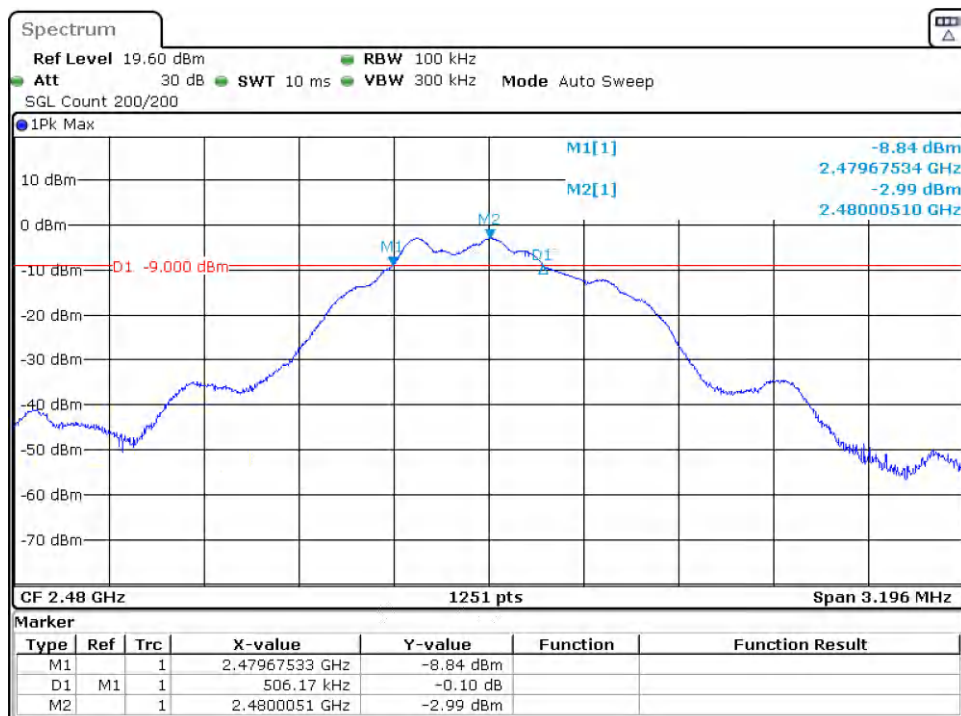
TX Frequency 2440MHz

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Date: 9.APR.2025 11:37:25

TX Frequency 2480MHz

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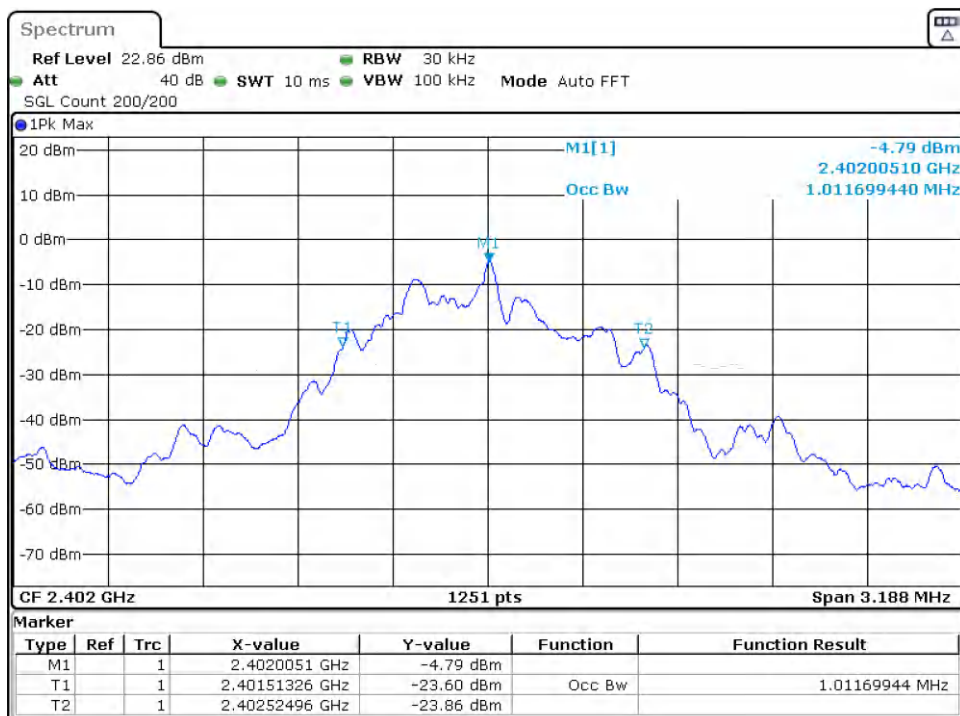
Absatz
Clause

Anforderungen - Prüfungen /
Requirements - Tests

Messergebnisse – Bemerkungen/
Measuring results - Remarks

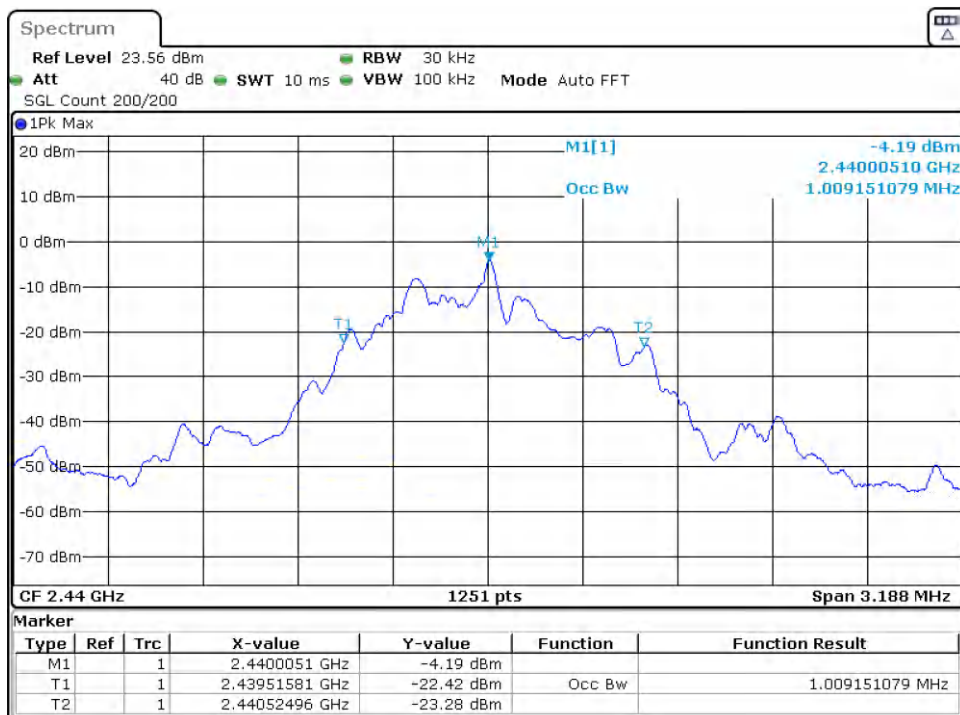
Ergebnis
Result

Test results of Occupied Bandwidth Measurement



Date: 9,APR.2025 11:20:00

TX Frequency 2402MHz



Date: 9,APR.2025 11:47:51

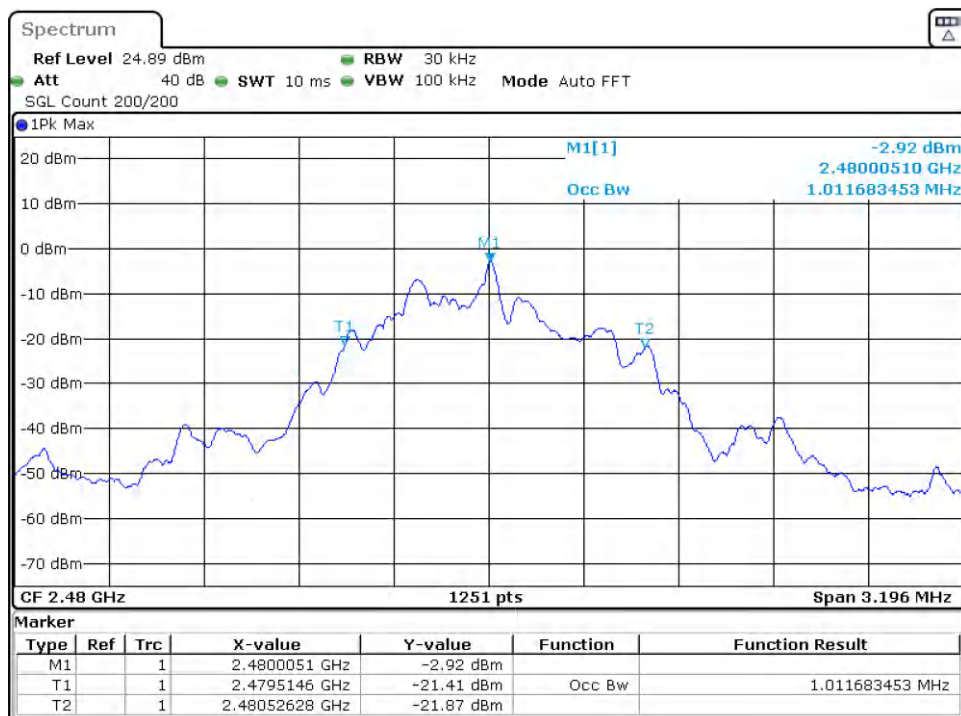
TX frequency 2440MHz

Prüfbericht-Nr.:
Test report no.:

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Date: 9.APR.2025 11:37:35

TX Frequency 2480MHz

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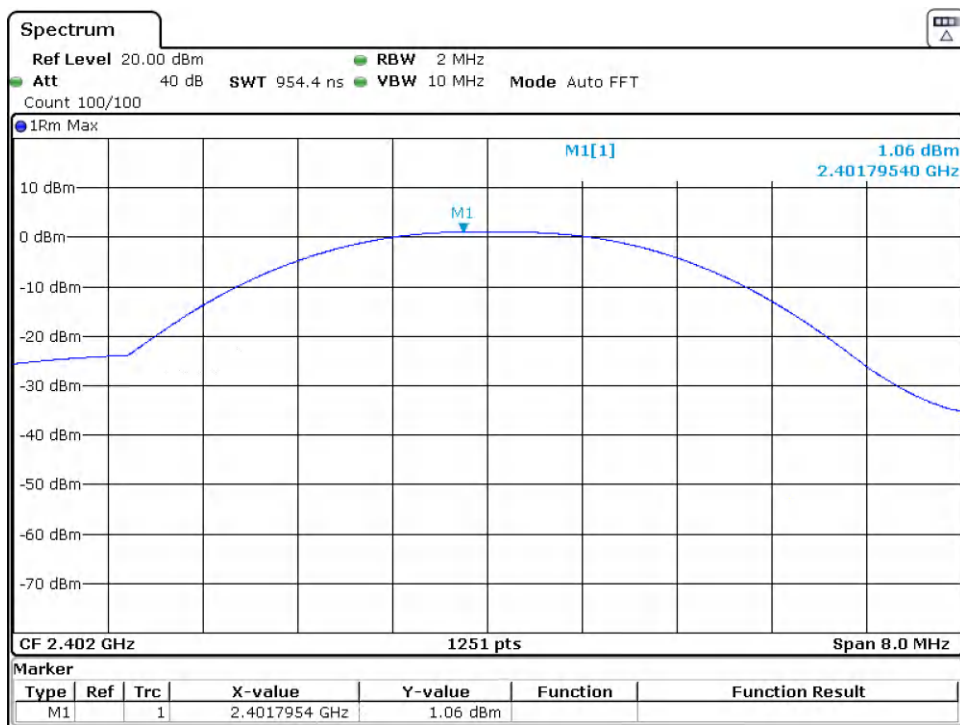
Absatz
Clause

Anforderungen - Prüfungen /
Requirements - Tests

Messergebnisse – Bemerkungen/
Measuring results - Remarks

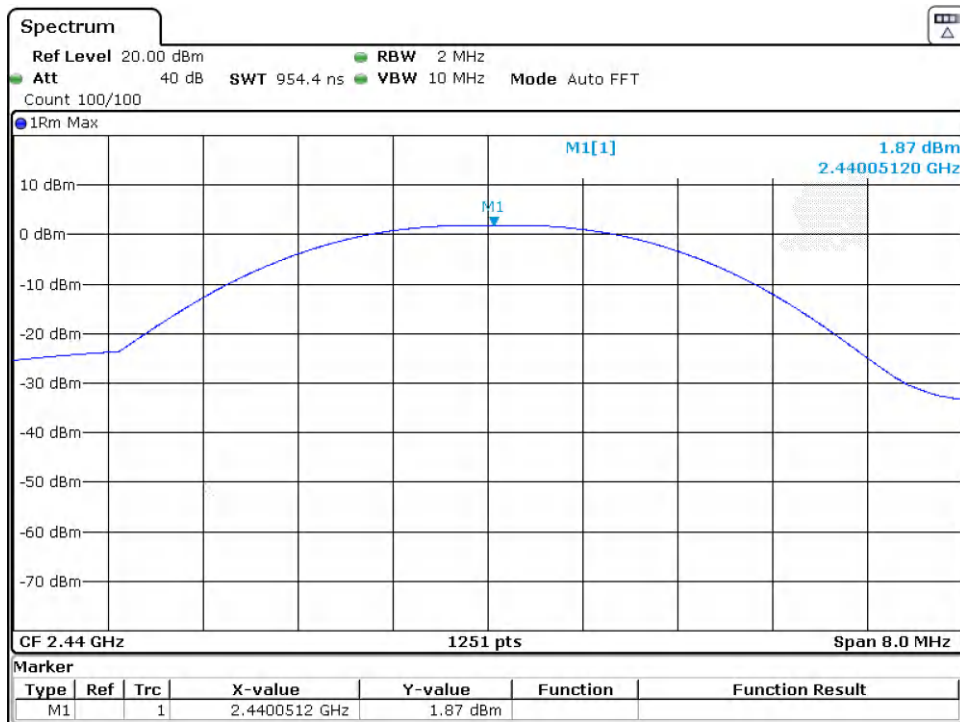
Ergebnis
Result

Test results of Maximum Peak Conducted Output Power



Date: 9.APR.2025 09:58:19

TX Frequency 2402MHz



Date: 9.APR.2025 09:59:07

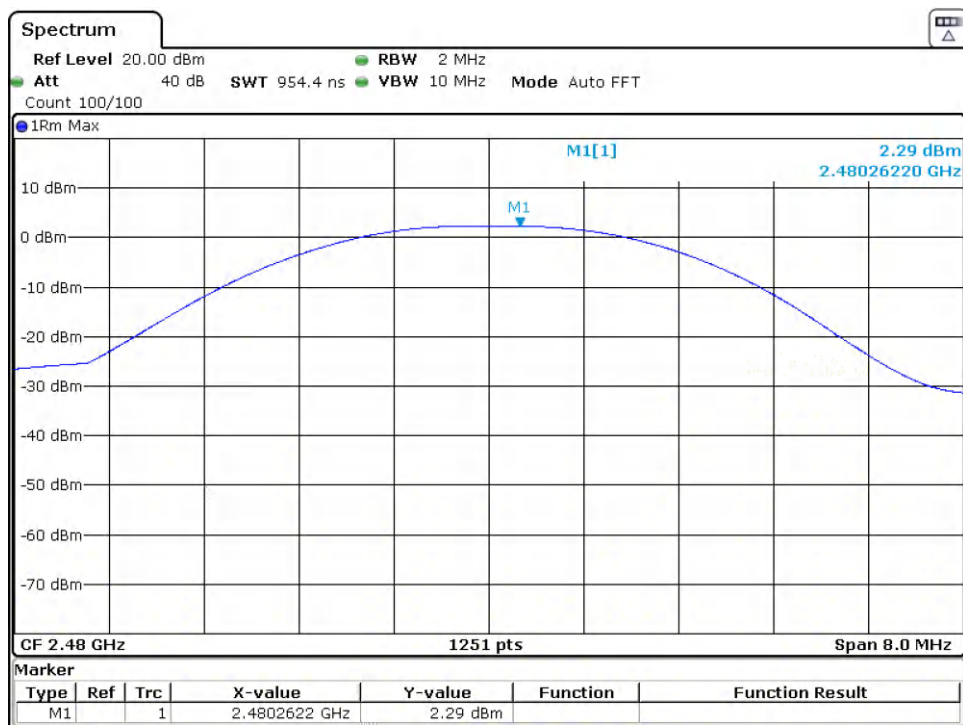
TX Frequency 2440MHz

Prüfbericht-Nr.:
Test report no.:

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Date: 9.APR.2025 09:59:50

TX Frequency 2480MHz

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Test report no.:

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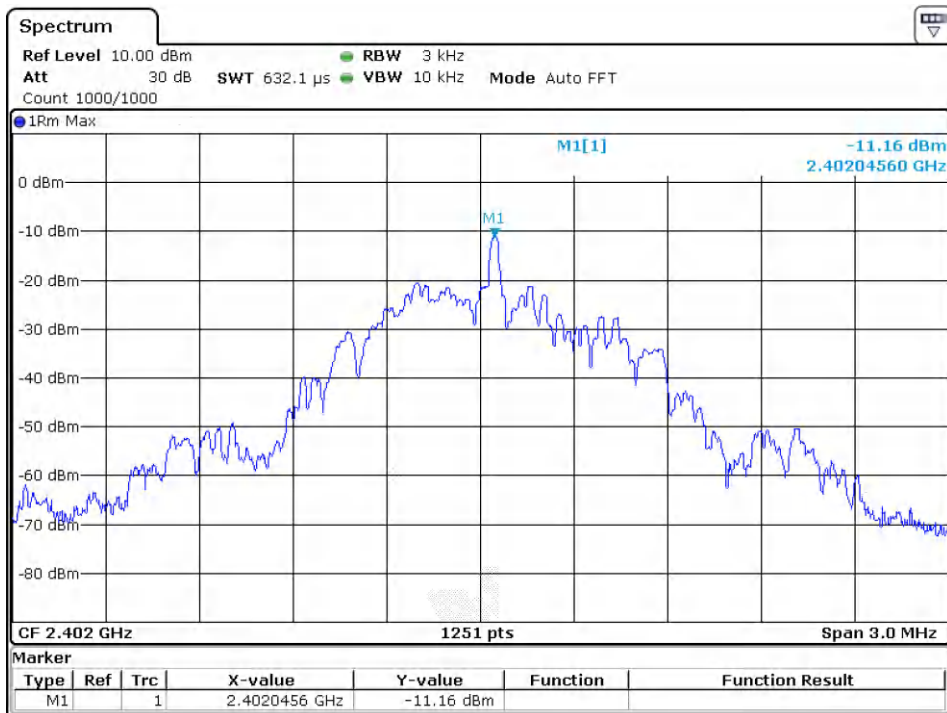
Absatz
Clause

Anforderungen - Prüfungen /
Requirements - Tests

Messergebnisse – Bemerkungen/
Measuring results - Remarks

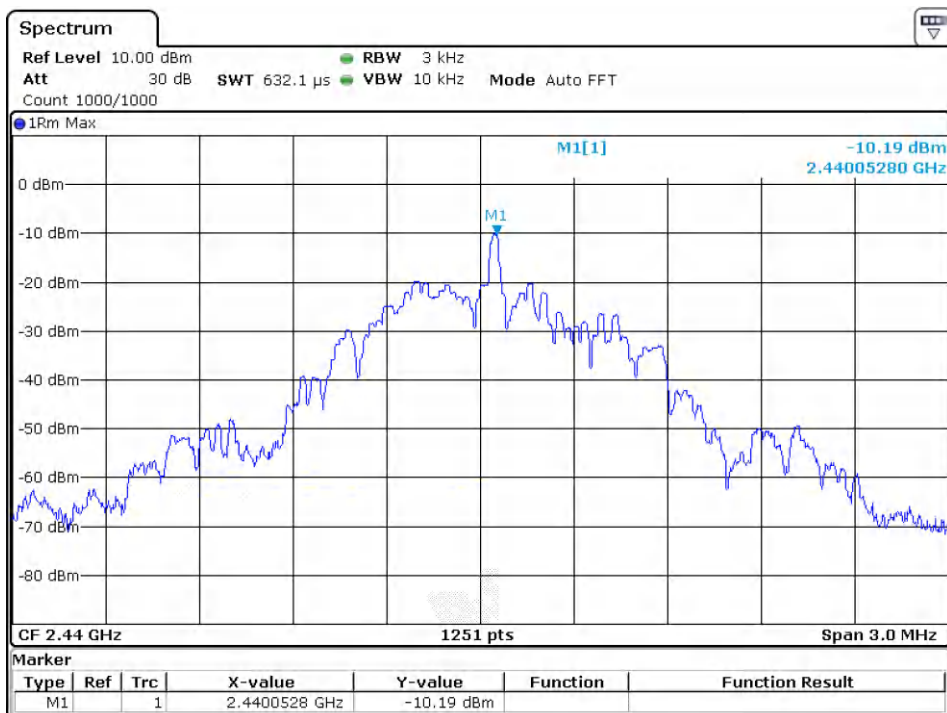
Ergebnis
Result

Test results of Power Spectral Density



Date: 9 APR 2025 11:19:09

TX Frequency 2402MHz



Date: 9 APR 2025 11:19:37

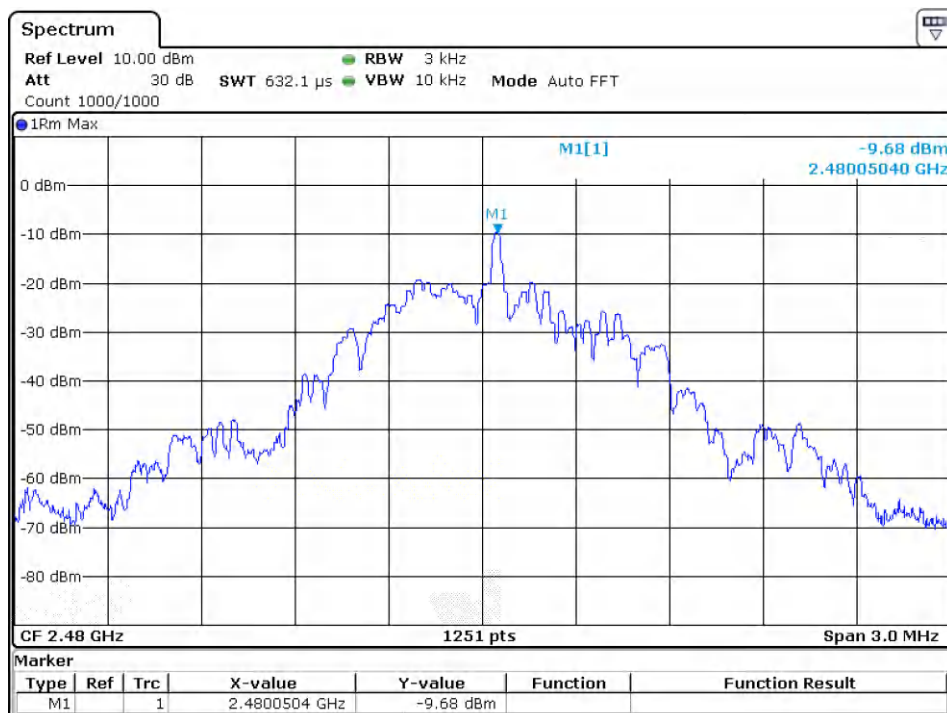
TX Frequency 2440MHz

Prüfbericht-Nr.:
Test report no.:

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Date: 9 APR 2025 11:19:58

TX Frequency 2480MHz

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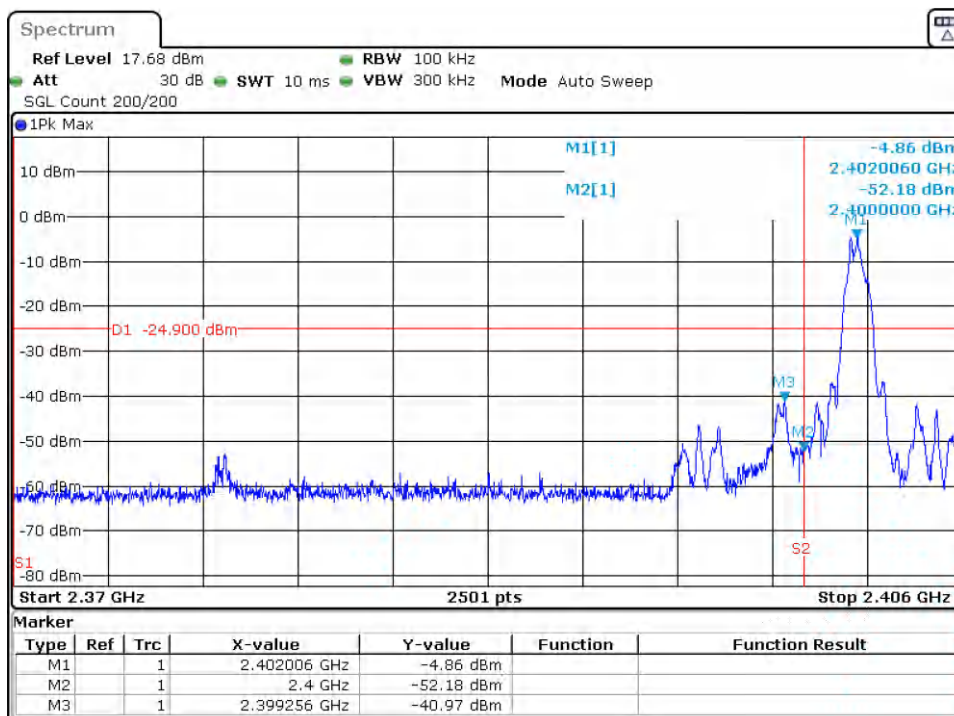
Absatz
Clause

Anforderungen - Prüfungen /
Requirements - Tests

Messergebnisse – Bemerkungen/
Measuring results - Remarks

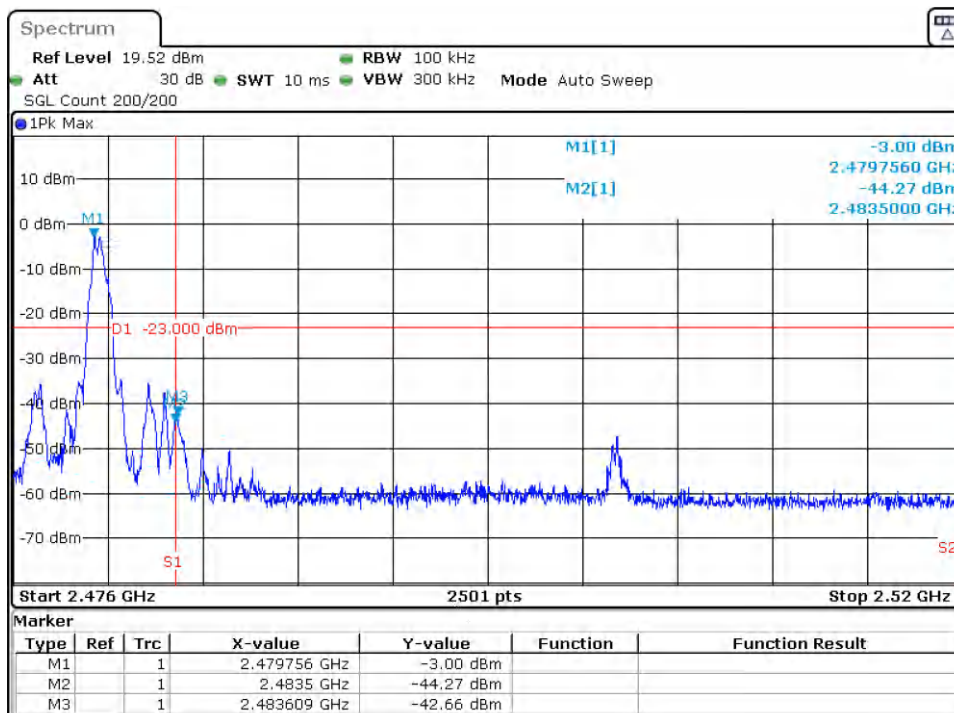
Ergebnis
Result

Test results of Spurious Conducted Emissions



Date: 9.APR.2025 11:20:22

TX Frequency 2402MHz _ Band Edge



Date: 9.APR.2025 11:37:56

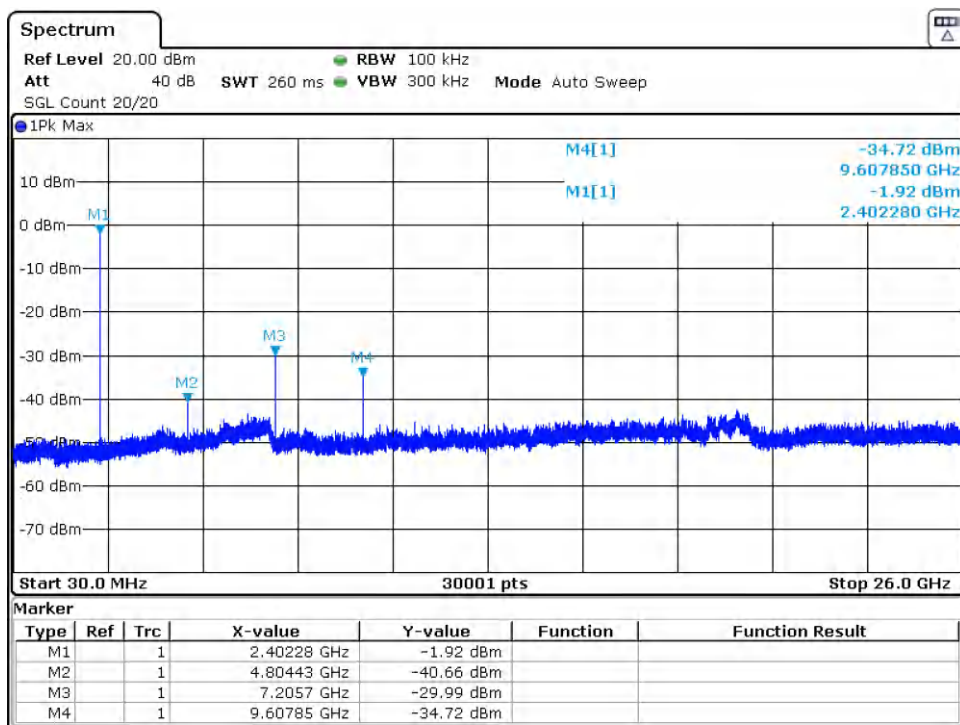
TX Frequency 2480MHz _ Band Edge

Prüfbericht-Nr.:
Test report no.:

CN256T71 001

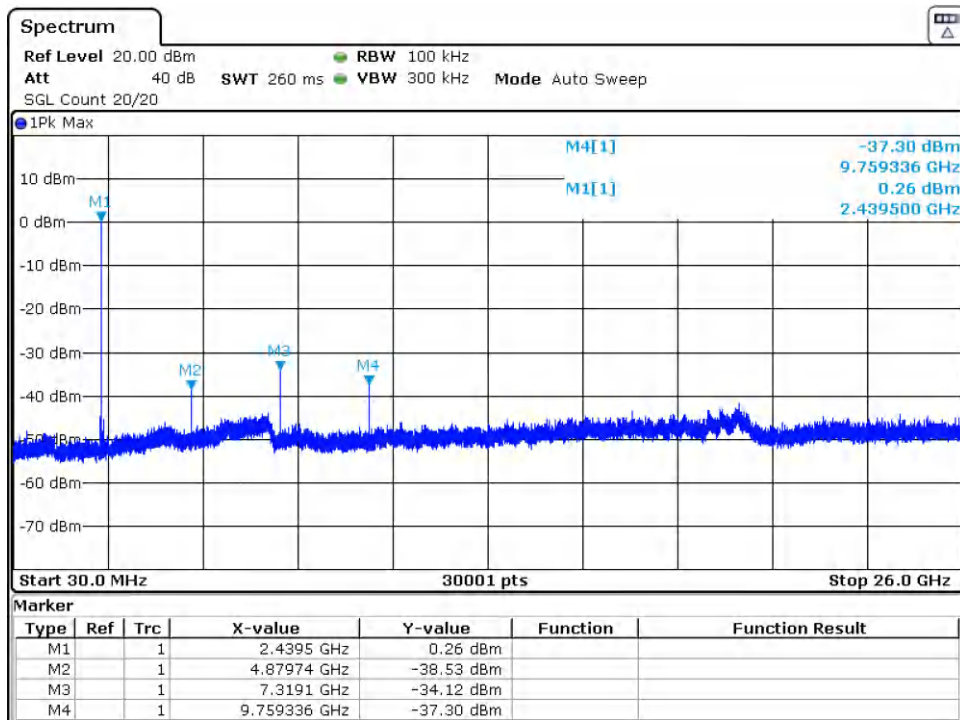
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Date: 8.APR.2025 17:19:55

TX Frequency 2402MHz _ 30M~26GHz Pre-scan



Date: 8.APR.2025 17:32:03

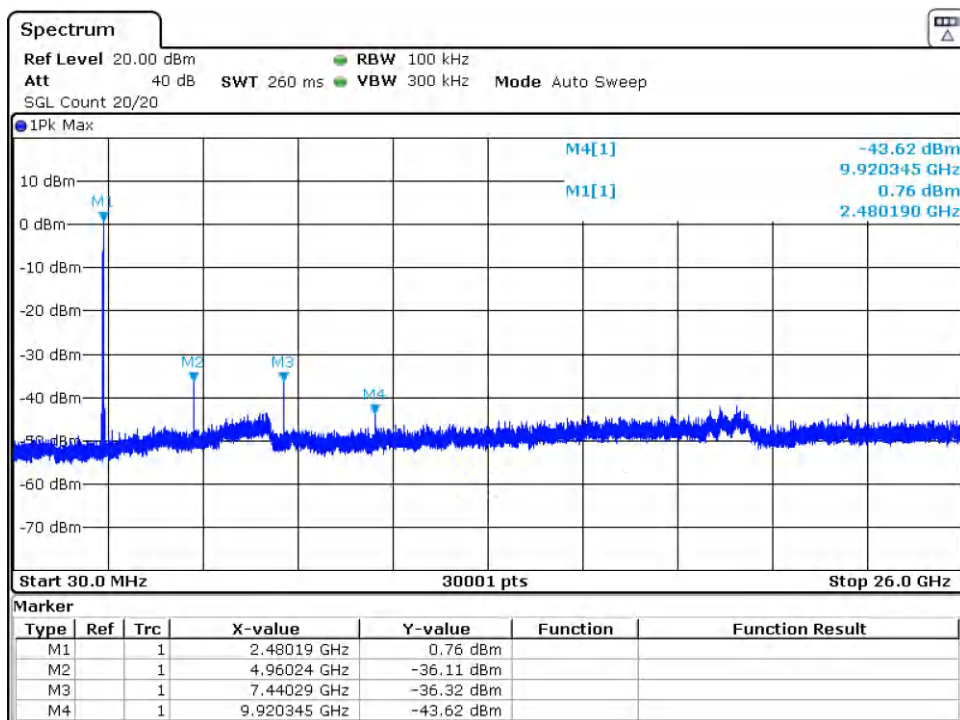
TX Frequency 2440MHz _ 30M~26GHz Pre-scan

Prüfbericht-Nr.:
Test report no.:

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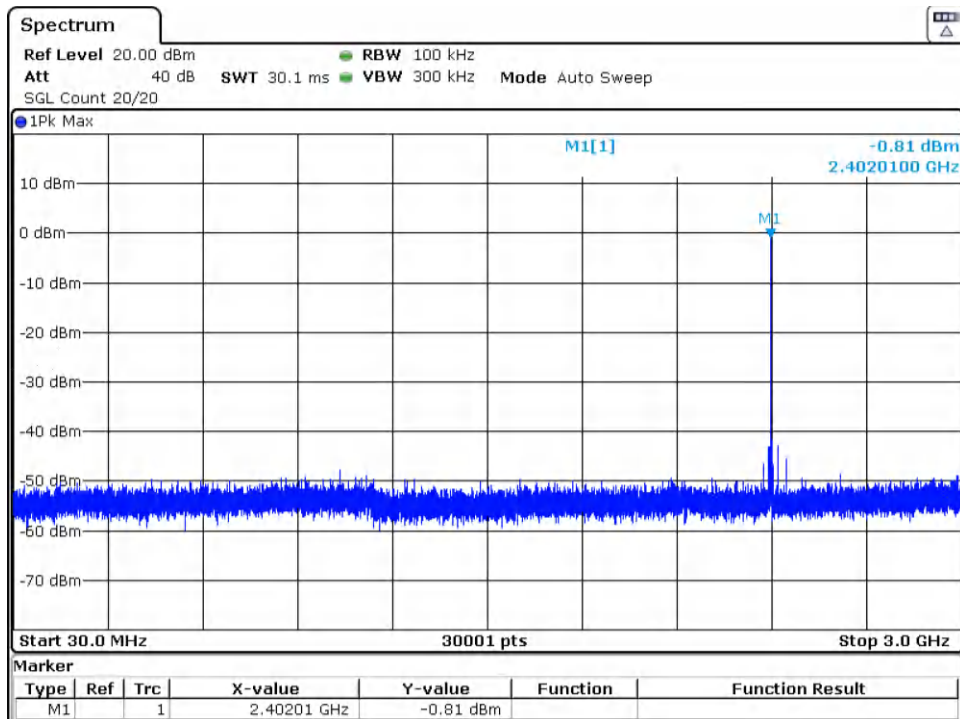
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Date: 8.APR.2025 17:33:49

TX Frequency 2480MHz _ 30M~26GHz Pre-scan



Date: 8.APR.2025 17:20:33

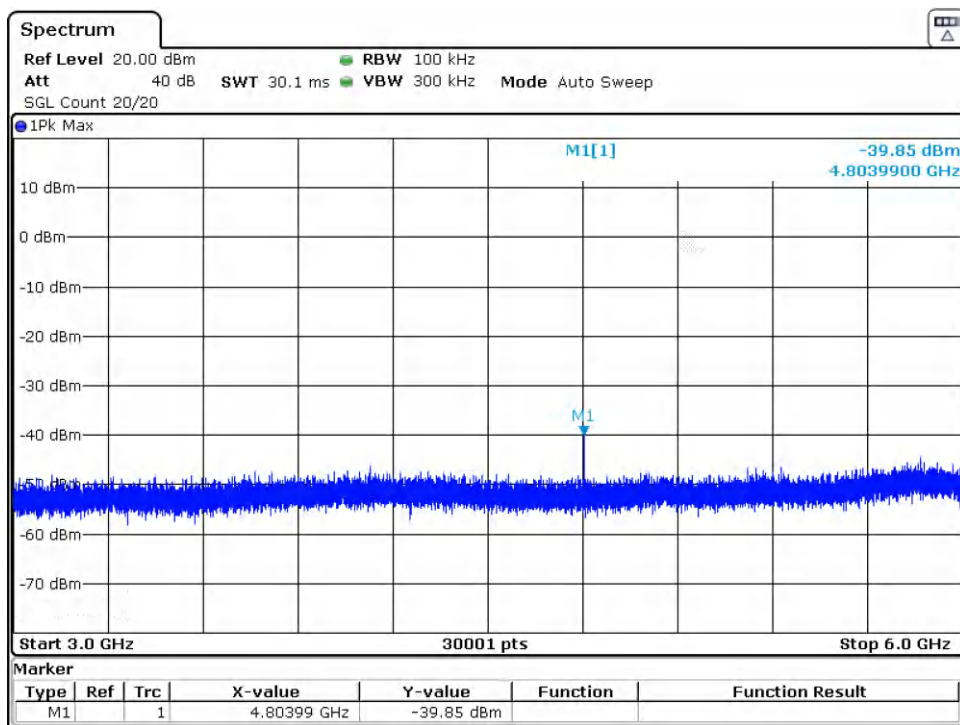
TX Frequency 2402MHz _ 30M~3GHz

Prüfbericht-Nr.:
Test report no.:

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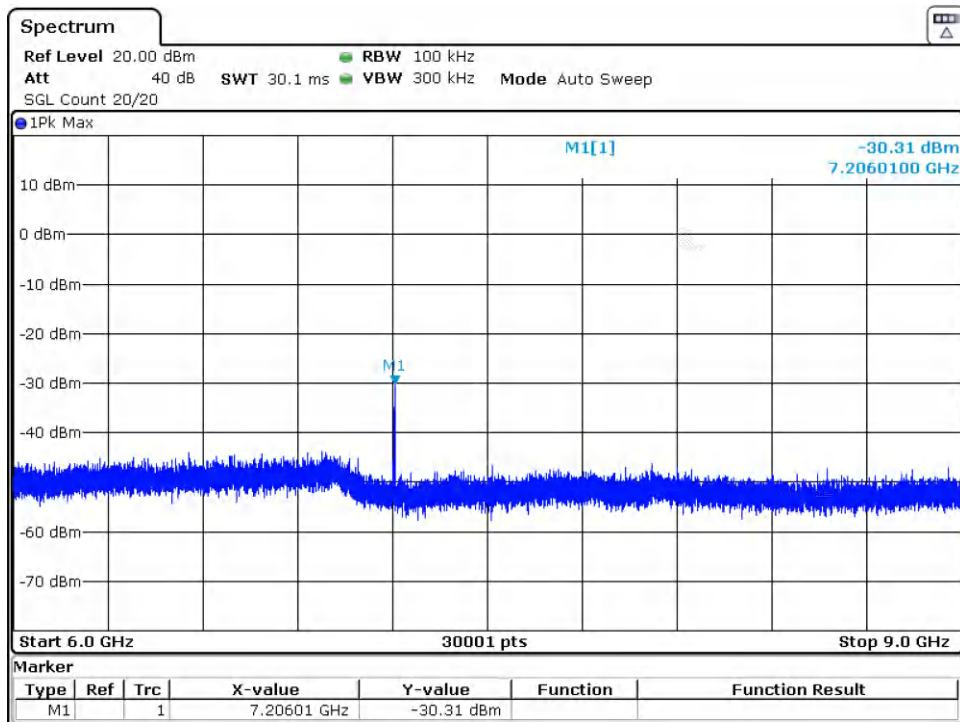
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Date: 8.APR.2025 17:21:54

TX Frequency 2402MHz _ 3G~6GHz



Date: 8.APR.2025 17:22:29

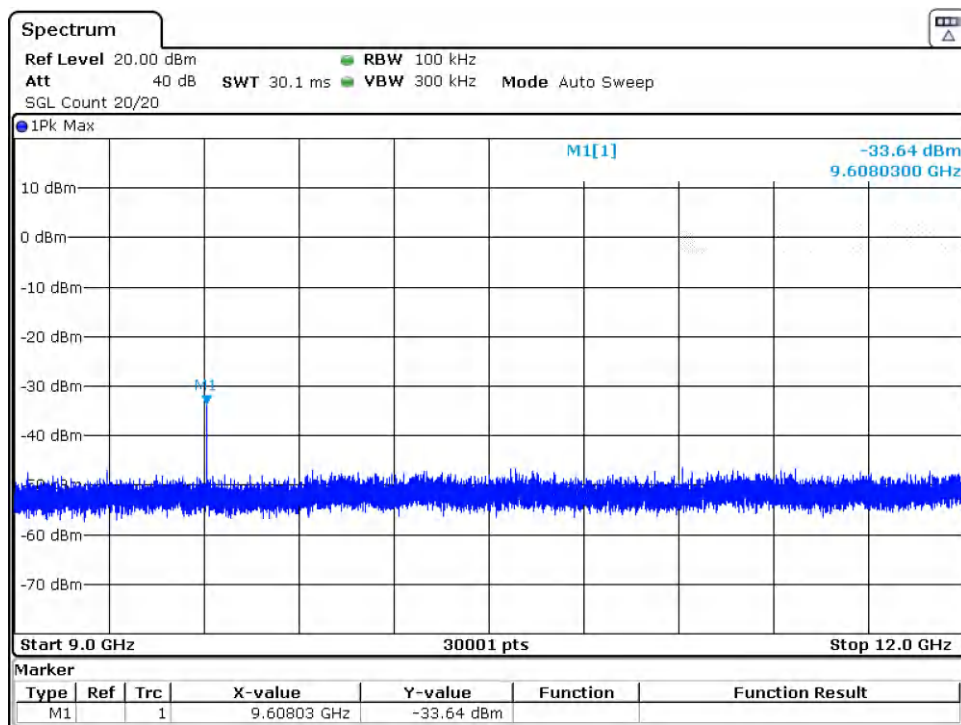
TX Frequency 2402MHz _ 6G~9GHz

Prüfbericht-Nr.:
Test report no.:

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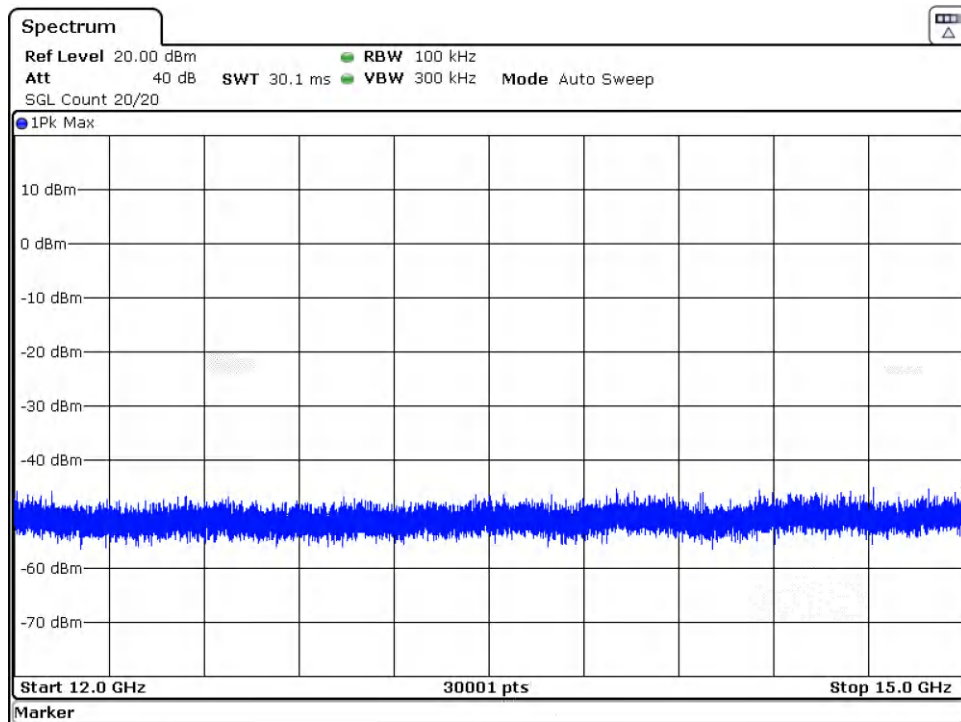
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Date: 8.APR.2025 17:23:05

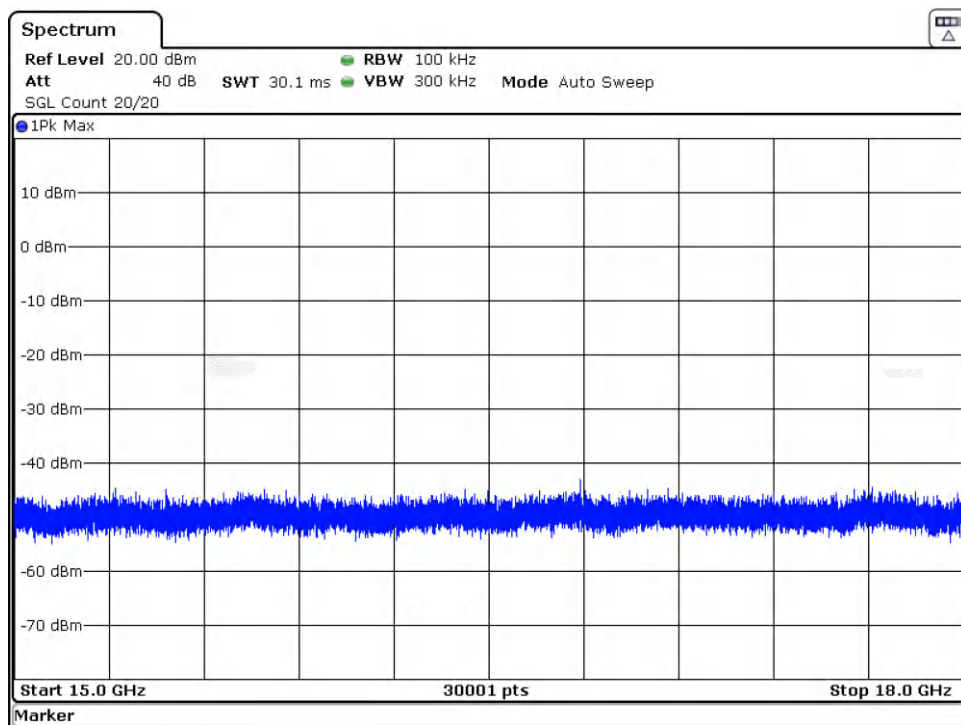
TX Frequency 2402MHz _ 9G~12GHz



Date: 8.APR.2025 17:28:43

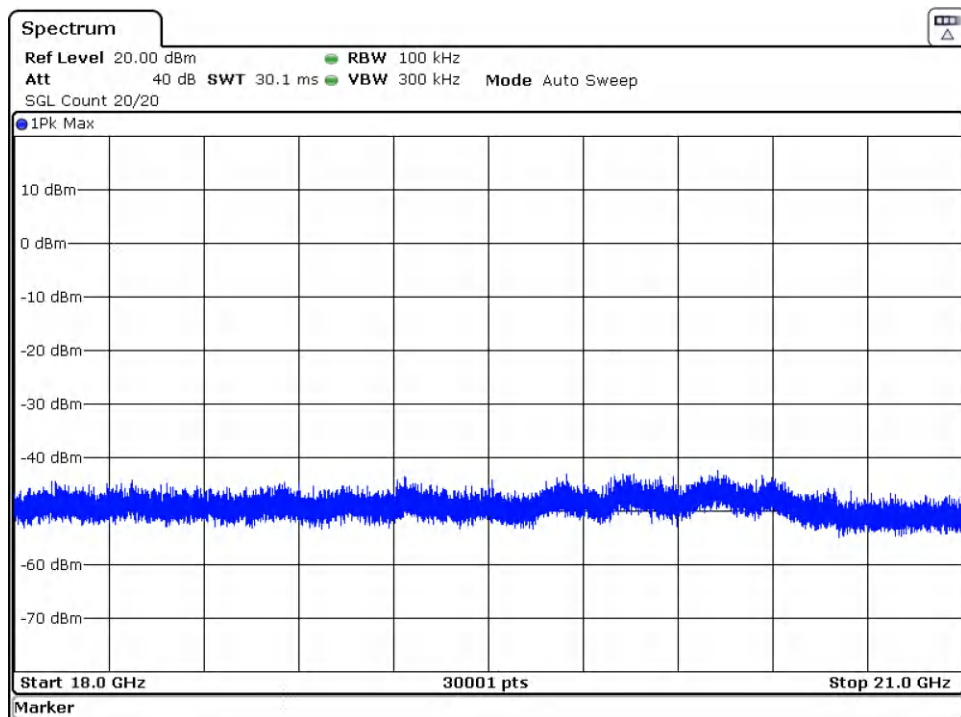
TX Frequency 2402MHz _ 12G~15GHz

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Date: 8.APR.2025 17:29:04

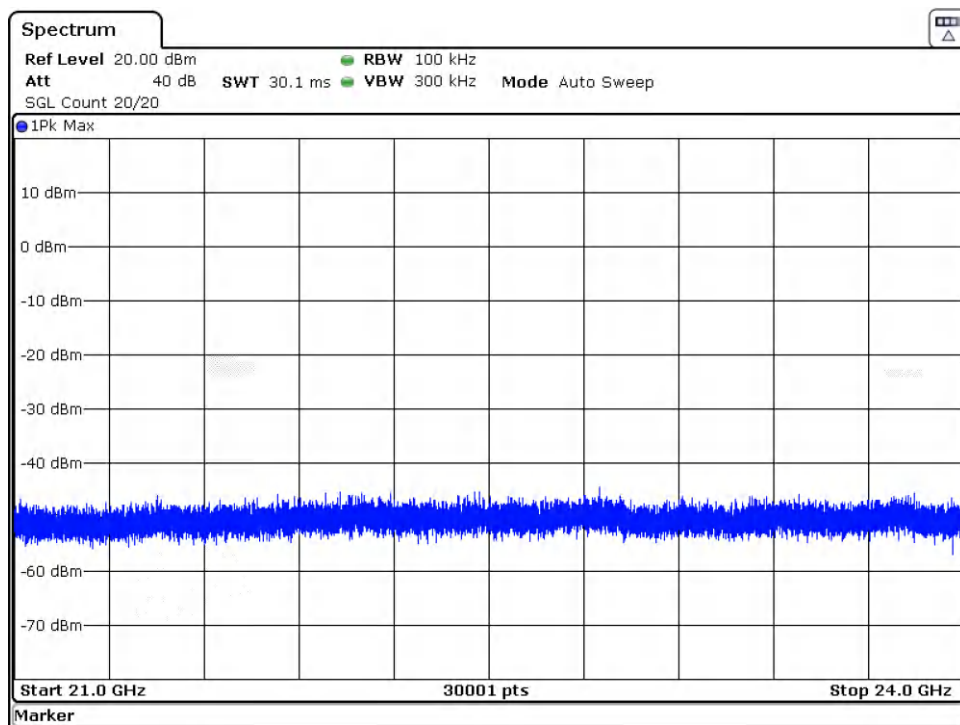
TX Frequency 2402MHz _ 15G~18GHz



Date: 8.APR.2025 17:29:24

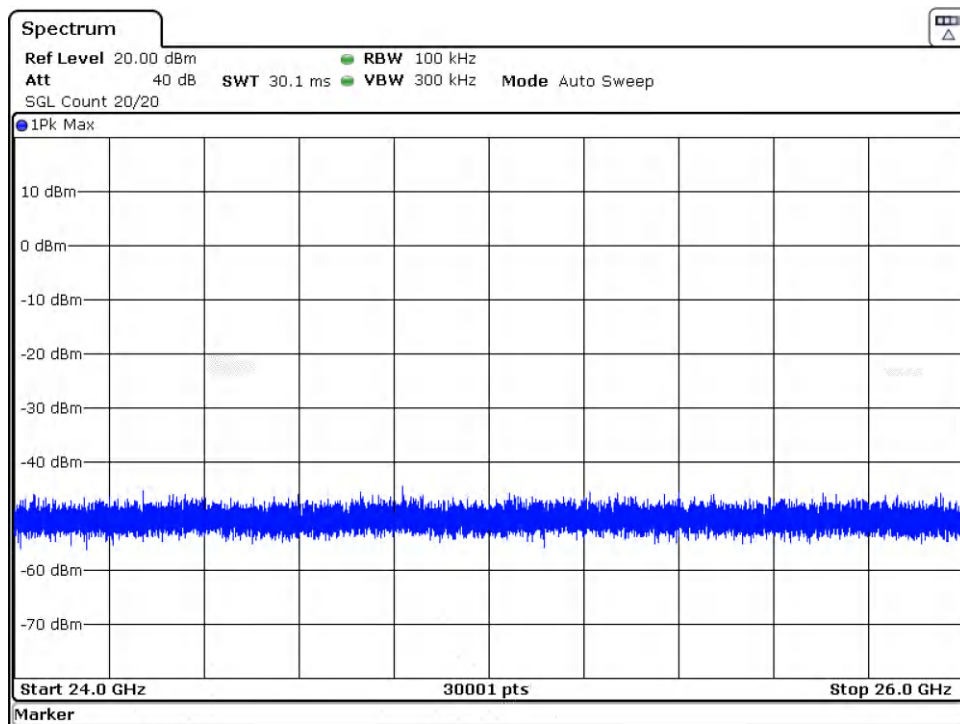
TX Frequency 2402MHz _ 18G~21GHz

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Date: 8.APR.2025 17:25:01

TX Frequency 2402MHz _ 21G~24GHz



Date: 8.APR.2025 17:25:27

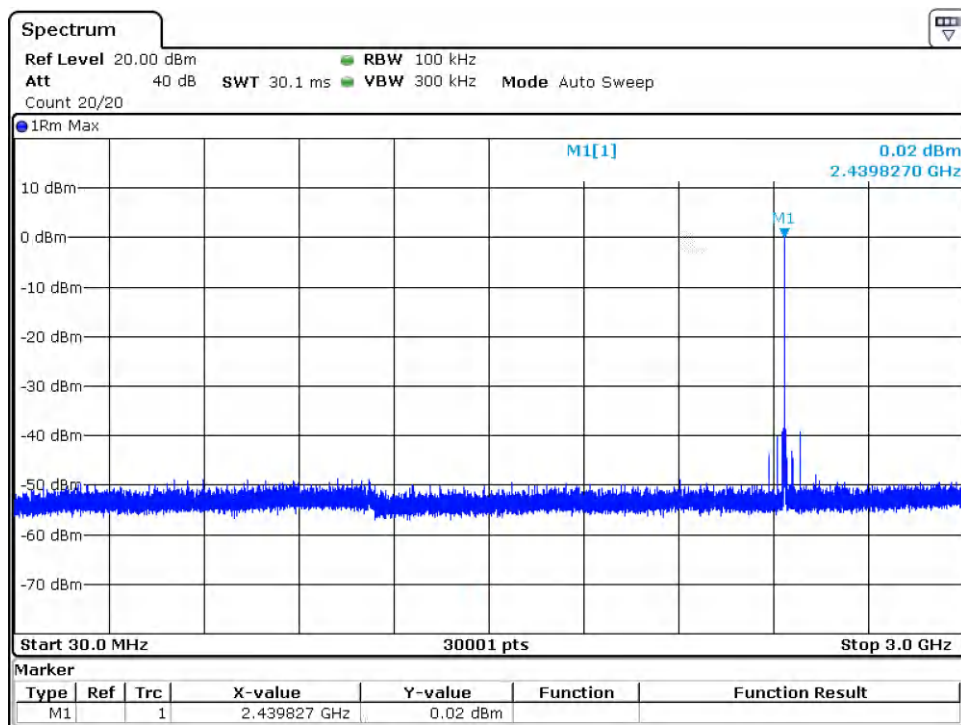
TX Frequency 2402MHz _ 24G~26GHz

Prüfbericht-Nr.:
Test report no.:

CN256T71 001

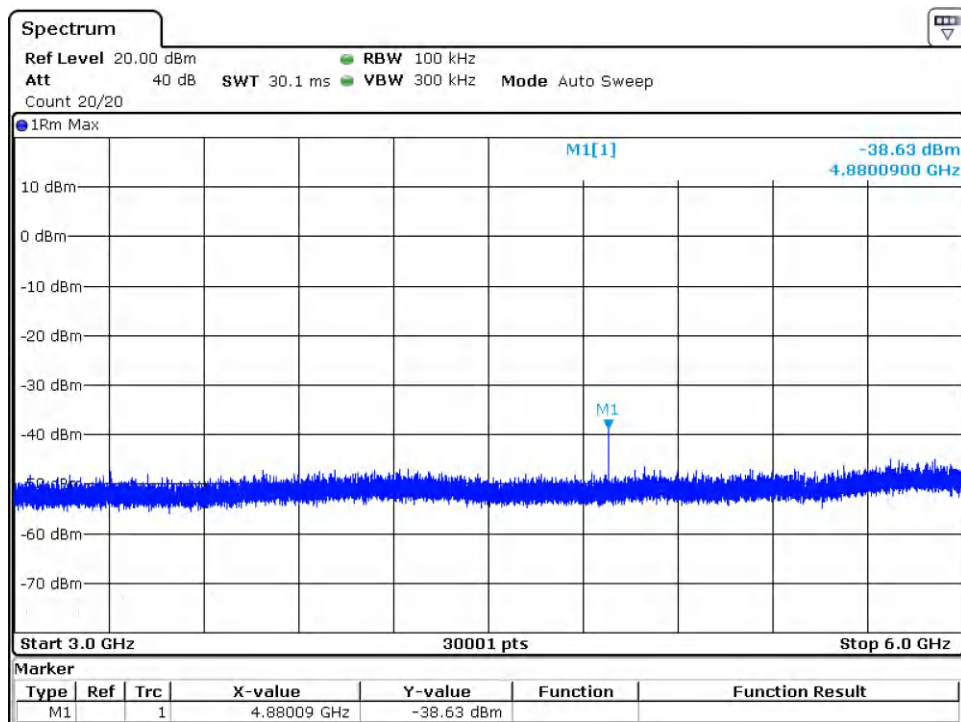
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Date: 8.APR.2025 15:43:15

TX Frequency 2440MHz _ 30M~3GHz



Date: 8.APR.2025 15:43:51

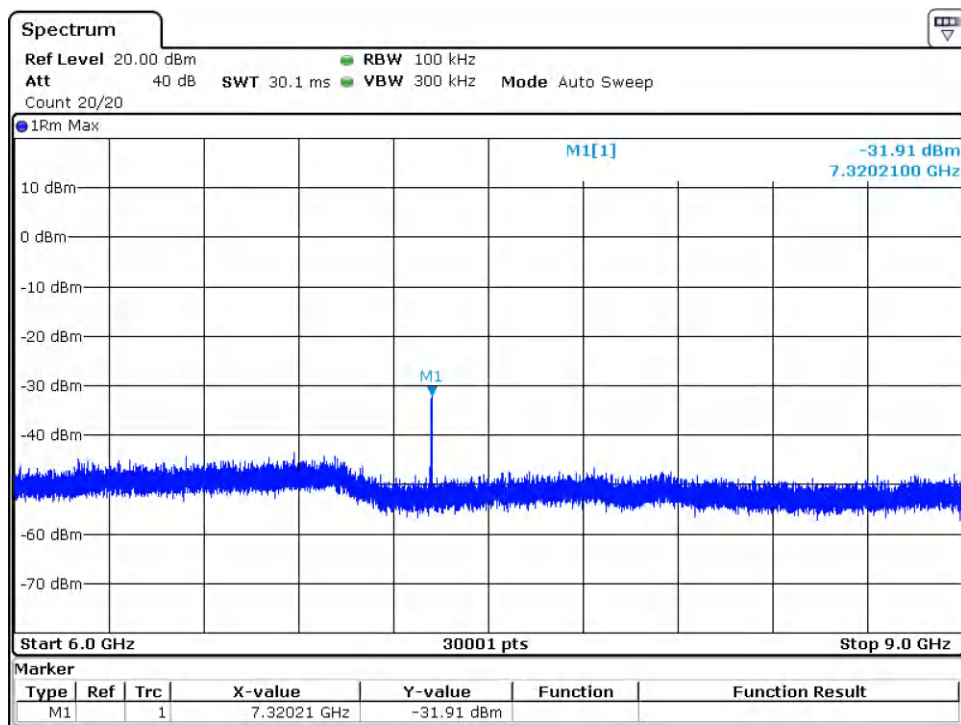
TX Frequency 2440MHz _ 3G~6GHz

Prüfbericht-Nr.:
Test report no.:

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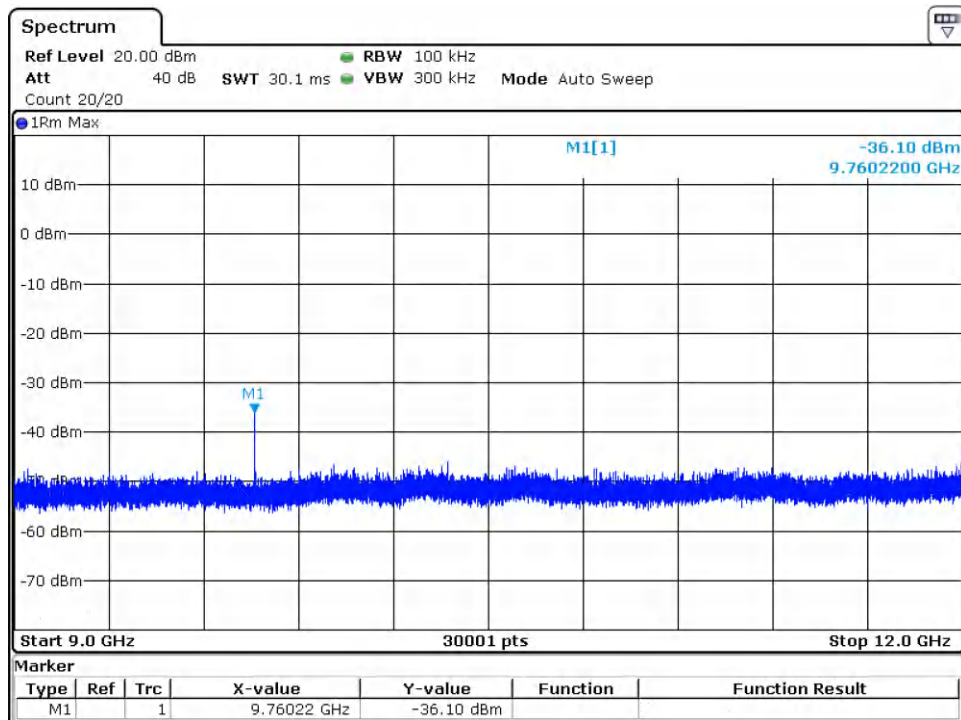
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Date: 8 APR 2025 15:44:34

TX Frequency 2440MHz _ 6G~9GHz



Date: 8 APR 2025 15:45:07

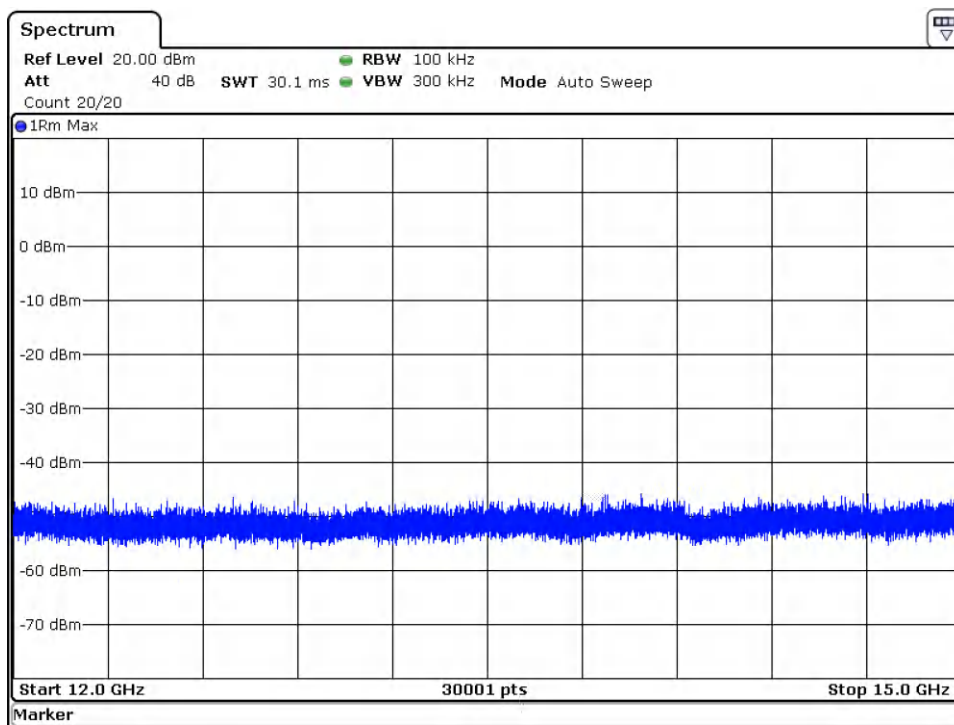
TX Frequency 2440MHz _ 9G~12GHz

Prüfbericht-Nr.:
Test report no.:

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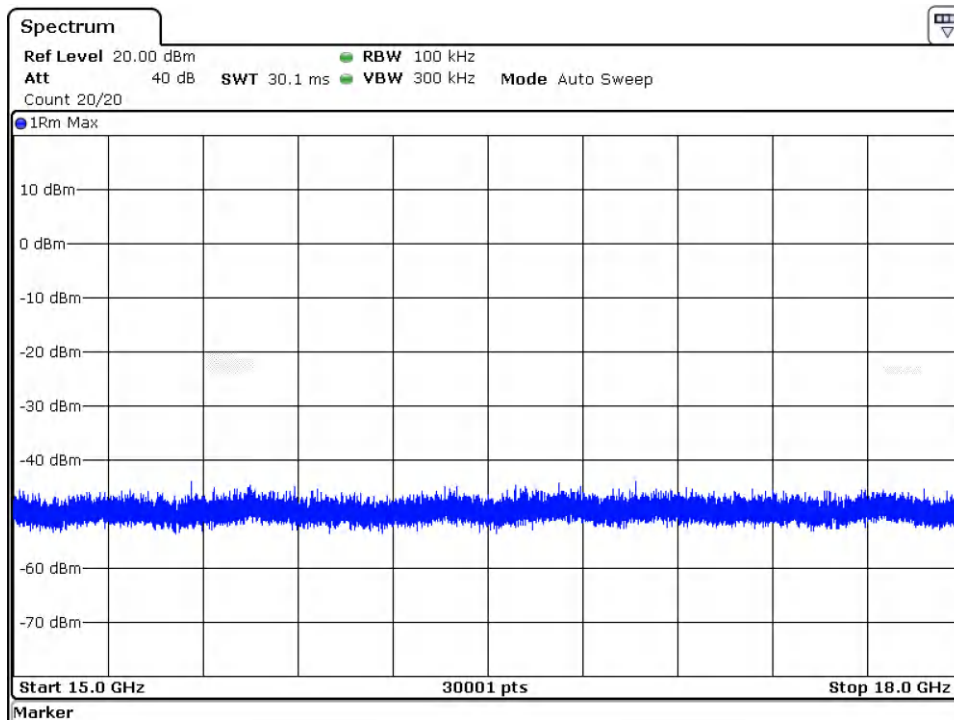
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Date: 8.APR.2025 15:45:33

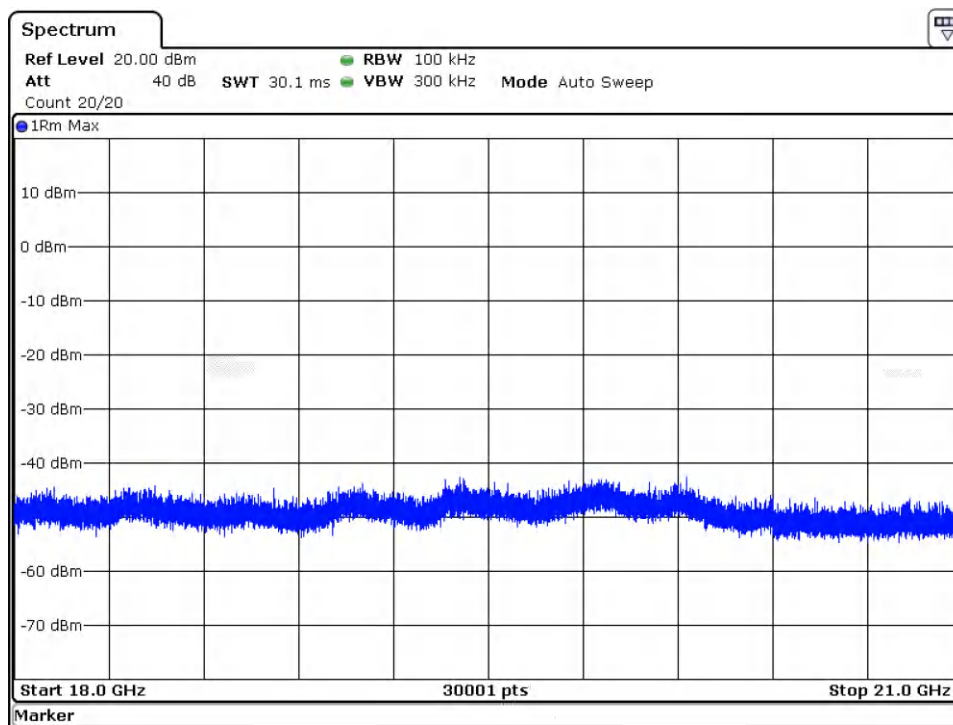
TX Frequency 2440MHz _ 12G~15GHz



Date: 8.APR.2025 15:45:58

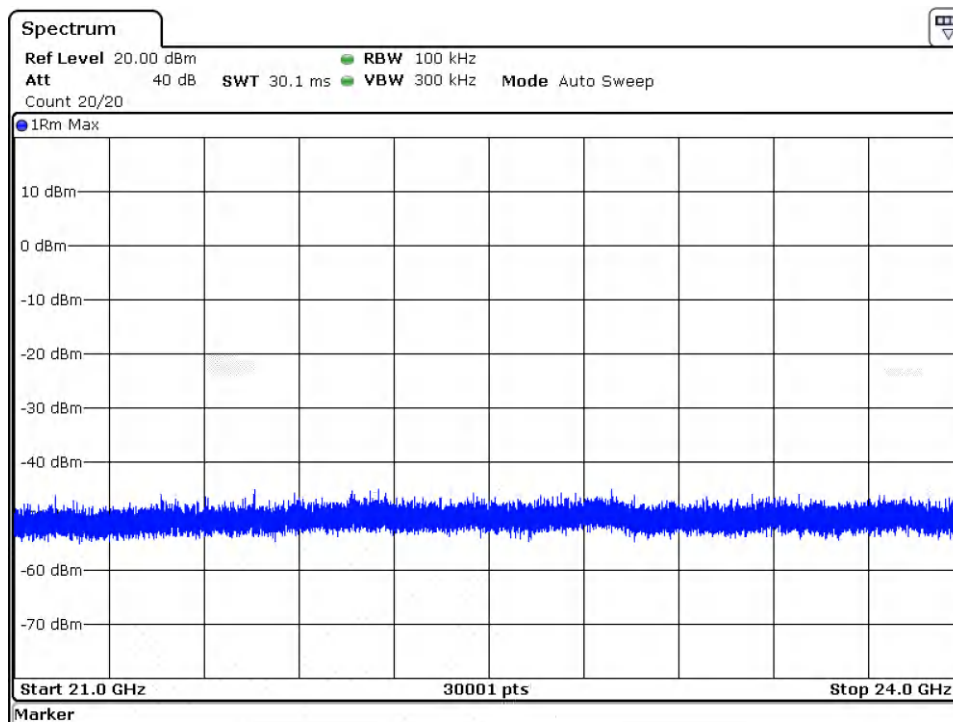
TX Frequency 2440MHz _ 15G~18GHz

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Date: 8.APR.2025 15:46:26

TX Frequency 2440MHz _ 18G~21GHz



Date: 8.APR.2025 15:46:51

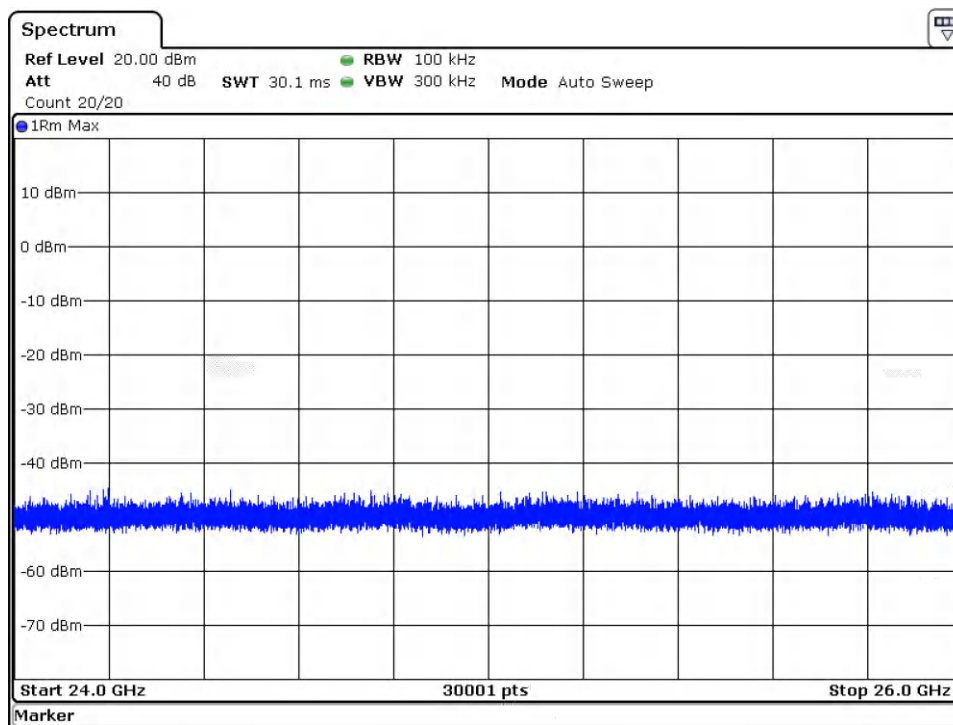
TX Frequency 2440MHz _ 21G~24GHz

Prüfbericht-Nr.:
Test report no.:

CN256T71 001

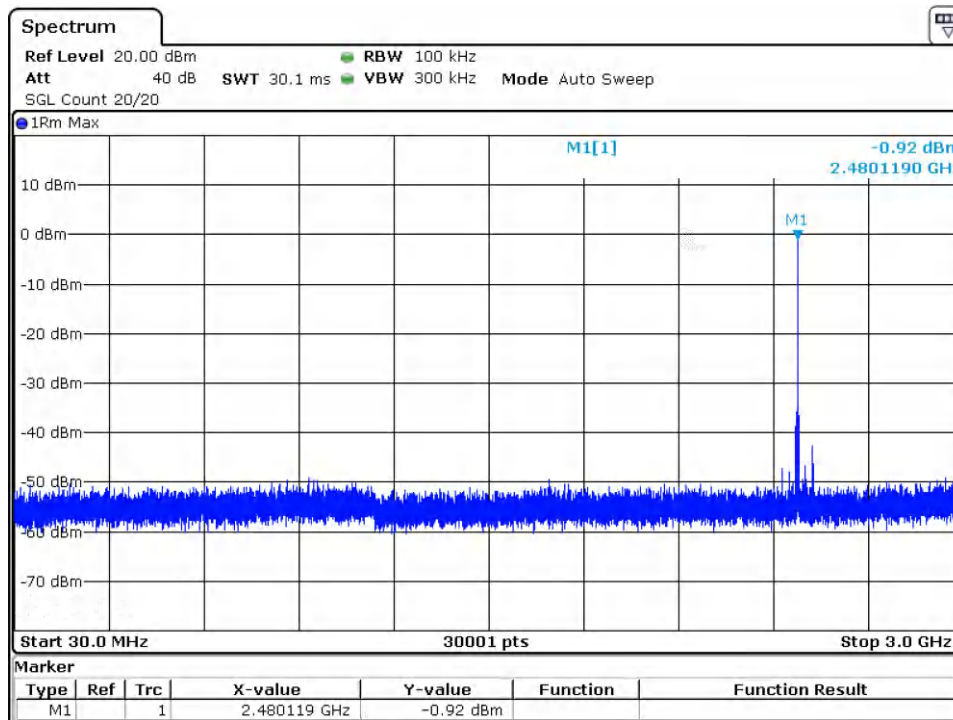
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Date: 8.APR.2025 15:47:16

TX Frequency 2440MHz _ 24M~26GHz



Date: 8.APR.2025 15:51:23

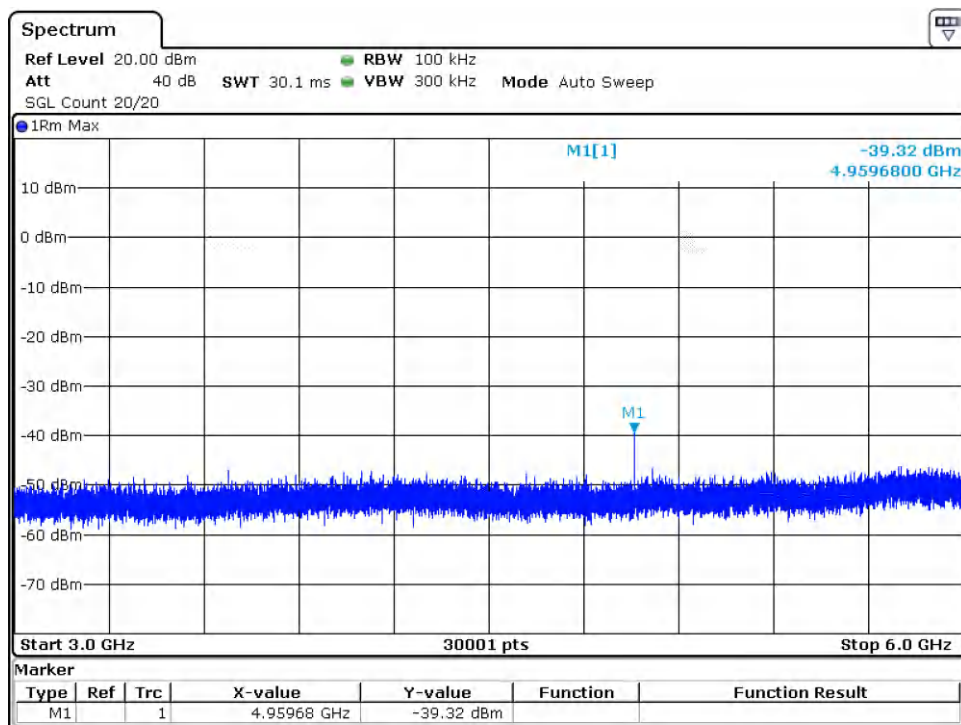
TX Frequency 2480MHz _ 30M~3GHz

Prüfbericht-Nr.:
Test report no.:

CN256T71 001

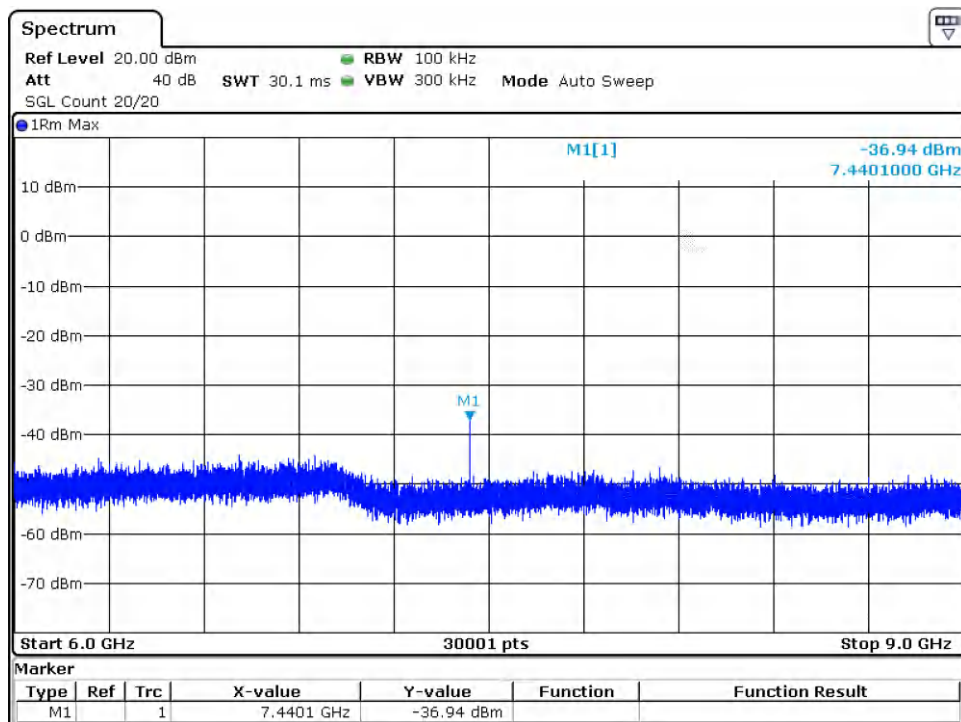
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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result
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Date: 8.APR.2025 15:50:55

TX Frequency 2480MHz _ 3G~6GHz



Date: 8.APR.2025 15:50:33

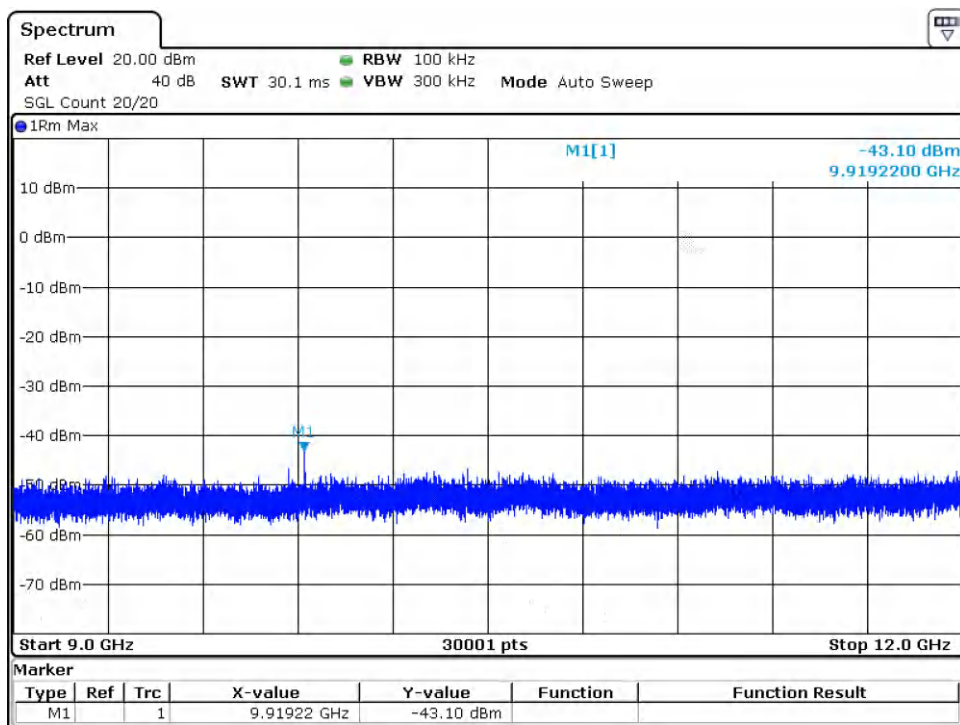
TX Frequency 2480MHz _ 6G~9GHz

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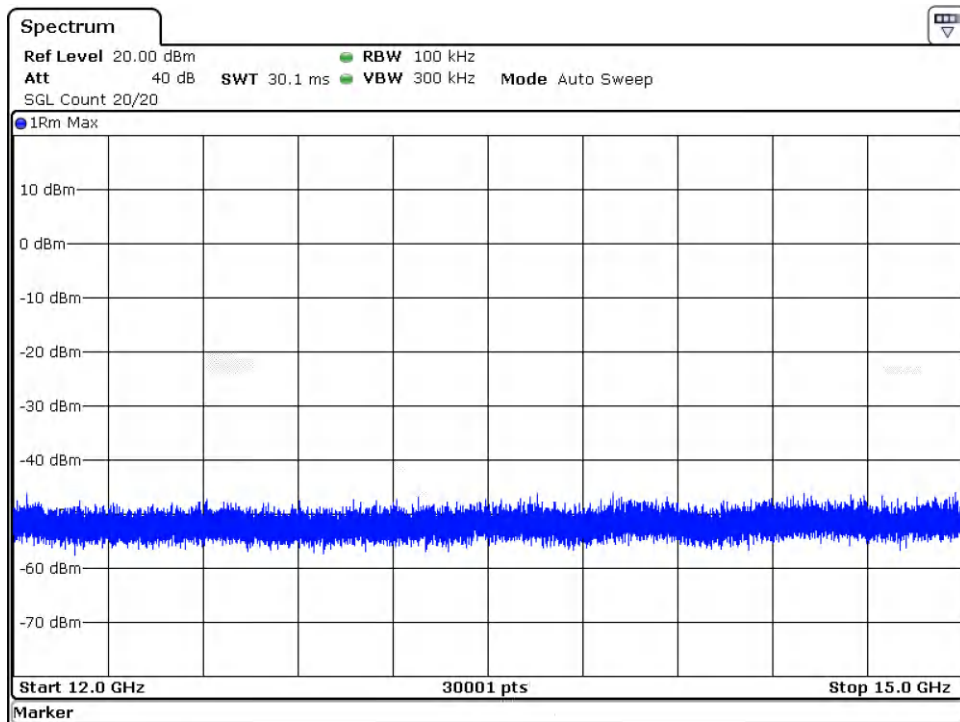
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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result
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Date: 8.APR.2025 15:50:06

TX Frequency 2480MHz _ 9G~12GHz



Date: 8.APR.2025 15:49:41

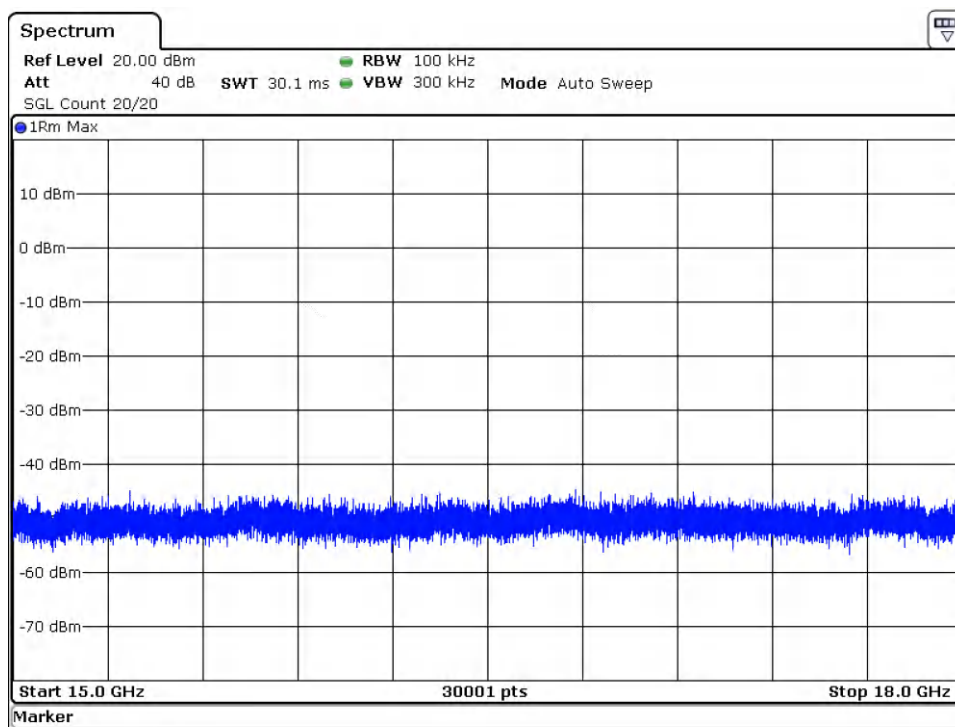
TX Frequency 2480MHz _ 12G~15GHz

Prüfbericht-Nr.:
Test report no.:

CN256T71 001

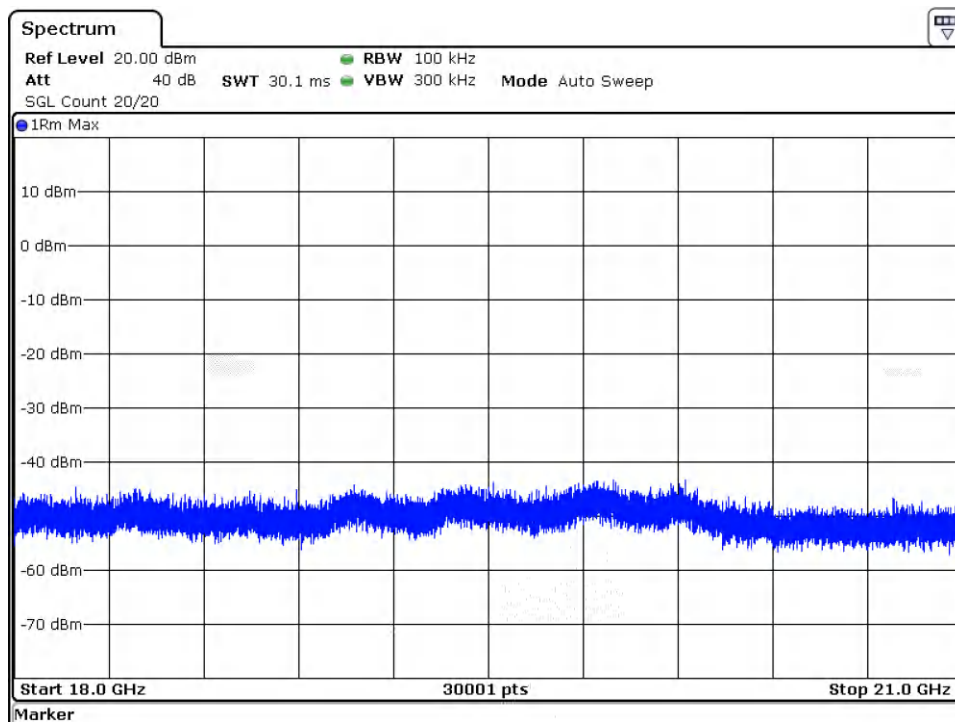
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Date: 8.APR.2025 15:49:06

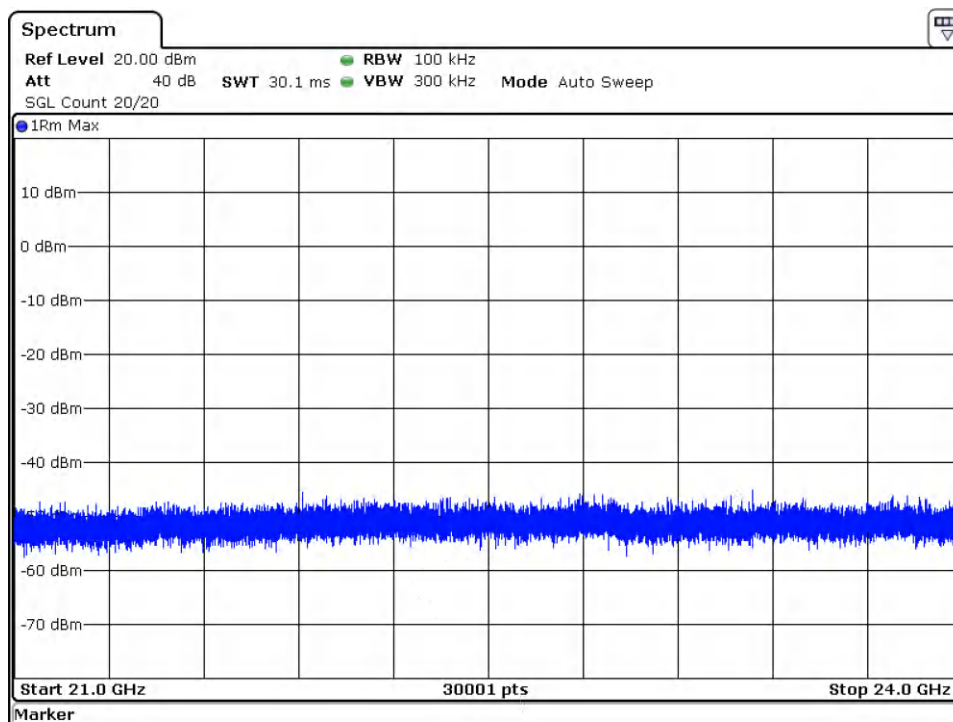
TX Frequency 2480MHz _ 15G~18GHz



Date: 8.APR.2025 15:48:42

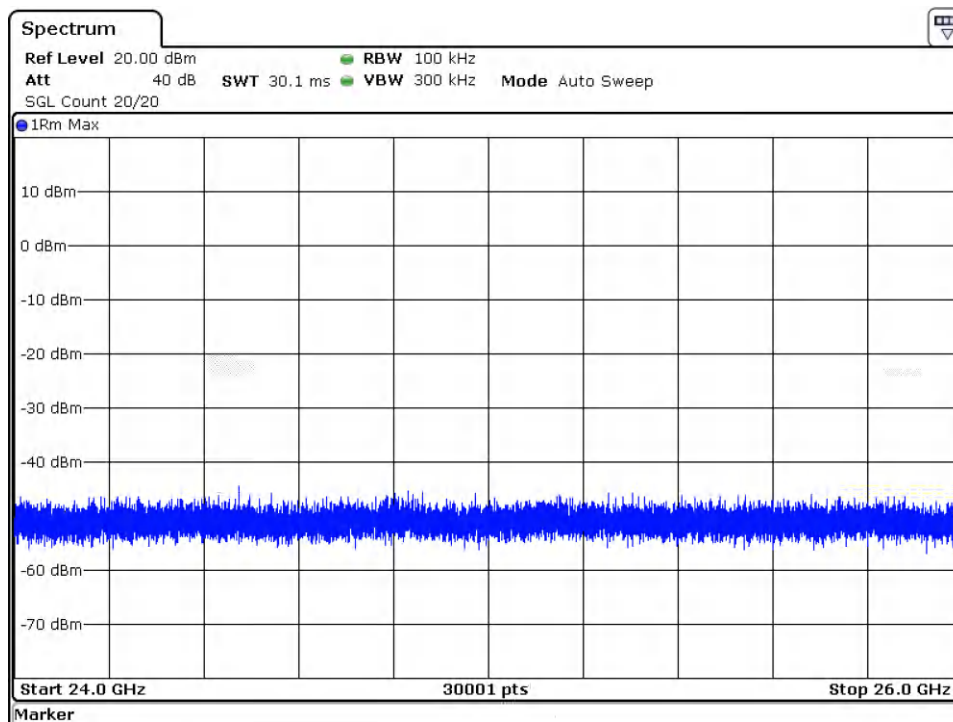
TX Frequency 2480MHz _ 18G~21GHz

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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result	



Date: 8.APR.2025 15:48:08

TX Frequency 2480MHz _ 18G~24GHz



Date: 8.APR.2025 15:47:43

TX Frequency 2480MHz _ 24G~26GHz

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Absatz <i>Clause</i>	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	Messergebnisse – Bemerkungen/ <i>Measuring results - Remarks</i>	Ergebnis <i>Result</i>	

Appendix 2

Test Setup Photos

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Set-up for Conducted Emission on AC Mains



Set-up for Radiated Emission (9kHz-30MHz)

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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result	



Set-up for Radiated Emission (30MHz-200MHz)



Set-up for Radiated Emission (200MHz-1000MHz)

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Absatz <i>Clause</i>	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	Messergebnisse – Bemerkungen/ <i>Measuring results - Remarks</i>	Ergebnis <i>Result</i>	



Set-up for Radiated Emission (1GHz above)

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Absatz <i>Clause</i>	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	Messergebnisse – Bemerkungen/ <i>Measuring results - Remarks</i>	Ergebnis <i>Result</i>	

Appendix 3

EUT External Photos

FCC ID: YFA50052007
IC ID: 12260A-50052007

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External View



External View

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Test report no.:

CN256T71 001

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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result
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External View



External View

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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result	



External View



External View

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Absatz <i>Clause</i>	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	Messergebnisse – Bemerkungen/ <i>Measuring results - Remarks</i>	Ergebnis <i>Result</i>	

Appendix 4

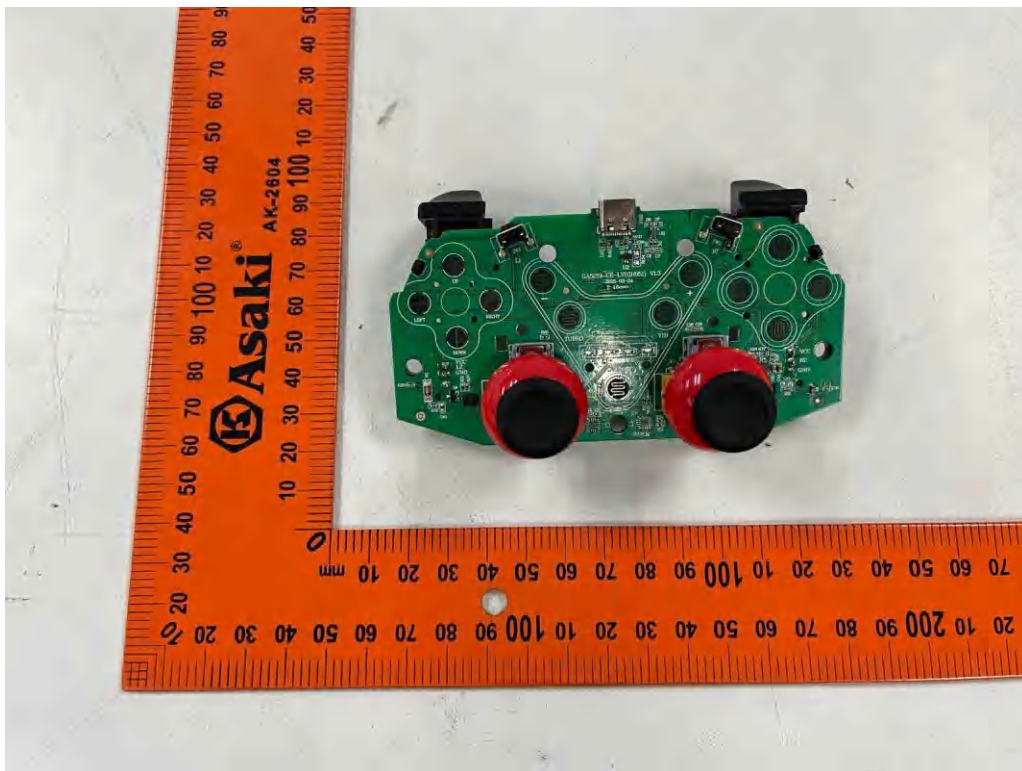
EUT Internal Photos

FCC ID: YFA50052007
IC ID: 12260A-50052007

Prüfbericht-Nr.: Test report no.:		CN256T71 001		Seite 54 von 59 Page 54 of 59
Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result	

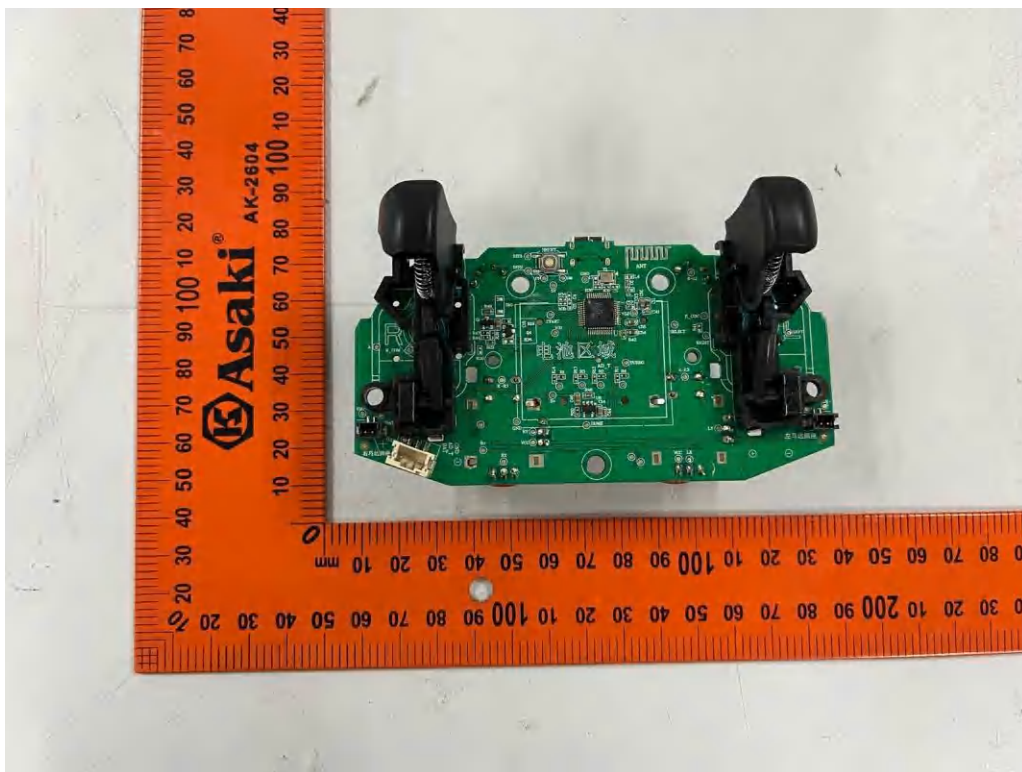


Internal View

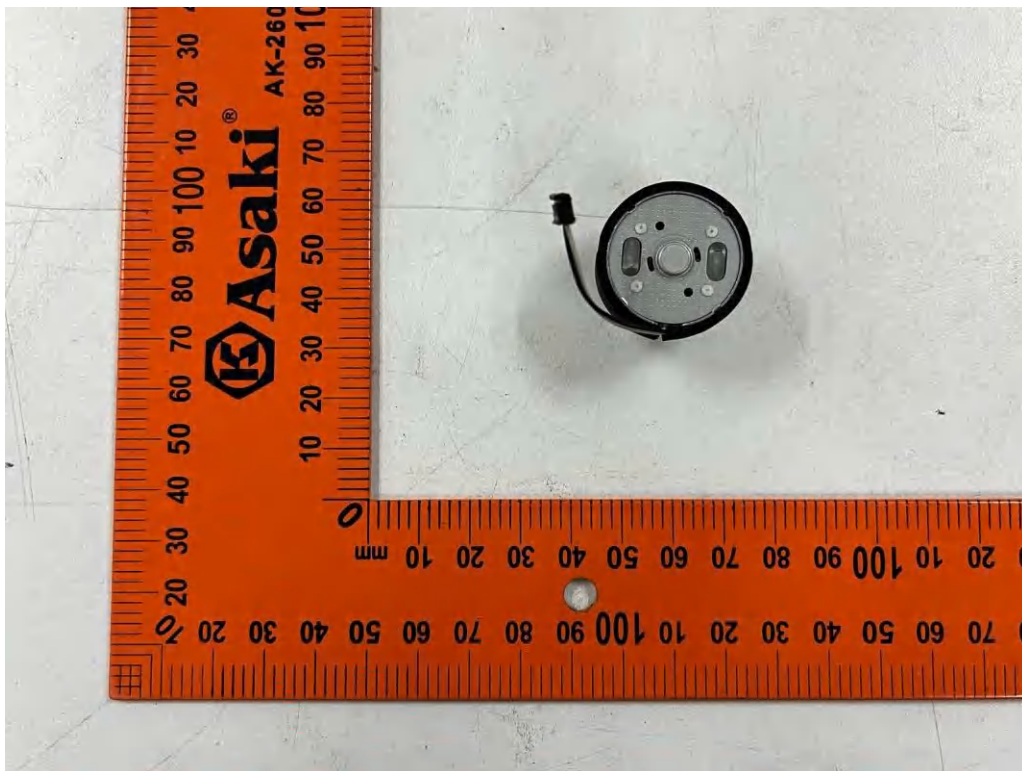


Internal View

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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result	



Internal View

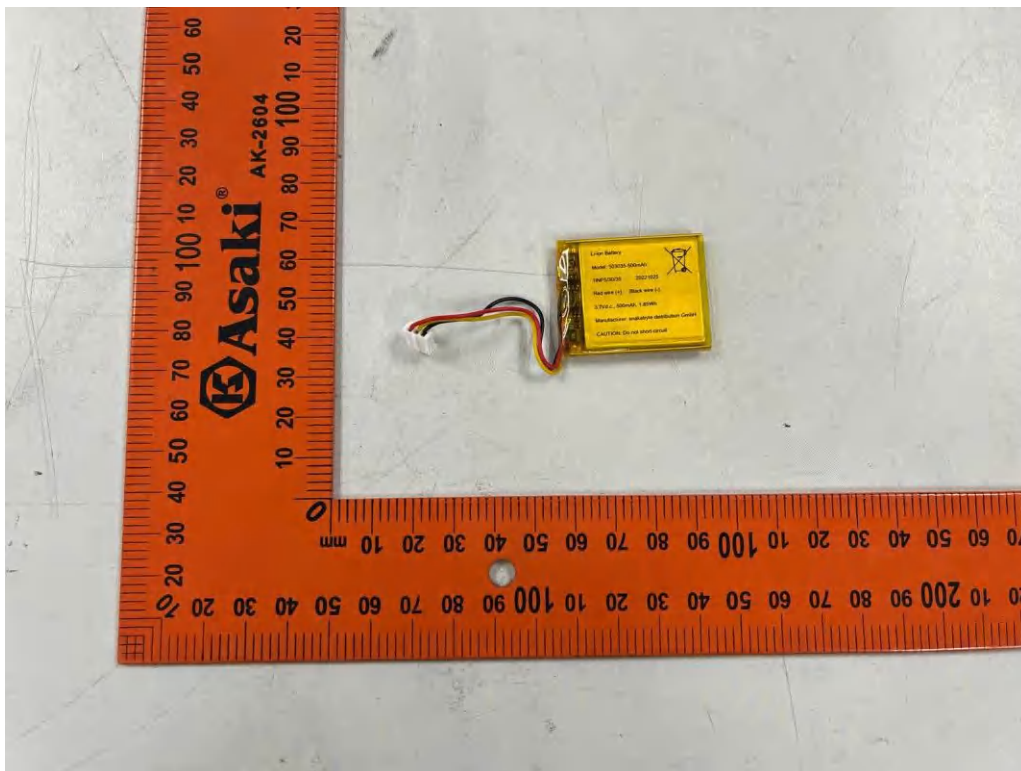


Internal View

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Absatz Clause	Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse – Bemerkungen/ Measuring results - Remarks	Ergebnis Result	

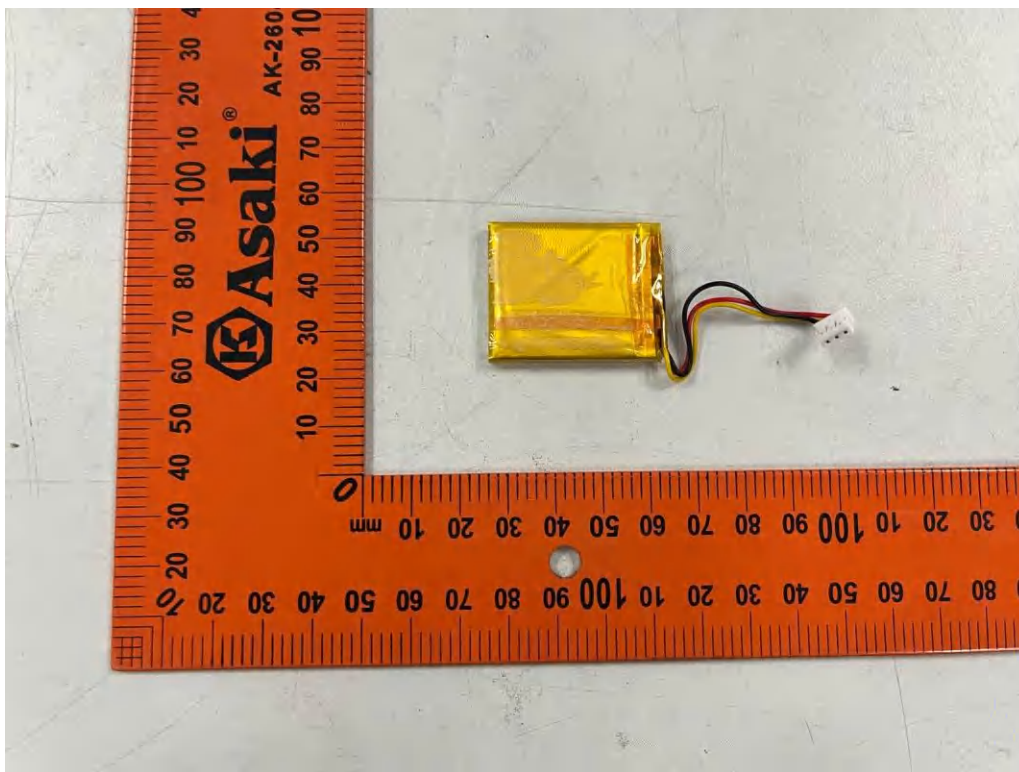


Internal View

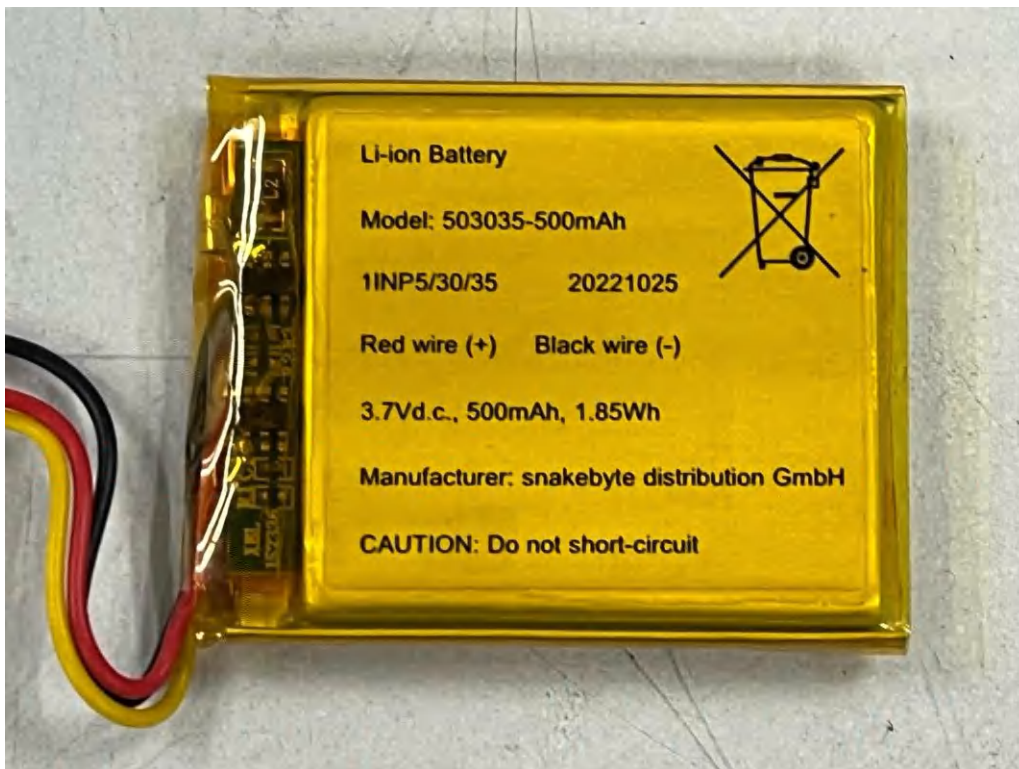


Internal View

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Internal View



Internal View

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Absatz <i>Clause</i>	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	Messergebnisse – Bemerkungen/ <i>Measuring results - Remarks</i>	Ergebnis <i>Result</i>	

Appendix 5

RF Exposure Information

FCC ID: YFA50052007
IC ID: 12260A-50052007

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Maximum Transmitter Power

Frequency (MHz)	Maximum peak output power (dBm)	Output power (mW)
2402	1.06	1.276
2440	1.87	1.538
2480	2.29	1.694

Note: The maximum peak field strength was taken from table of "Subclause 15.247(b)(3) /RSS-247 5.4 – Maximum Peak Conducted Output Power".

For FCC

According to KDB 447498 D01:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 5 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$
≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in step 2 below

Result:

$$(1.276/5) \cdot \sqrt{2.402} = 0.396 < 3.0$$

$$(1.538/5) \cdot \sqrt{2.440} = 0.480 < 3.0$$

$$(1.694/5) \cdot \sqrt{2.480} = 0.534 < 3.0$$

Conclusion: No SAR is required.

For ISED

According to table 1 in RSS-102 Issue 6, below exemption limit is applied

Frequency: 2450 MHz

At separation distance of ≤ 5mm

Exemption limits: 3mW

Results:

max. power of channel = 1.694mW < 3mW

Conclusion:

The maximum peak output power of the transmitter is less than the SAR evaluation exemption threshold and hence it complies with the RSS-102 RF exposure requirement.