



Test report No: 2380956R-0E3012110014-A

FCC TEST REPORT

Compliance with Canada Interference-Causing Equipment Standard ICES-003

Product Name	Guardvision
Trademark	Verisure
Model and /or type reference	GWL-MD-C1
Applicant's name / address	Verisure Sarl / chemin Jean-Baptiste Vandelle 3 Versoix Switzerland 1290
Manufacturer's name / address	Verisure Sarl / chemin Jean-Baptiste Vandelle 3 Versoix Switzerland 1290
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart B:2021, Class B ICES-003 Issue 7:2020, Class B
Verdict Summary	IN COMPLIANCE
Documented By (Adm. Specialist / Peggy Tu)	<i>Peggy Tu</i>
Approved By (Director / Vincent Lin)	<i>Vincent Lin</i>
Date of Report	2023/08/31
Date of Issue	2023/11/10
Report No.	2380956R-0E3012110014-A
Report Version	V2.0

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Product Photos: Please refer to the file: 2380956R-Product Photos

Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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General conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Report No.	Version	Description	Issued Date
2380956R-0E3012110014-A	V1.0	Initial issue of report.	2023-10-19
2380956R-0E3012110014-A	V2.0	modify mode list.	2023-11-10

1. General Information

1.1. EUT Description

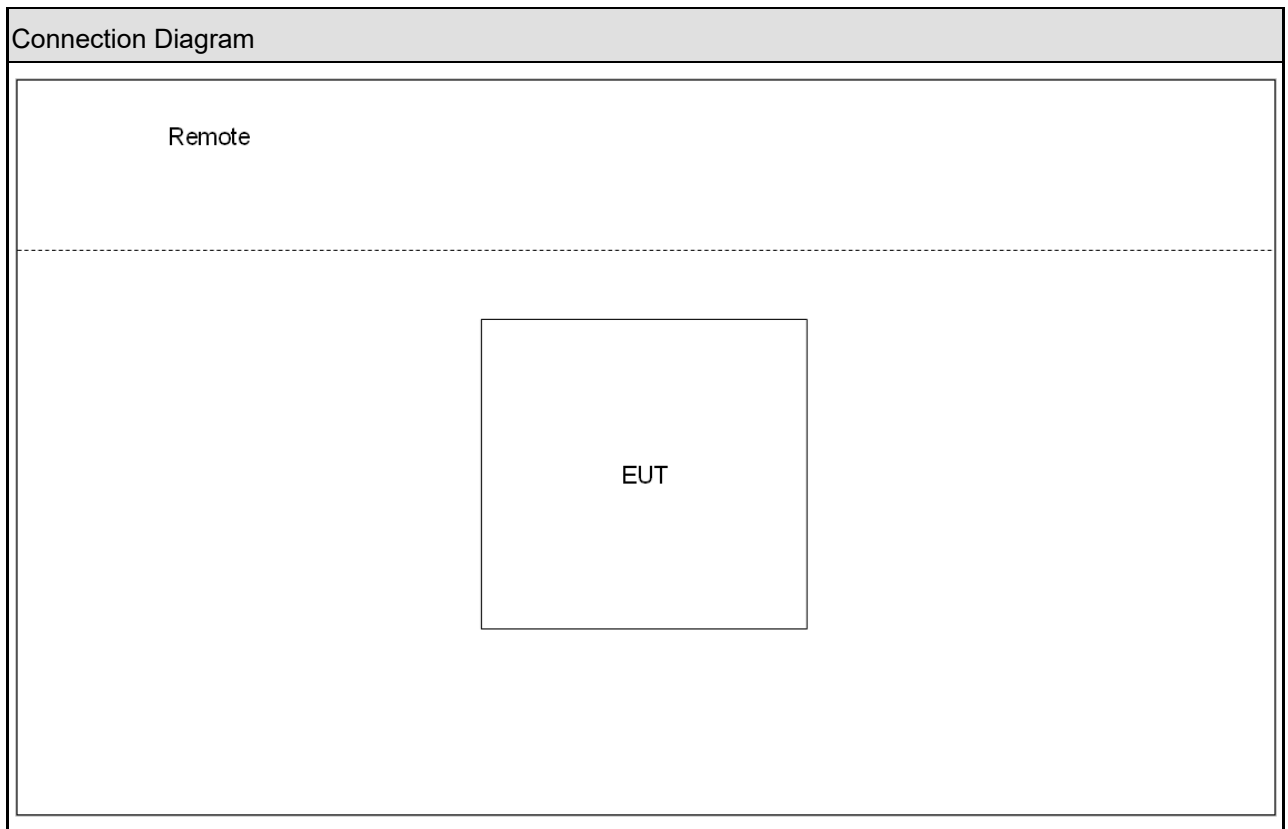
Product Name	Guardvision
Trademark	Verisure
Model No.	GWL-MD-C1
EUT Max Frequency	2.4GHz
EUT Rated Voltage	Battery 6 x 1.5 V
EUT Test Voltage	Battery 6 x 1.5 V

1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	
Mode 1: EUT ON. Camera and sensor active. WiFi OFF. SRD OFF. Power supply: Internal batteries (6 x AA 1.5V)	
Final Test Mode	
Emission	Mode 1

1.3. Configuration & Details of Tested System



Note:

- Use Full system setup configuration determines Worst-Case Mode.
- Use 2dB law program determines Max. Cable Configuration and Worst-Case Mode.
- Radiated emission item test: Performed using the Horn Antenna 3dB Beamwidth to 3m from the EUT size sufficient to cover the procedure.
- Radiated emission item test: Performed using the Horn Antenna 3dB Beamwidth non 3m distance sufficient to cover the size of the EUT program.

1.4. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.3.
2	Turn on the power of all equipment.
3	All the features of the EUT operation normally.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

Emission				
Performed Item	Normative References	Test Performed	Test Site	Verdict
Conducted Emission	FCC CFR Title 47 Part 15 Subpart B:2021, Class B ICES-003 Issue 7:2020, Class B CISPR 22:2008, ANSI C63.4-2014 ANSI C63.4a-2017, CAN/CSA-CISPR 32:17	No	--	N/A
Radiated Emission	FCC CFR Title 47 Part 15 Subpart B:2021, Class B ICES-003 Issue 7:2020, Class B CISPR 22:2008, ANSI C63.4-2014 ANSI C63.4a-2017, CAN/CSA-CISPR 32:17	Yes	FS-CB03	Pass

Note:

1. Test Site information refers to test Laboratory Information.

Test Laboratory:	DEKRA Testing and Certification Co., Ltd. Linkou Laboratory
Address:	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C
Phone number:	+886-2-8601-3788
Fax number:	+886-2-8601-3789
Test Site	
LK:	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C
FS:	No.6, Lane 75, Wenlin St., Linkou Dist., New Taipei City, 244017, Taiwan, R.O.C
HY:	No.26, Huaya 1 st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C

2.2. List of Test Equipment

Radiated Emission (Below 1GHz) / FS-CB03 (AC3)

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Due Date
Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	00953	2023/3/10	2024/3/9
EMI Test Receiver	R&S	ESR26	101706	2023/4/24	2024/4/23
Coaxial Cable	SUHNER	SUCOFLEX 106	RF003/A RF003/B RF003/C	2023/7/5	2024/7/4
Coaxial Cable	RON SOL	MP533A	AC030-MP	2023/7/5	2024/7/4
Preamplifier	EMCI	EMC001330	980316	2023/6/26	2024/6/25
NSA	DEKRA	N/A	N/A	2023/7/5	2024/7/4
Test Software version : e3 V9					

Note: Test Receiver Detector: Quasipeak Bandwidth: 120kHz

Radiated Emission (Above 1GHz) / FS-CB03 (AC3)

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Due Date
Double Ridged Guide Horn Antenna	ETS-Lindgren	3117	00203800	2023/1/12	2024/1/11
Horn Antenna	COM-POWER	AH-840	101087	2023/6/30	2024/6/29
EMI Test Receiver	R&S	ESR26	101706	2023/4/24	2024/4/23
Signal Analyzer	R&S	FSV40	101148	2023/5/16	2024/5/15
Coaxial Cable	SUHNER	SUCOFLEX 106	RF003/B RF003/C	2023/7/5	2024/7/4
Coaxial Cable	RON SOL	R-Test EW0630	RF003/D	2023/7/5	2024/7/4
Coaxial Cable	RON SOL	MP533A	AC030-MP	2023/7/5	2024/7/4
Microwave Preamplifier	EMCI	EMC051835SE	980311	2023/2/4	2024/2/3
Microwave Preamplifier with cable	EMCI	EMC184045SE	980314	2023/8/30	2024/8/29
VSWR	DEKRA	N/A	N/A	2023/7/4	2024/7/3
Test Software version : e3 V9					

2.3. Measurement Uncertainty

Radiated Emission

The measurement uncertainty is evaluated as ± 5.11 dB.

Radiated Emission Above 1GHz

The measurement uncertainty is evaluated as ± 4.10 dB.

2.4. Test Environment

Performed Item	Items	Required
Radiated Emission	Temperature (°C)	10-40
	Humidity (%RH)	10-90

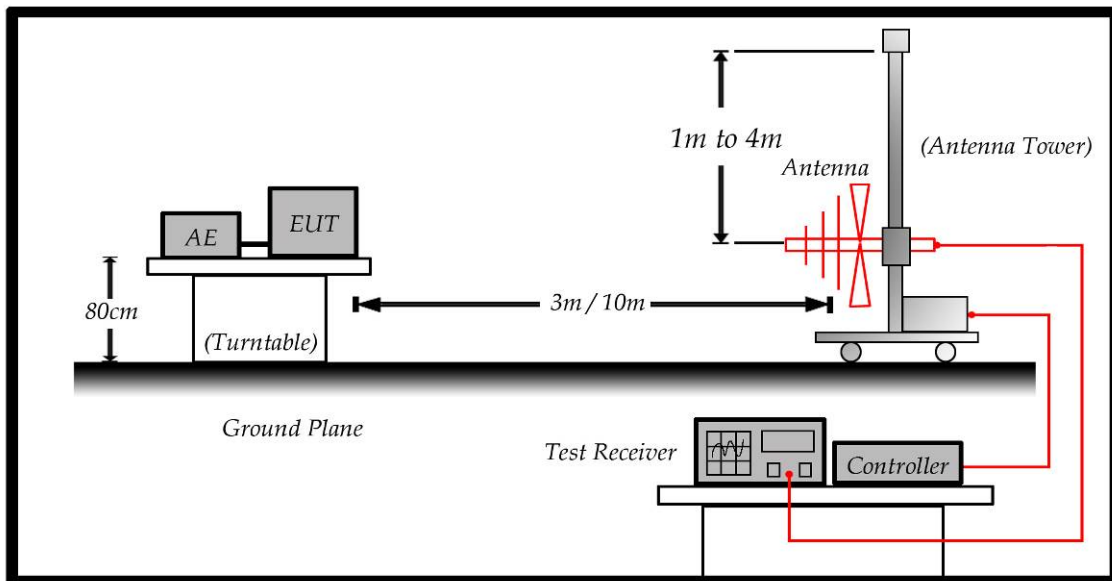
3. Radiated Emission

3.1. Test Specification

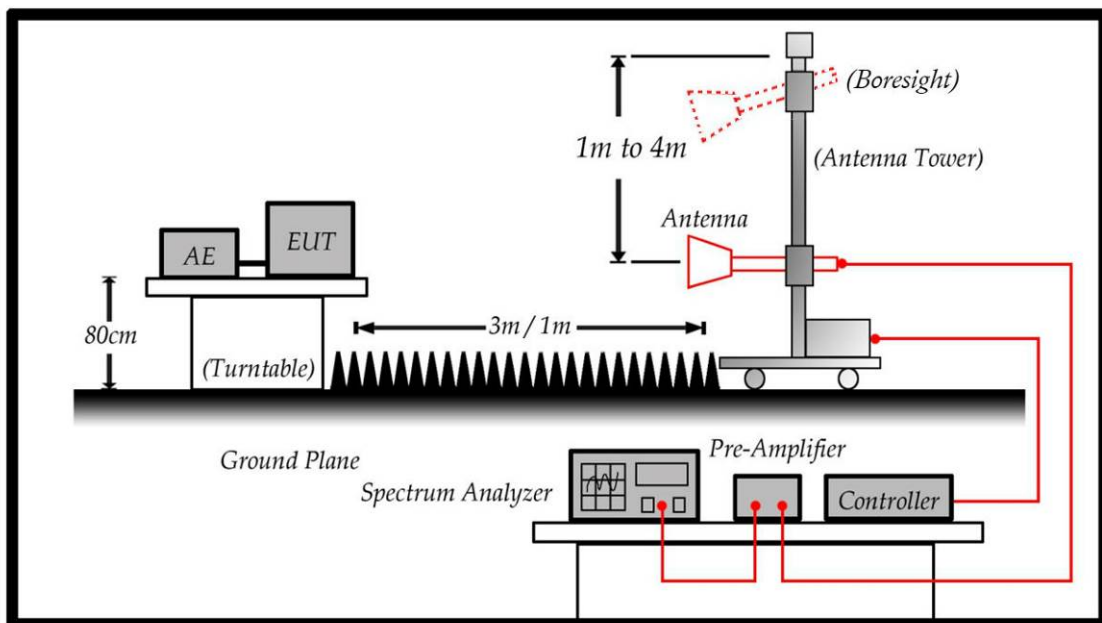
According to Standard : FCC Part 15 Subpart B & ICES-003 Issue 7

3.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



3.3. Limit

Under 1GHz test shall not exceed the following value:

Limits		
Frequency (MHz)	Distance (m)	dB μ V/m
30 - 230	10	30
230 - 1000	10	37

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Above 1GHz test shall not exceed the following value:

FCC Part 15 Subpart B Paragraph 15.109 Limits (dBuV/m)		
Frequency (MHz)	Distance (m)	dBuV/m
30-88	3	40
88-216	3	43.5
216-960	3	46.0
960-1000	3	54
1000-40000	3	54
18000-40000	1	63.5

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. RF Voltage (dBuV/m) = 20 log RF Voltage (μ V/m)

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Radiated emissions limits (30 MHz to 1 GHz)				
Frequency range (MHz)	Class A (3 m) Quasi-peak (dBuV/m)	Class A (10 m) Quasi-peak (dBuV/m)	Class B (3 m) Quasi-peak (dBuV/m)	Class B (10 m) Quasi-peak (dBuV/m)
30-88	50.0	40.0	40.0	30.0
88-216	54.0	43.5	43.5	33.1
216-230	56.9	46.4	46.0	35.6
230-960	57.0	47.0	47.0	37.0
960-1000	60.0	49.5	54.0	43.5

Note: The more stringent limit applies at transition frequencies.

Required highest measurement frequency for radiated emissions

Highest internal frequency (F_x)	Highest measured frequency
$F_x \leq 108$ MHz	1 GHz
108 MHz < $F_x \leq 500$ MHz	2 GHz
500 MHz < $F_x \leq 1$ GHz	5 GHz
$F_x > 1$ GHz	$5 \times F_x$ up to a maximum of 40 GHz

Note: F_x is the highest fundamental frequency generated and/or used in the ITE or digital apparatus under test.

Radiated emission limits at 3 m distance (at and above 1 GHz)				
Frequency range (GHz)	Class A Average dB(uV/m)	Class A) Peak dB(uV/m)	Class B Average dB(uV/m)	Class B Peak dB(uV/m)
1 - F_M	60	80	54	74

Note:

- The highest measurement frequency, F_M , in GHz, shall be determined as per table 3.
- The measurement bandwidth shall be 1 MHz or greater.
- These limit levels apply for a measurement distance of 3 m. If using a different measurement distance, the measured levels shall be extrapolated to the 3 m limit distance using a factor of 20 dB per decade of distance. The measurement distance shall place the measurement antenna in the far field of the ITE or digital apparatus under test.
- The test site shall have been validated at the distance used for radiated emission measurements on the ITE or digital apparatus under test.

3.4. Test Procedure

FCC Part 15 Subpart B

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna (boresight antenna tower) can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

For class A, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and above 1GHz.

For class B, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and 3 meters for above 1GHz.

The bandwidth below 1GHz setting on the field strength meter (Test Receiver) is 120kHz and above 1GHz is 1MHz.

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The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna (boresight antenna tower) can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

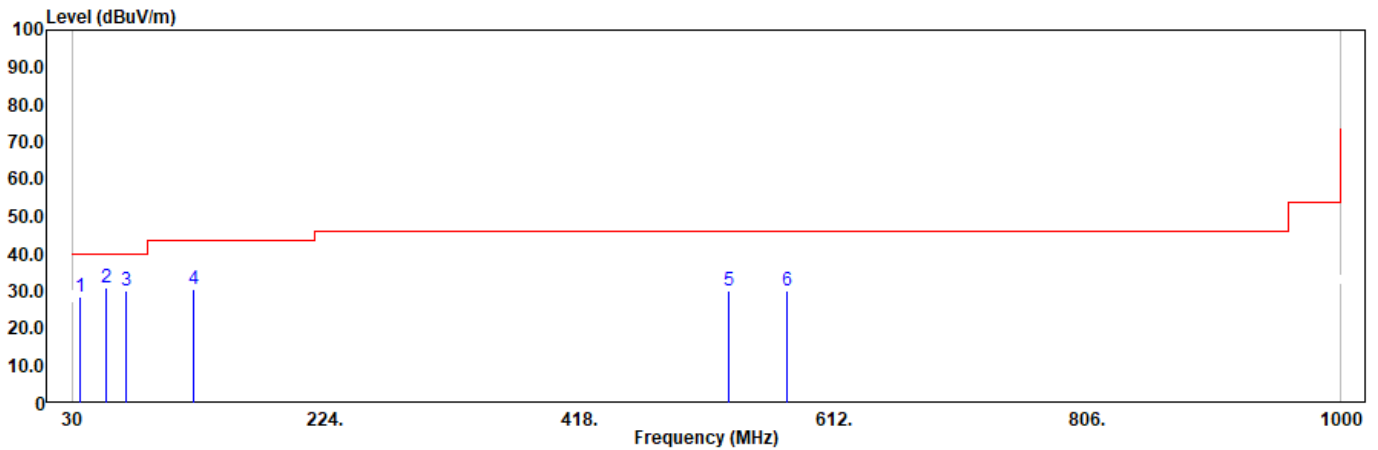
On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an peak & average detector function.

The measurement distance between the EUT and antenna is 3 meters or 10 meters for under 1GHz and 3 meters for above 1GHz.

The bandwidth below 1GHz setting on the field strength meter (Test Receiver) is 120 kHz and above 1GHz is 1MHz

3.5. Test Result

Model No	GWL-MD-C1	Site	FS-CB03
Test Voltage	BY BATTERY	Test Date	2023-09-27
Test Mode	Mode 1	Engineer	Lego Chen
Polarity	Horizontal	Temperature (°C)	26
Test Condition	--	Humidity (%RH)	55

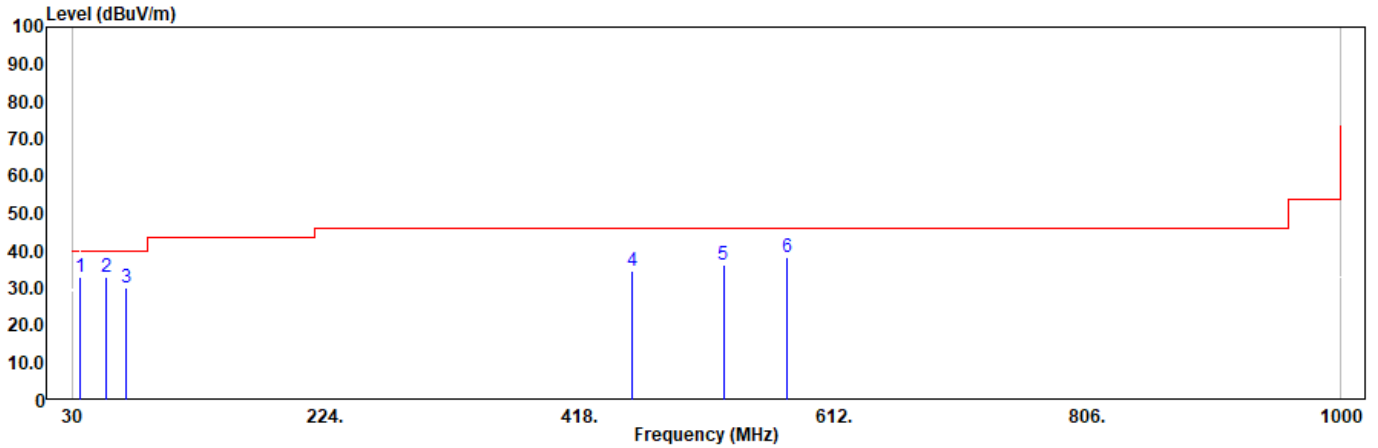


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Ant Pos (cm)	TT Pos (deg)	Detector Type
1	35.987	28.53	40.00	-11.47	40.36	-11.84	180	360	QP
2*	56.547	31.18	40.00	-8.82	41.78	-10.60	280	7	QP
3	72.033	30.39	40.00	-9.61	43.46	-13.07	197	0	QP
4	123.173	30.80	43.50	-12.70	43.40	-12.60	141	360	QP
5	532.137	30.14	46.00	-15.86	33.86	-3.73	180	121	QP
6	576.110	30.12	46.00	-15.88	32.72	-2.60	100	0	QP

Remark:

1. "*" means this data is the worst margin;"!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).
3. Margin=Emission Level - Limit.
4. The above 1 GHz test. When PEAK measures level less than AV limit by 20 dBuV, its average is not measured separately.

Model No	GWL-MD-C1	Site	FS-CB03
Test Voltage	BY BATTERY	Test Date	2023-09-27
Test Mode	Mode 1	Engineer	Lego Chen
Polarity	Vertical	Temperature (°C)	26
Test Condition	--	Humidity (%RH)	55

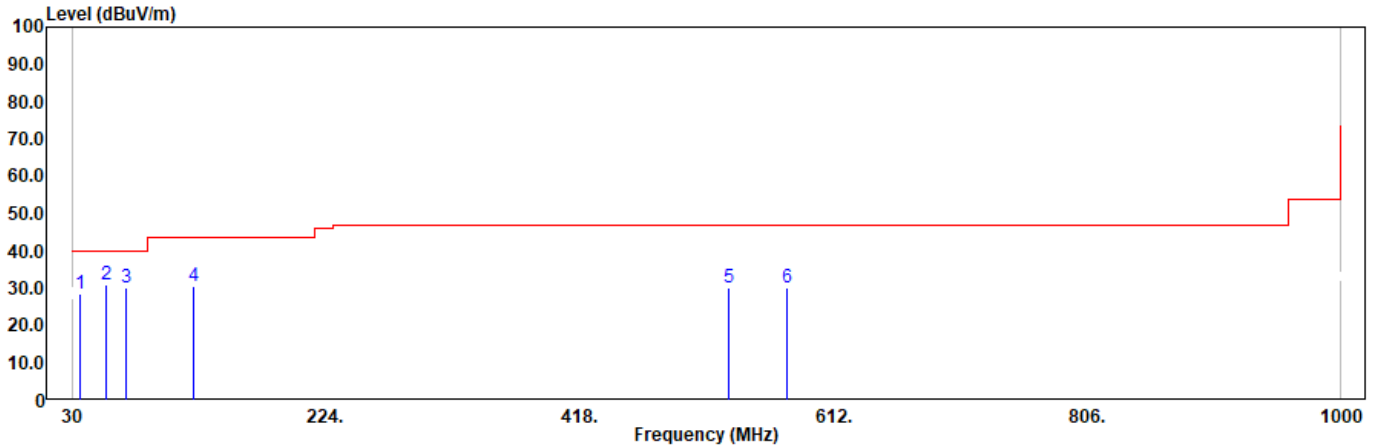


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Ant Pos (cm)	TT Pos (deg)	Detector Type
1	36.093	32.90	40.00	-7.10	44.68	-11.78	100	93	QP
2*	56.630	33.20	40.00	-6.80	43.80	-10.60	100	105	QP
3	72.033	30.37	40.00	-9.63	43.44	-13.07	100	338	QP
4	457.770	34.56	46.00	-11.44	39.55	-4.99	100	360	QP
5	527.933	36.53	46.00	-9.47	40.32	-3.79	100	17	QP
6	576.110	38.43	46.00	-7.57	41.04	-2.60	100	17	QP

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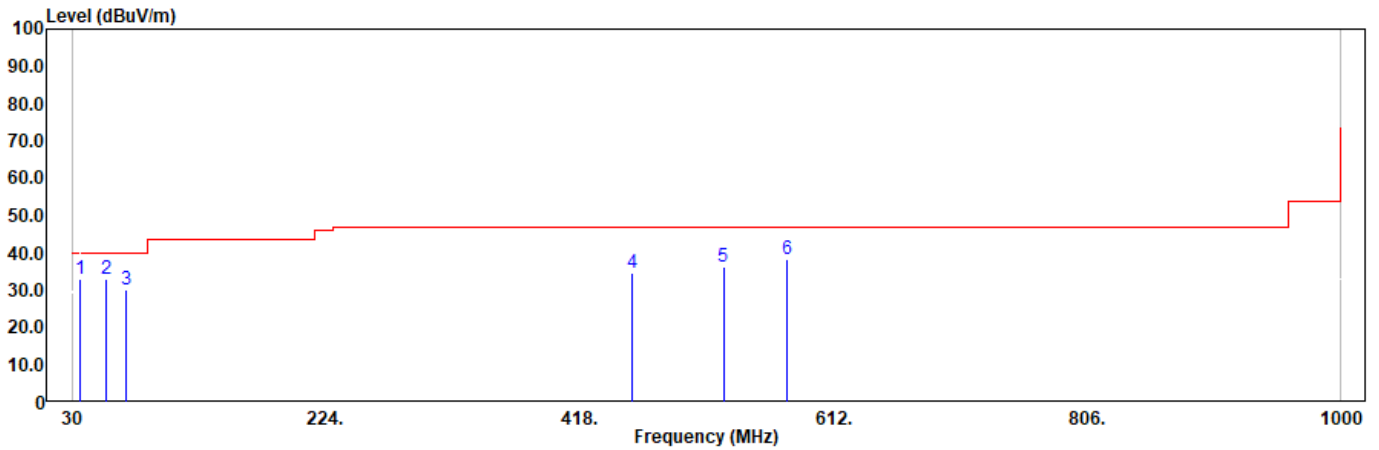


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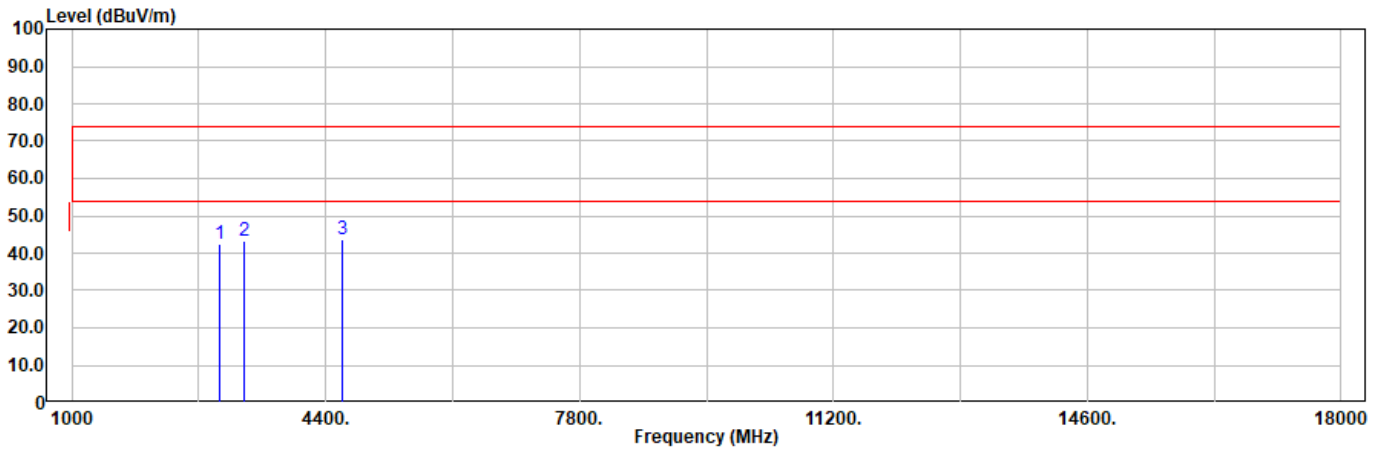


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3	72.033	30.37	40.00	-9.63	43.44	-13.07	100	338	QP
4	457.770	34.56	47.00	-12.44	39.55	-4.99	100	360	QP
5	527.933	36.53	47.00	-10.47	40.32	-3.79	100	17	QP
6	576.110	38.43	47.00	-8.57	41.04	-2.60	100	17	QP

Remark:

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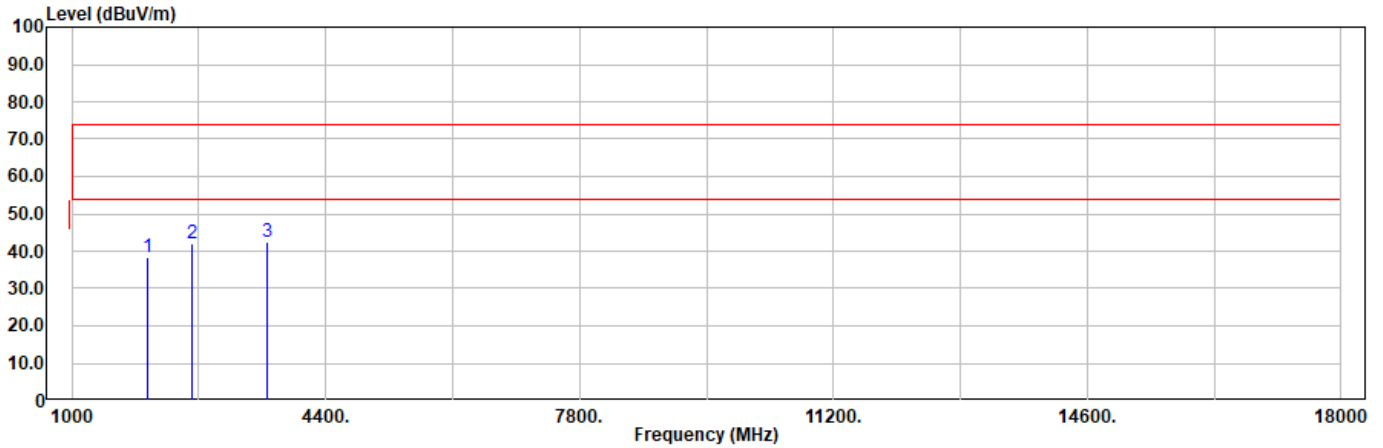


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Ant Pos (cm)	TT Pos (deg)	Detector Type
1	2977.500	42.46	74.00	-31.54	44.73	-2.27	100	280	Peak
2	3308.750	43.43	74.00	-30.57	45.09	-1.67	180	255	Peak
3*	4628.750	43.79	74.00	-30.21	42.59	1.20	180	24	Peak

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No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Ant Pos (cm)	TT Pos (deg)	Detector Type
1	2021.250	38.22	74.00	-35.78	42.86	-4.64	100	266	Peak
2	2605.000	41.84	74.00	-32.16	44.95	-3.11	100	170	Peak
3*	3623.750	42.49	74.00	-31.51	43.41	-0.92	180	330	Peak

Remark:

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