FCC/ISED - TEST REPORT

Report Number	:	**68.910.24.0012.01**	Date of Issue:	2024-11-28
Model	:	**CM-36-E**		
Product Type	:	CURTAIN MOTOR		
Applicant	:	Coulisse B.V.		
Address	:	Vonderweg 48, Enter, 7468 DC, Netherlands		
Manufacturer	:	Coulisse B.V.		
Address	:	Vonderweg 48, Enter, 7468 DC, Netherlands		
Test Result	:	■ **Positive** ☐ **Negative**		
Total pages including Appendices	:	**23**		

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation chapter A-3.4.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

1 Table of Contents

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

2 Details about the Test Laboratory

Details about the Test Laboratory
Test Site 1

Company name:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, Guangdong, China
Telephone:	86 755 8828 6998
Fax:	86 755 8828 5299
FCC Registration No.:	514049
FCC Designation Number:	CN5009
ISED CAB identifier:	CN0077
IC Registration No.:	10320A

3 Description of the Equipment Under Test

Product:	CURTAIN MOTOR
Model no.:	CM-36-E
Product Marketing Name (PMN):	CURTAIN MOTOR
Hardware Version Identification No. (HVIN):	CM-36-E
FCC ID:	ZY4CM36E1
IC:	28177-CM36E1
Options and accessories:	CM-36 CURTAIN BATTERY USB-C Manufacturer: Coulisse B.V. Input: USB-C 5V DC Ratings: 14.8VDC, 2600mAh
Ratings:	Input: DC 14.8V, 16W, 1A
RF Transmission Frequency:	433.925MHz for remote control
No. of Operated Channel:	Single channel
Modulation:	GFSK
Antenna Type:	PCB antenna
Description of the EUT:	The EUT is a CURTAIN MOTOR with Bluetooth LE, Thread and 433.925MHz remote control functions.
Remark:	This report is only for 433.925MHz remote control.

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2023 Edition	RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators
RSS-Gen Issue 5, April 2018 Amendment 1, March 2019 + Amendment 2, February 2021	General Requirements and Information for the Certification of Radio Apparatus
RSS-210 Issue 11 June 25, 2024	Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

All the test methods were according to ANSI C63.10-2020.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

5 Summary of Test Results

Technical Requirements						
FCC Part 15.231 Subpart C, RSS-210 Issue 11						
Test Condition			Pages	Test Result	Test Environment (See note 2)	Test Site
§15.207	RSS-GEN A8.8	Conducted emission AC power port	11	Pass	T: 22.3℃ H: 53.2%	Site 1
§15.205, §15.209, 15.35 (c)§15.231(b)	RSS-210 A.1.3 RSS-GEN 8.9	The Field strength of Emissions	14	Pass	T: 23.1℃ H: 49.3%	Site 1
§15.231(c)	RSS-210 A.1.4	Bandwidth Measurement	18	Pass	T: 22.4℃ H: 51.3%	Site 1
§15.231(a)(1)	RSS-210 A.1.2(a)	Deactivation Time	19	Pass	T: 22.4℃ H: 51.3%	Site 1
§15.203	RSS-Gen 6.8	Antenna requirement	--	See note 1	--	Site 1

Note 1: N/A=Not Applicable.
Note 1: The EUT uses a PCB Antenna. In accordance to §15.203 and RSS-Gen 6.8, It is considered sufficiently to comply with the provisions of this section.
Note 2: T means Temperature, H means Humidity.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

6 General Remarks

Remarks

The conducted emissions of CM-36-E were tested with an external adapter, and the input voltage is 120VAC/60Hz; The RF tests of CM-36-E were tested with a battery pack, the battery voltage is 14.8VDC.

This submittal(s) (test report) is intended for FCC ID: ZY4CM36E1,
IC: 28177-CM36E1 complies with Section 15.205, 15.207, 15.209, 15.231 of the
FCC Part 15, Subpart C Rules, RSS-Gen Issue 5 A1:2019+ A2:2021 and RSS-210 Issue 11 June 25, 2024.

SUMMARY:

All tests according to the regulations cited on page 5 were.

■ - Performed

☐ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

Sample Received Date: 2024-07-31

Testing Start Date: 2024-08-13

Testing End Date: 2024-11-20

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

Reviewed by:	Prepared by:	Tested by:
Jessie He	Myron Yu	Carry Cai
Project Manager	Project Engineer	Test Engineer

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

7 Systems test configuration

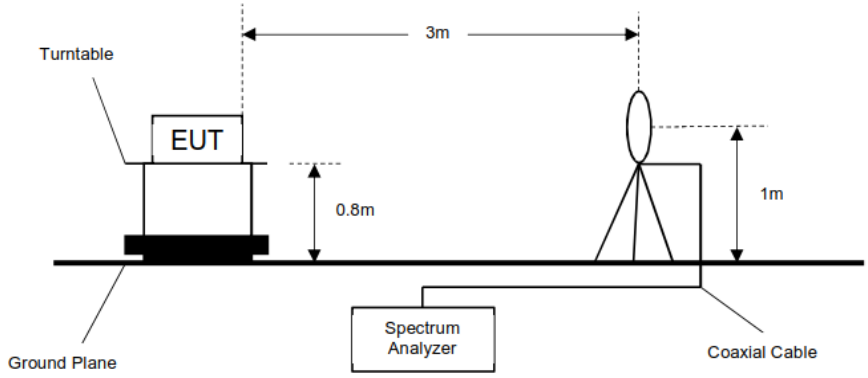
Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.	S/N
AUXILIARY ADAPTER	APPLE	A1357	EMC-190

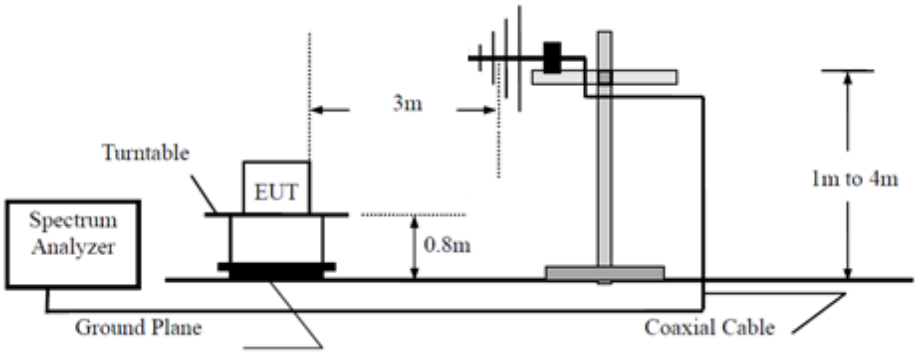
8 Test Setups

8.1 Radiated test setups

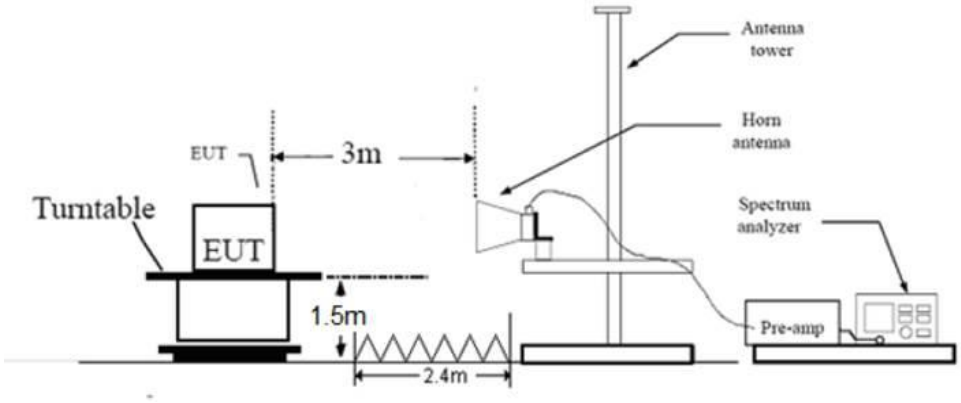
9KHz - 30MHz



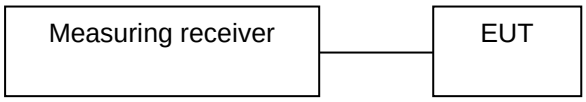
Below 1GHz



Above 1GHz

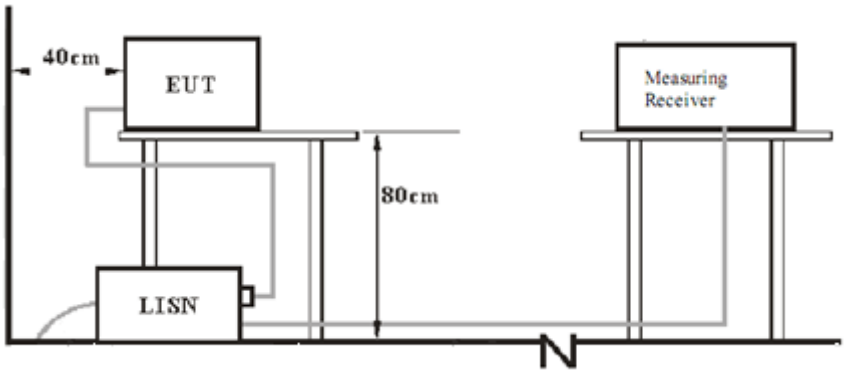


8.2 Conducted RF test setups



TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

8.3 AC Power Line Conducted Emission test setups



TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9 Test Methodology

9.1 Conducted Emission

Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

Limit

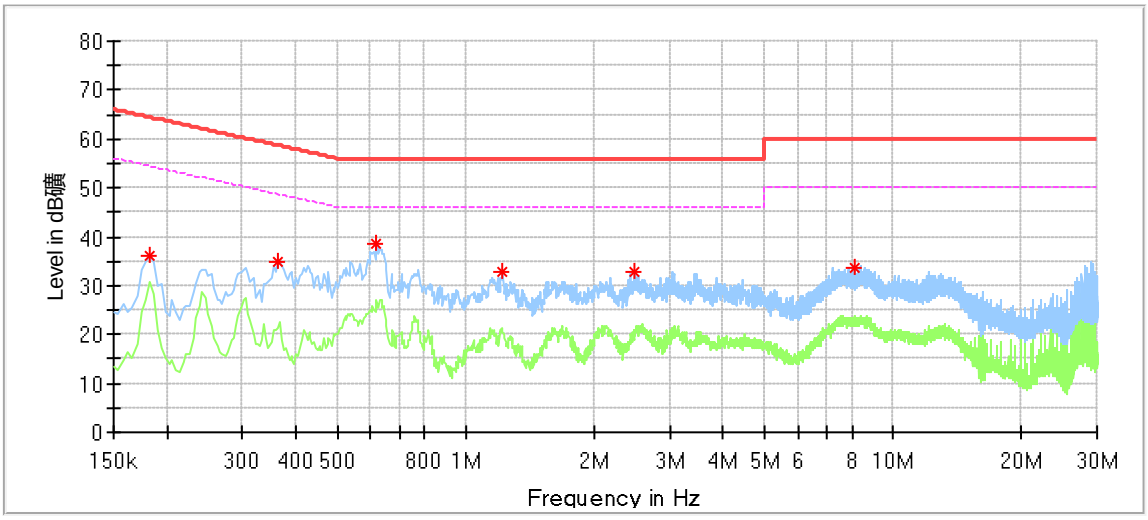
Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

*Decreasing linearly with logarithm of the frequency.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Conducted Emission Test 0.15MHz – 30MHz

Product Type	:	CURTAIN MOTOR
M/N	:	CM-36-E
Operating Condition	:	Charging + Transmitting
Test Specification	:	Line
Comment	:	AC 120V/60Hz



Critical_Freqs

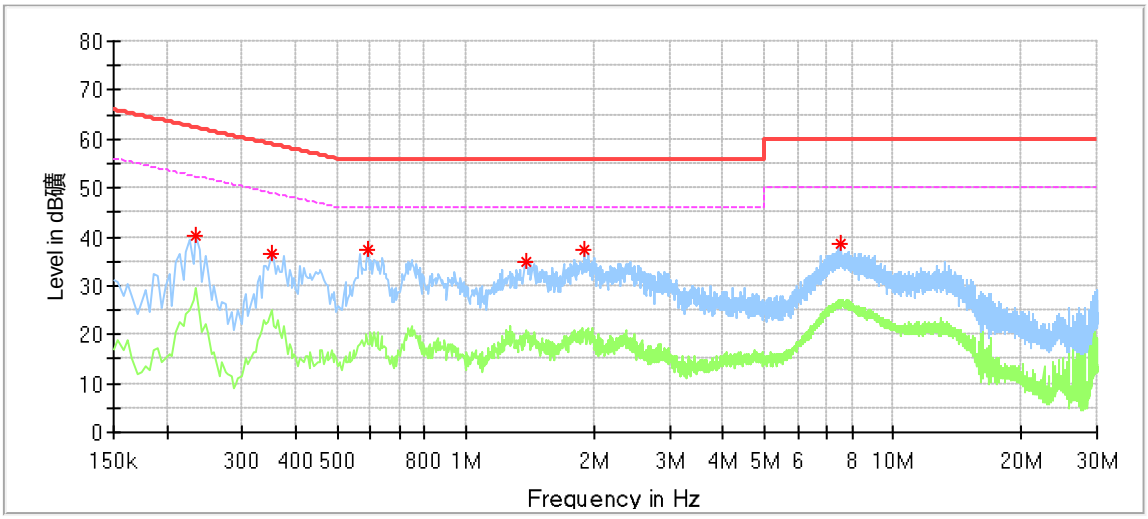
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.182000	36.03	---	64.39	28.37	L1	9.67
0.362000	34.92	---	58.68	23.76	L1	9.67
0.618000	38.45	---	56.00	17.55	L1	9.69
1.222000	32.86	---	56.00	23.14	L1	9.70
2.494000	32.78	---	56.00	23.22	L1	9.75
8.134000	33.61	---	60.00	26.39	L1	9.90

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Conducted Emission Test 0.15MHz – 30MHz

Product Type	:	CURTAIN MOTOR
M/N	:	CM-36-E
Operating Condition	:	Charging + Transmitting
Test Specification	:	Neutral
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.234000	40.36	---	62.31	21.95	N	9.67
0.350000	36.35	---	58.96	22.61	N	9.67
0.590000	37.46	---	56.00	18.54	N	9.68
1.378000	34.87	---	56.00	21.13	N	9.69
1.894000	37.13	---	56.00	18.87	N	9.70
7.554000	38.63	---	60.00	21.37	N	9.87

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.2 Radiated Emission

Test Method

Test Method

1: The EUT was place on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2: The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3: The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4: For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5: Use the following spectrum analyzer settings According to C63.10:
9kHz -150kHz
RBW = 200Hz, VBW = 1kHz for peak measurement, Sweep = auto,
Detector function = peak, Trace = max hold.
150kHz - 30MHz
RBW = 10 kHz, VBW = 30 kHz for peak measurement, Sweep = auto,
Detector function = peak, Trace = max hold.
30MHz - 1GHz
RBW = 100 kHz, VBW = 300 kHz for peak measurement, Sweep = auto,
Detector function = peak, Trace = max hold.
For Above 1GHz
RBW = 1MHz, VBW≥3RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Limit

1. FCC Limit: In addition to the provisions of § 15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field Strength of Fundamental (Microvolts /meter)	Field Strength of spurious emissions ((Microvolts /meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	1,250 to 3,370 *	125 to 375 *
174-260	3,750	375
260-470	3,750 to 12, 500*	375 to 1,250*
Above 470	12,500	1,250
*Linear interpolation with frequency		

(a) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.

(b) Intentional radiators operating under the provisions of this section shall demonstrate compliance with the limits on the field strength of emissions, as shown in the above table, based on the average value of the measured emissions. As an alternative, compliance with the limits in the above table may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in § 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of § 15.205 shall be demonstrated using the measurement instrumentation specified in that section.

(c) The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength.

Limits for 15.209 Radiated emission limits

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

2. ISED Limit:

(a) The field strength of emissions from momentarily operated intentional radiators shall not exceed the limits in table A1, based on the average value of the measured emissions. The requirements of the “Pulsed Operation” section of RSS-Gen apply for averaging pulsed emissions and limiting peak emissions. Alternatively, compliance with the limits in table A1 may be based on the use of a CISPR quasi-peak detector.

(b) Unwanted emissions shall be 10 times below the fundamental emissions field strength limits in table A1 or comply with the limits specified in RSS-Gen, whichever is less stringent.

Table A1: Permissible field strength limits for momentarily operated devices

Fundamental frequency (MHz)	Field Strength of Fundamental (Microvolts /meter @ 3m)	Field Strength of spurious emissions ((Microvolts /meter @ 3m)
70-130	1,250	125
130-174	1,250 to 3,370 *	125 to 3750 *
174-260	3,750	375
260-470	3,750 to 12, 500*	375 to 1,250*
Above 470	12,500	1,250
*Linear interpolation with frequency		

General field strength limits at frequencies below 30 MHz

Frequency	Magnetic field strength (H-Field) (μA/m))	Measurement distance (meters)
9 – 490 kHz*	6.37/F (F in kHz)	300
490 – 1705 kHz	63.7/F (F in kHz)	30
1.705-30.0 MHz	0.08	30
*The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.		

Note 1: Limit 3m(dBμV/m)=Limit 300m(dBμV/m)+40Log(300m/3m) (Below 30MHz)
Note 2: Limit 3m(dBμV/m)=Limit 30m(dBμV/m)+40Log(30m/3m) (Below 30MHz)
Note 3: dBμV/m = 20log(μV/m), dBμA/m = 20log(μA/m)

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

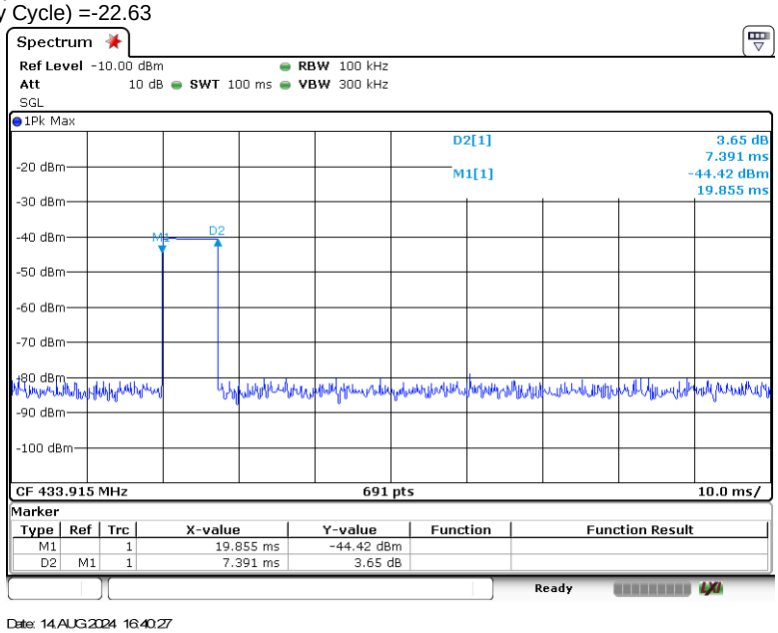
Spurious radiated emissions for transmitter

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Radiated Emission									
Value	Emissions Frequency **MHz**	E-Field Polarity	PK Emission **dBµV/m**	Corr.	Average Factor **dB**	AV Emission **dBµV/m**	Limit **dBµV/m**	Margin	Emission Type
Below 1GHz									
PK	433.897	H	77.26	21.89	/	/	100.83	23.57	Fundamental
AV	433.897	H	77.26	/	-22.63	54.63	80.83	26.20	Fundamental
PK	433.897	V	72.90	25.34	/	/	100.83	27.93	Fundamental
AV	433.897	V	72.90	/	-22.63	50.27	80.83	30.56	Fundamental
PK	867.803	H	27.13	28.89	/	/	80.83	53.70	Spurious
AV	867.803	H	27.13	/	-22.63	8.61	60.83	56.33	Spurious
PK	867.803	V	33.21	28.89	/	/	80.83	47.62	Spurious
AV	867.803	V	33.21	/	-22.63	0.58	60.83	50.25	Spurious
Above 1GHz									
PK	1726.500	H	42.02	-6.52	/	/	74.00	31.98	Spurious
AV	1726.500	H	44.99	/	-22.63	22.36	54.00	31.64	Spurious
PK	2479.500	H	47.06	-2.40	/	/	74.00	26.94	Spurious
AV	2479.500	H	49.74	/	-22.63	27.11	54.00	26.89	Spurious
PK	5899.500	H	51.01	6.87	/	/	74.00	22.99	Spurious
AV	5899.500	H	45.10	/	-22.63	22.47	54.00	31.53	Spurious
PK	1726.000	V	40.10	-6.52	/	/	74.00	33.90	Spurious
AV	1726.000	V	40.10	/	-22.63	17.47	54.00	13.90	Spurious
PK	2722.000*	V	45.16	-1.98	/	/	74.00	28.84	Spurious
AV	2722.000*	V	45.16	/	-22.63	22.53	54.00	31.47	Spurious
PK	3090.500	V	47.33	1.21	/	/	74.00	26.67	Spurious
AV	3090.500	V	47.33	/	-22.63	24.70	54.00	29.30	Spurious

Remark:
1: AV Emission Level= PK Emission Level+20log(dutycycle)
2: Data of measurement within this frequency range shown "/" in the table above means the reading of emissions are attenuated more than 20db below the permissible limits or the field strength is too small to be measured.
3: "*" means the emission(s) appear within the restrict bands shall follow the requirement of section 15.205.
4: Level= Reading Level + Correction Factor
Correction Factor = Antenna Factor + Cable Loss- Amplifier Gain
(The Reading Level is recorded by software which is not shown in the sheet)

Duty Cycle =7.391(ms)/100(ms) =7.391%
Duty Cycle Factor =20log (Duty Cycle) =-22.63



TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.3 Bandwidth Measurement

Test Method

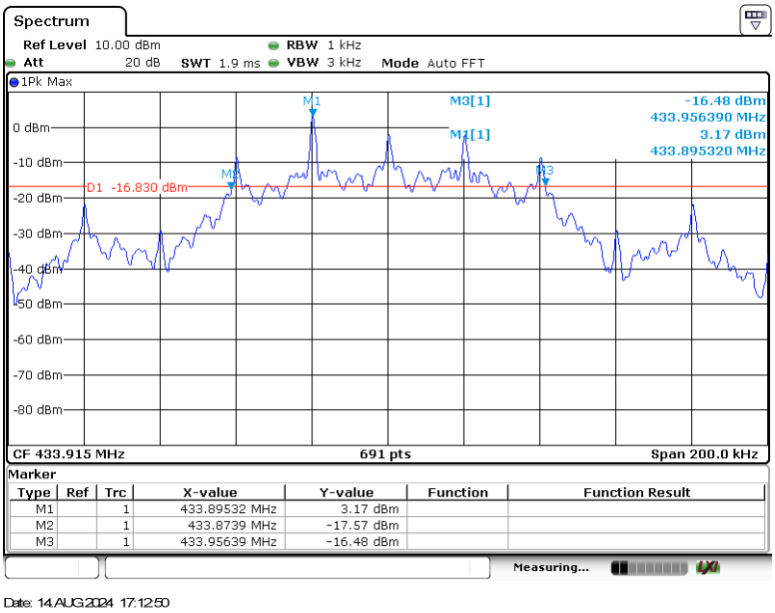
1. The EUT was placed on 0.8m height table, the RF output of EUT was connected to the test receiver by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
   Use the following test receiver settings:
   RBW = 1% to 5% of the OBW, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
3. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the
4. peak of the emission. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Use the 99 % power bandwidth function of the instrument.Record the frequency difference as the emission bandwidth. Record the results.

Limit

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz. For devices operating above 900MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20dB down from the modulated carrier.
The limit for the EUT = 0.25% * 433.925 MHz = 1084 kHz

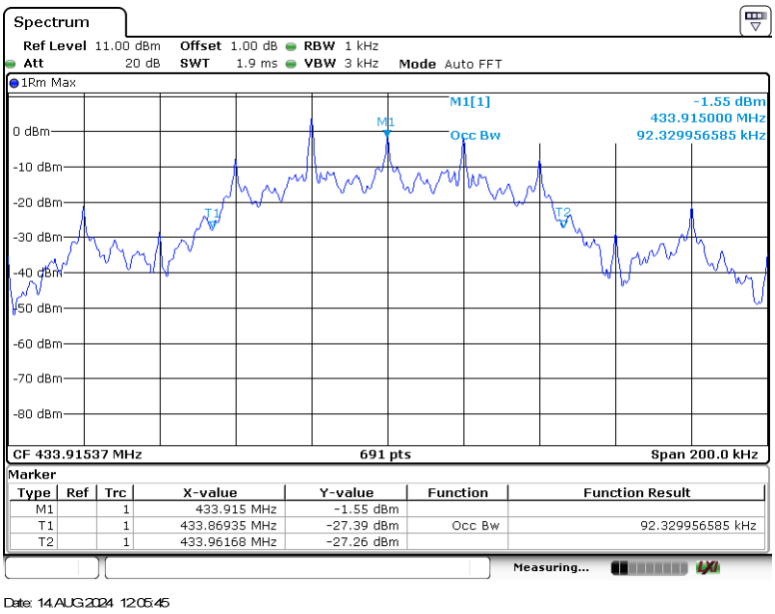
Test Result

Channel	20dB Bandwidth (KHz)	99% bandwidth (KHz)	Limit (KHz)
1	82.49KHz	92.33	≤1084



20dB Bandwidth

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299



99% bandwidth

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

9.4 Deactivation Time

Test Method

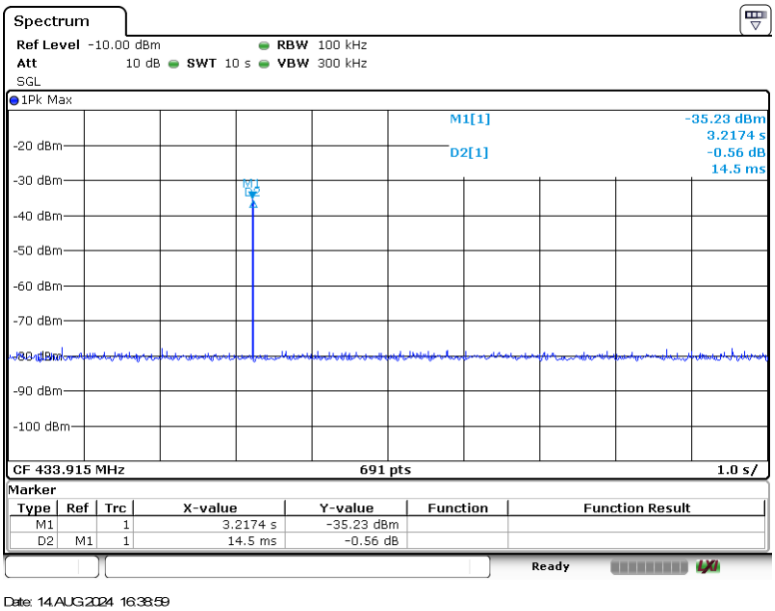
1. The EUT was placed on 0.8m height table, the RF output of EUT was connected to the test receiver by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT in transmitting mode.
3. Set center frequency of spectrum analyzer=operating frequency.
4. Set the spectrum analyzer as RBW≥OBW, VBW≥RBW, Span=0Hz, detector=peak.
5. Repeat above procedures until all frequency measured was complete.

Limit

(√) (1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.
(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.
(3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

Test Result

Channel	Frequency	Deactivation Time	Limit	Result
1	433.925MHz	14.5ms	≤5s	Pass



TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

10 Test Equipment List

List of Test Instruments

Conducted Emission Test (AMN)(CSR #2)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-19-002	102590	1	2025-5-13
LISN	Rohde & Schwarz	ENV216	68-4-87-19-001	102472	1	2025-5-12
LISN	Rohde & Schwarz	ENV4200	68-4-87-14-001	100249	1	2025-5-13
Attenuator	Shanghai Huaxiang	TS2-26-3	68-4-81-16-003	080928189	1	2025-5-11
Cable	OUQIAO	RG142	68-4-90-19-005-A20	----	----	----
Test software	Rohde & Schwarz	EMC32	68-4-90-19-005-A01	Version10.35.02	N/A	N/A
Shielding Room	TDK	CSR #2	68-4-90-19-005	----	3	2025-10-15

Radiated Emission Test (9kHz-30MHz) (SAC-3 #1)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 7	68-4-74-19-001	102176	1	2025-5-13
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	1	2025-7-24
Cable	HUBER-SUHNER	RG214	68-4-90-14-001-A21	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #1	68-4-90-14-001	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-14-001-A10	Version10.35.02	N/A	N/A

Radiated Emission Test (30MHz-1GHz) (SAC-3 #2)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2025-5-13
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	1	2025-2-22
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	1	2025-5-11
Cable	OUQIAO	18DLB5-NMNM-7000	68-4-90-19-006-A22	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

Radiated Emission Test (1GHz-18GHz) (SAC-3 #2)

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2025-5-13
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	1	2025-4-10
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	1	2025-5-11

Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-002	100746	1	2025-5-11
Cable	OUQIAO	18DLB5-NMNM-7000	68-4-90-19-006-A22	----	----	----
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	3	2026-10-25
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

RF Test System

DESCRIPTION	MANUFACTURER	MODEL NO.	EQUIPMENT ID	SERIAL NO.	CAL INTERVAL (YEAR)	CAL. DUE DATE
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2025-5-11
Shielding Room	TDK	TS8997	68-4-90-19-003	----	3	2025-10-15

11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission in new shielding room (68-4-90-19-005) 150kHz-30MHz (for test using AMN ENV216)	3.15dB
Uncertainty for Radiated Emission in 3m chamber (68-4-90-14-001) 9kHz-30MHz	4.70dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 30MHz-1000MHz	Horizontal: 4.63dB; Vertical: 4.78dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.38dB; Vertical: 5.38dB
Uncertainty for Conducted RF test with TS 8997	RF Power Conducted: 1.31dB Frequency test involved: 0.6×10^{-8} or 1%

Measurement Uncertainty Decision Rule:
Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3 and 4.3.4.

---END OF REPORT---

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District,
Shenzhen, Guangdong, China Tel. +86 755 8828 6998, Fax: +86 755 8828 5299