

# ***EVALUATION REPORT***

## ***for Certification of Conformity***

**Applicant: GOOIL SOLUTION CO., Ltd.**  
**39174 1105-19, Sanho-daero, Sandong-myeon, Gumi-si**  
**Gyeong-buk, South Korea**  
**Attn: SM Lee / Senior Manager**

**Date of Issue: Jul. 23, 2024**  
**Order Number: GETEC-C1-24-389**  
**Test Report Number: GETEC-E3-24-104**  
**Test Site: GUMI UNIVERSITY EMC CENTER**  
**CAB Designation Number: KR0033**

**FCC ID. : 2BHKM-GIS-1011**

**Applicant : GOOIL SOLUTION CO., Ltd.**

**Rule Part(s) : FCC Part 15 Subpart B**  
**Test Method : ANSI C63.4(2017)**  
**EUT Type : PDLC Power Controller**  
**Equipment Class : Part 15 Class B Digital Device (JAB)**  
**Type of Authority : Certification**  
**Model Name : GIS-1011**

**This equipment has been shown to be in compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4 (2017)**

**I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.**

**Tested by,**



**Sang-Hyun Park / Senior Engineer**  
**GUMI UNIVERSITY EMC CENTER**

**Reviewed by,**



**Sung-Joo Park / Technical Manager**  
**GUMI UNIVERSITY EMC CENTER**



## Revision History

Test Report No.	Issue Date	Description
GETEC-E3-24-104	Jul. 23, 2024	First Approval Test Report

※ This test report is not related to the accredited test result by ISO/IEC 17025 and KOLAS





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*Scope: Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and / or unintentional radiators for compliance with technical rules and regulations of the Federal Communications Commission.*

## 1. General Information

**Applicant: GOOIL SOLUTION CO., Ltd.**

**Applicant Address: 39174 1105-19, Sanho-daero, Sandong-myeon, Gumi-si, Gyeong-buk, South Korea**

**Manufacturer: GOOIL SOLUTION CO., Ltd.**

**Manufacturer Address: 39174 1105-19, Sanho-daero, Sandong-myeon, Gumi-si, Gyeong-buk, South Korea**

**Contact Person: SM Lee / Senior Manager**

**Telephone Number: +82-54-476-9138**

- **FCC ID.** 2BHKM-GIS-1011
- **Equipment Class** Part 15 Class B Digital Device (JAB)
- **EUT Type** PDLC Power Controller
- **Model Name** GIS-1011
- **Rule Part(s)** FCC Part 15 Subpart B
- **Test Method** ANSI C63.4(2017)
- **Type of Authority** Certification
- **Dates of Test** Jun. 14, 2024 ~ Jul. 19, 2024
- **Place of Test** **GUMI UNIVERSITY EMC CENTER**  
(FCC Test firm Registration No.: 269701)  
37 Yaeun-ro, Gumi-si, Gyeongsangbuk-do, 39213, Republic of Korea
- **Test Report Number** GETEC-E3-24-104
- **Dates of Issue** Jul. 23, 2024



## 2. Introduction

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Nose Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2017) was used in determining radiated and conducted emissions emanating from **PDLC Power Controller(Model name: GIS-1011)**

These measurement tests were conducted at **GUMI UNIVERSITY EMC CENTER**

The site address is 37 Yaeun-ro, Gumi-si, Gyeongsangbuk-do, 39213, Republic of Korea.

This test site is one of the highest point of Gumi University at about 200 km away from Seoul city and 40 km away from Daegu city. It is located in the valley surrounded by mountains in all directions where ambient radio signal conditions are quiet and a favorable area to measure the radio frequency interference on open field test site for the computing and ISM devices manufactures. The detailed description of the measurement facility was found to be in compliance with the requirements of §2.948 according to ANSI C63.4 (2017)

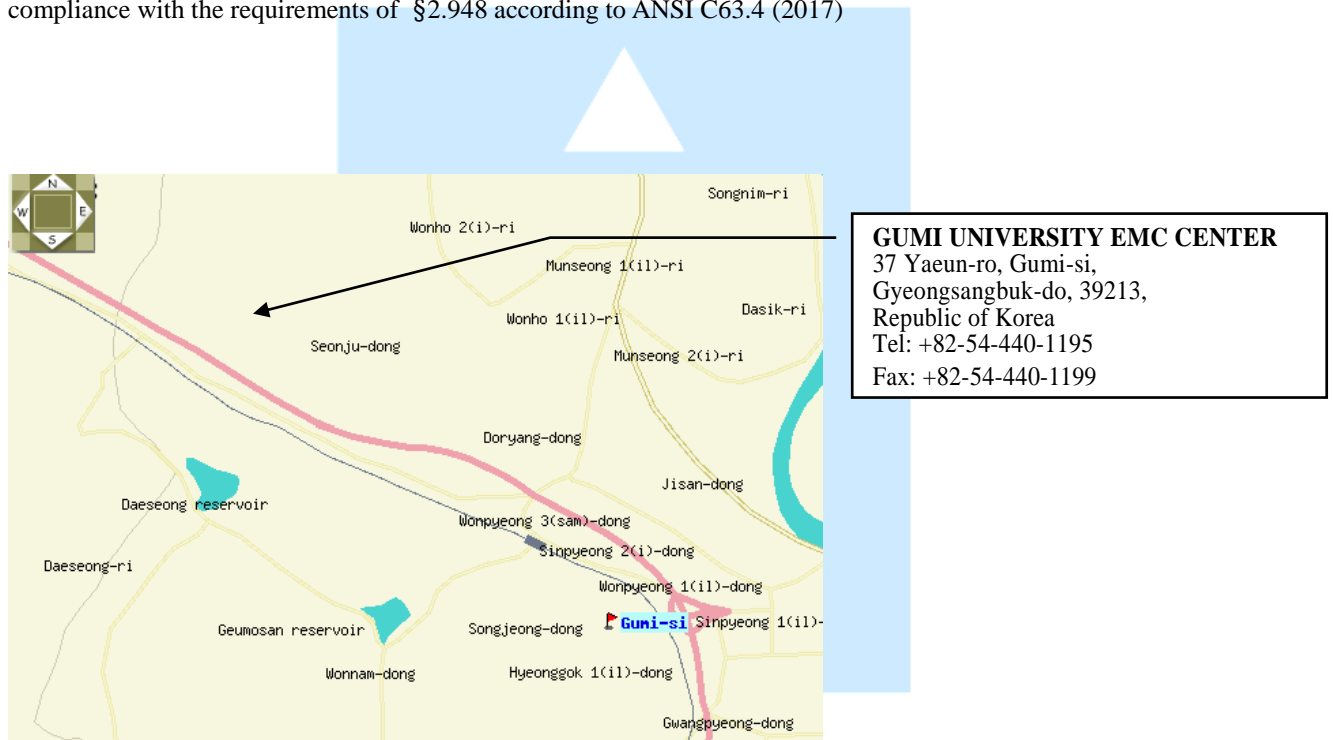


Fig 1. The map above shows the Gumi University in vicinity area.



### 3. Product Information

#### 3.1 Description of EUT

The Equipment under Test (EUT) is the **PDLC Power Controller (Model name: GIS-1011)**  
**FCC ID.: 2BHKM-GIS-1011**

Separation		Contents
Product Name		PDLC Power Controller
Model Name		GIS-1011
Dimensions		60mm (L) x 45mm (W) x 30mm (H)
Control steps		4 Steps (1~4 Level)
Control Inputs		External button, 2.4GHz RF receiver (BLE)
Rated input voltage (V)	Input Terminals	- 15EDGK-3.81 (2pin) - 15EDGRC-3.81 (2pin)
	Input voltage to control	DC 12V/3A or higher
Output voltage (V)	Output Terminals	- 15EDGK-3.81 (3pin) - 15EDGRC-3.81 (3pin)
	Output voltage range	AC 0V ~ 60V Dimming
Control	External buttons	ON/OFF and 4-step control with external buttons
	RF Remote Control	ON/OFF and 4-step control Control Distance : Approx. 25 meters (Open Space)
Addition	Operating temperature range	-20°C ~ 60°C
	Operating humidity range	0~90
	SURGE Immunity	1KVA, IEC 61000-4-5



### ● BLE Module specifications

- Multi-protocol 2.4GHz radio
- 32-bit ARM Cortex – M4F processor
- 512KB flash programmed memory and 64KB RAM
- Programmable output power from +4dBm to -20dBm
- Low cost external crystal 32MHz  $\pm$  40ppm for Bluetooth ;  $\pm$  50ppm for ANT Plus
- Low power 32MHz crystal and RC oscillators
- Wide supply voltage range 1.7V to 3.6V

Highest Clock frequency	: 2 480 MHz
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### 3.2 Support Equipment / Cables used

#### 3.2.1 Used Support Equipment

Description	Manufacturer	Model Name	S/N & FCC ID.
Adapter	Shenzhen andsmips Electronic Technology Co., Ltd.	AS024-1202000K	S/N: N/A FCC ID.: N/A
Resistance	N/A	N/A	S/N: N/A FCC ID.: N/A

See “Appendix E– Test Setup Photographs” for actual system test set-up

#### 3.2.2 System configuration

Description	Manufacturer	Model Name	S/N & FCC ID.
BLE Module	Raytac Corporation	MDBT42Q-U	S/N: N/A FCC ID.: SH6MDBT42Q

#### 3.2.3 Used Cable(s)

Cable Name	Condition	Description
Multi tap	Connected to the Adapter and AC Power source	1.50 m unshielded
Adapter	Connected to the EUT and Multi tap	1.20 m shielded
Resistance	Connected to the EUT and Resistance	0.30 m shielded





### 3.3 Modification Item(s)

None.

### 3.4 Identification of EUT(s)

None.



#### 4. Description of tests

##### 4.1 Test Condition

The EUT was installed, arranged and operated in a manner that is most representative of equipment as typically used. The measurements were carried out while varying operating modes and cable positions within typically arrangement to determine maximum emission level.

The representative and worst test mode(s) were noted in the test report.

The test conditions of the noted test mode(s) in this test report are;

- Test Voltage / Frequency : AC 120 V / 60 Hz
- Test Mode(s)

<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> 1	Maximum operating mode: The test was conducted by connecting the EUT and resistance and setting it to the maximum load (level 4).
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## 4.2 Conducted Emission

The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. The measuring port of the LISN for EUT was connected to spectrum analyzer. Using conducted emission test software, the emissions were scanned with peak detector mode. After scanning over the frequency range, suspected emissions were selected to perform final measurement.

When performing final measurement, the receiver was used which has Quasi-Peak detector and CISPR Average detector. For (0.15 ~ 30) MHz frequency range, Quasi-Peak detector with 10 kHz RBW and 30 kHz VBW was used. By varying the configuration of the test sample and the cable, routing it was attempted to maximize the emission.

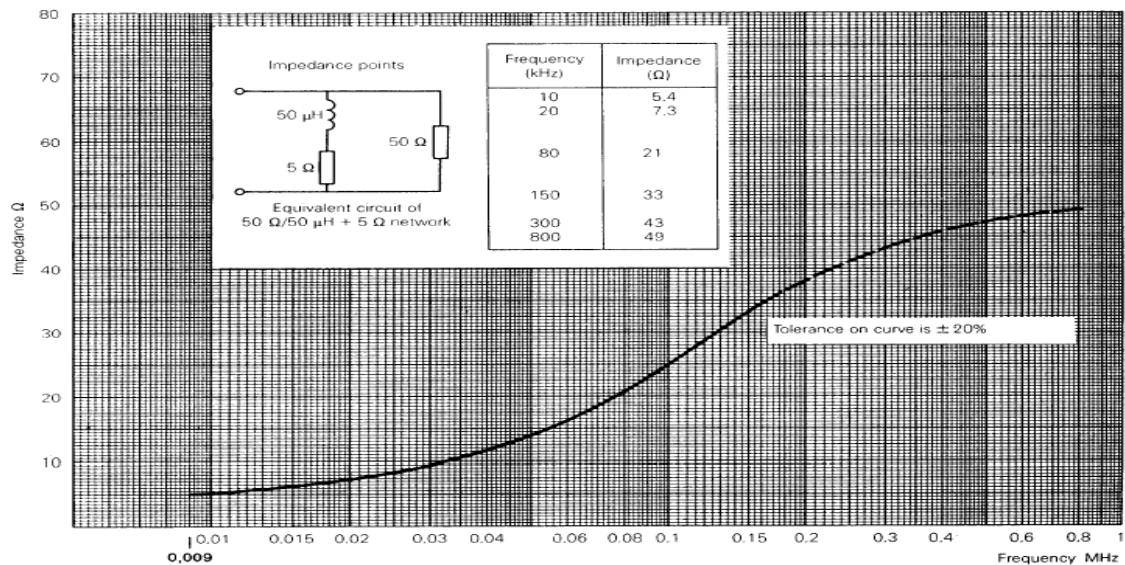


Fig 2. Impedance of LISN



### 4.3 Radiated Emission

Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10 or 3 meter below 1GHz and 3 meter above 1GHz. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in horizontal and vertical polarities. Final measurements were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1m to 4 m. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.

For final measurement below 1 GHz frequency range, Quasi-Peak detector with (RBW = 120 kHz Bandwidth) was used. For final measurement above 1 GHz frequency range, Peak detector with (RBW = 1 MHz Bandwidth) and CISPR Average detector with (RBW = 1 MHz Bandwidth) were used.

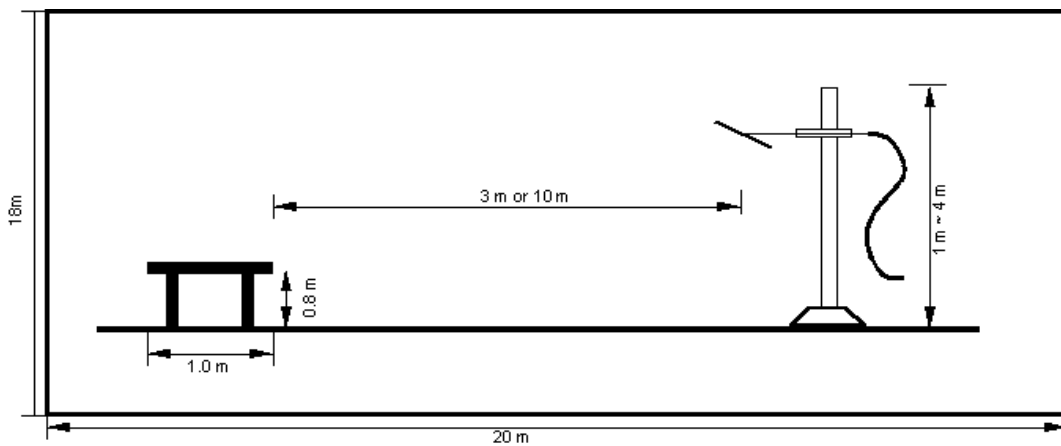


Fig 3. Dimensions of test site (Below 1 GHz)

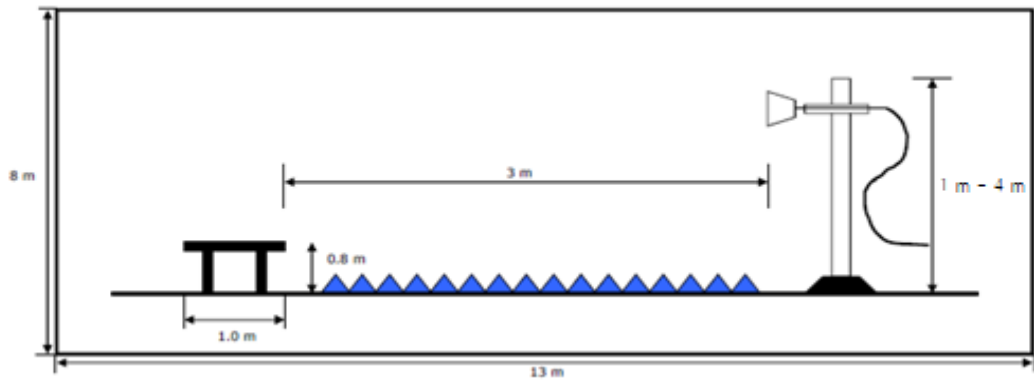


Fig 4. Dimensions of test site (Above 1 GHz)

### 4.4 Summary of Test Results

Standard	Test Description	Test Result
FCC Part 15 Subpart B ANSI C63.4 (2017)	Radiated Emission	Pass
	Conducted Emission	Pass



## 5. Conducted Emission

### 5.1 Operating Environment

Temperature : 22.3 °C  
Relative Humidity : 47.7 %  
Atmospheric pressure : 99.7 kPa

### 5.2 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO “Guide to the expression of uncertainty in measurement.” The measurement uncertainty was given with a confidence of 95 %.

Test Items	Uncertainty	Remark
Conducted emission (9 kHz ~ 150 kHz)	3.69 dB	Confidence level of approximately 95 % ( $k = 2$ )
Conducted emission (150 kHz ~ 30 MHz)	3.32 dB	Confidence level of approximately 95 % ( $k = 2$ )

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

The listed uncertainties are the worst case uncertainty for the entire range of measurement. please note that the uncertainty values are provided for informational purposes only are not used in determining the PASS/FAIL results



### 5.3 Limit

RFI Conducted	FCC Limit(dB $\mu$ V/m) Class B	
	Quasi-Peak	Average
150 kHz ~ 0.5 MHz	66 ~ 56*	56 ~ 46*
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50
*Limits decreases linearly with the logarithm of frequency.		

### 5.4 Test Equipment used

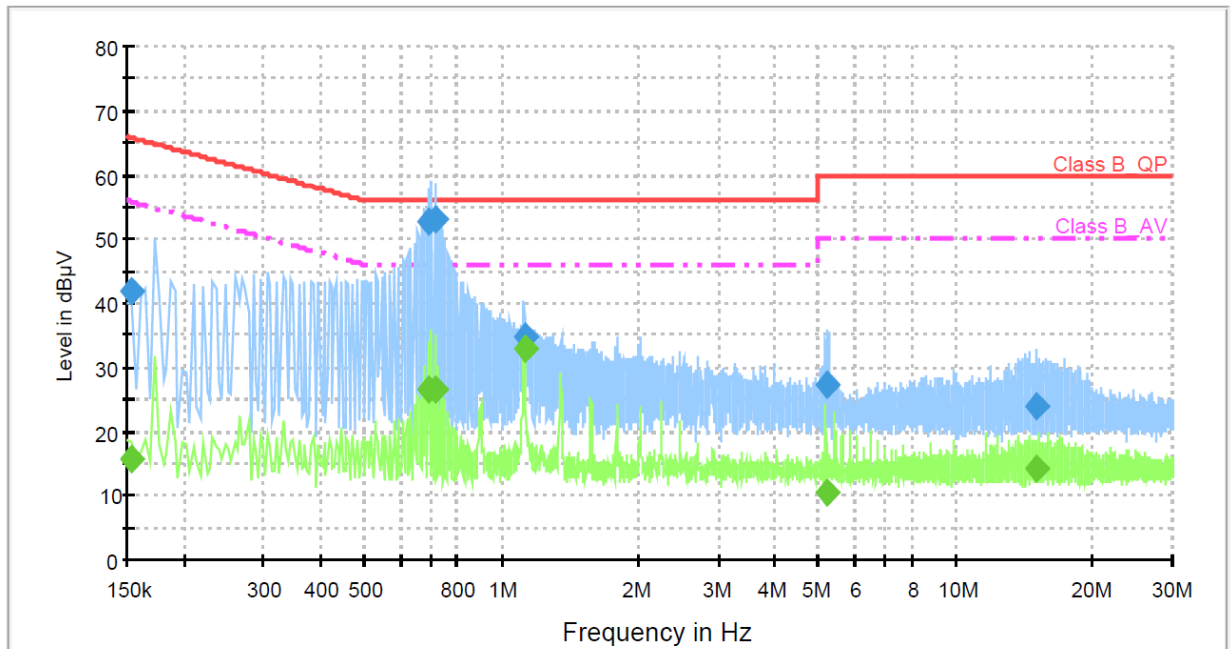
Model Name	Manufacturer	Description	Serial Number	Calibration Date
■ - ESCI	Rohde & Schwarz	EMI Test Receiver	100237	Apr. 03, 2024
■ - ENV216	Rohde & Schwarz	LISN	100172	Apr. 03, 2024
■ - EMC 32	Rohde & Schwarz	Software	Ver 8.53.0	N/A

### 5.5 Test data for Conducted Emission

- Test Date : Jun. 14, 2024
- Resolution Bandwidth : 9 kHz
- Frequency Range : 0.15 MHz ~ 30 MHz
- Line : L1: Live, N: Neutral
- Test Mode : A



▪ Test Mode: A



— Class B\_QP     
 - - - Class B\_AV     
 — Preview Result 1-PK+  
— Preview Result 2-AVG     
 ◆ Final Result 1-QPK     
 ◆ Final Result 2-CAV

### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.154000	41.8	1000.0	9.000	Off	L1	9.4	24.0	65.8	
0.691031	52.7	1000.0	9.000	Off	N	9.5	3.3	56.0	
0.713419	52.9	1000.0	9.000	Off	N	9.5	3.1	56.0	
1.124625	34.8	1000.0	9.000	Off	L1	9.5	21.2	56.0	
5.208731	27.1	1000.0	9.000	Off	N	9.6	32.9	60.0	
15.076650	23.8	1000.0	9.000	Off	N	9.8	36.2	60.0	

### Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.154000	15.6	1000.0	9.000	Off	L1	9.4	40.2	55.8	
0.691031	26.7	1000.0	9.000	Off	N	9.5	19.3	46.0	
0.713419	26.4	1000.0	9.000	Off	N	9.5	19.6	46.0	
1.124625	32.9	1000.0	9.000	Off	L1	9.5	13.1	46.0	
5.208731	10.4	1000.0	9.000	Off	N	9.6	39.6	50.0	
15.076650	14.2	1000.0	9.000	Off	N	9.8	35.8	50.0	

< Fig 5. Graph of continuous disturbance >



## 6. Radiated Emission

### 6.1 Operating Environment

Temperature : 30.3 °C  
 Relative Humidity : 50.1 %  
 Atmospheric pressure : 99.5 kPa

### 6.2 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO “Guide to the expression of uncertainty in measurement”. The measurement uncertainty was given with a confidence of 95 %.

Test Items(3 m Anechoic Chamber)	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 3 m, Vertical)	4.90 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (30 MHz ~ 300 MHz, 3 m, Horizontal)	4.79 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Vertical)	6.23 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Horizontal)	5.16 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (1 000 MHz ~ 6 000 MHz, 3 m)	4.56 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (6 000 MHz ~ 18 000 MHz, 3 m)	4.88 dB	Confidence level of approximately 95 % ( $k = 2$ )
Test Items(10 m Anechoic Chamber)	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 10 m, Vertical)	4.77 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (30 MHz ~ 300 MHz, 10 m, Horizontal)	4.79 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Vertical)	4.91 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Horizontal)	4.90 dB	Confidence level of approximately 95 % ( $k = 2$ )
Radiated emission (1 000 MHz ~ 6 000 MHz, 3 m)	4.63 dB	Confidence level of approximately 95 % ( $k = 2$ )

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results





### 6.3 Limit

Frequency (MHz)	FCC Limit @ 3 m. dB $\mu$ V/m
30 ~ 88	40.0
88 ~ 216	43.5
216 ~ 230	46.0
230 ~ 960	
960 ~ 1 000	54.0

Frequency (MHz)	FCC Class B Peak Limit @ 3 m	FCC Class B Average Limit@ 3 m
> 1 000	74.0	54.0

Frequency range	30 MHz ~ 1 GHz	Above 1 GHz
Detector mode	Quasi peak	Peak / Average
Resolution bandwidth	120 kHz	1 MHz



#### 6.4 Test Equipment used

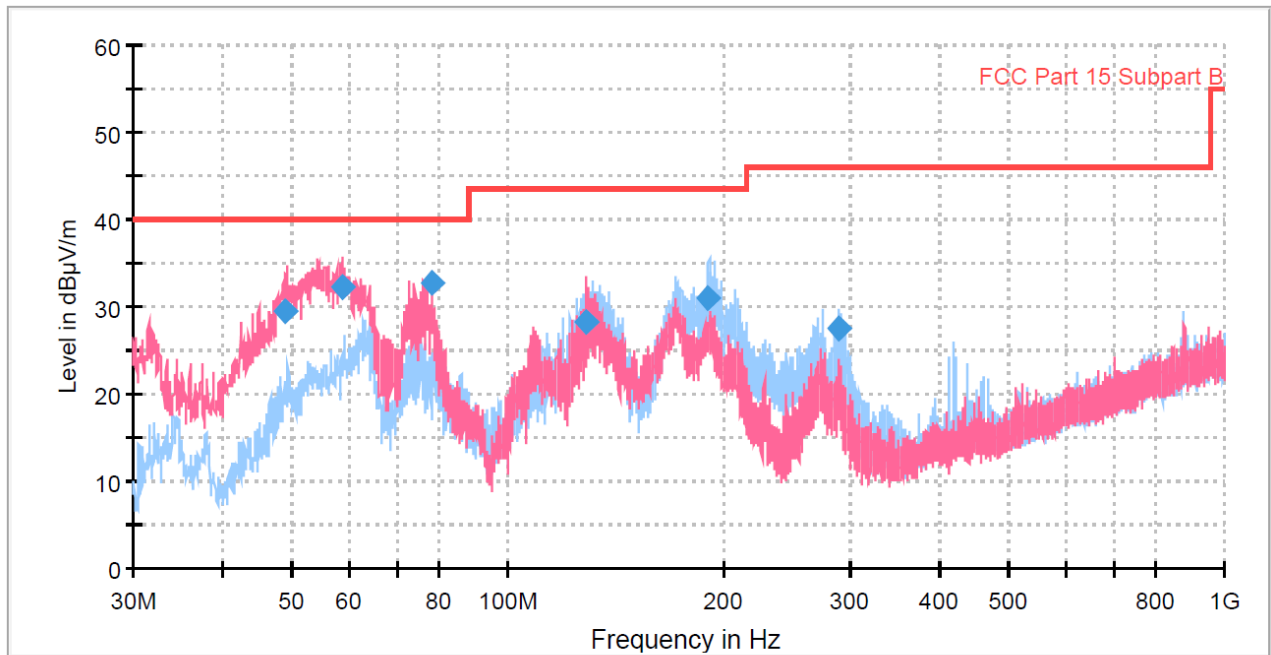
Model Name	Manufacturer	Description	Serial Number	Calibration Date
■ - ESW44	Rohde & Schwarz	EMI Test Receiver	103354	Apr. 03, 2024
■ - HF907	Rohde & Schwarz	DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA	100538	Jan. 25, 2024
■ - MA4640-XP-ET	HD GmbH	Antenna Mast	MA4640/558	N/A
■ - BBHA 9170	Schwarzbeck	Horn ANT	766	Apr. 09, 2024
■ - MCU066	maturu GmbH	Position Controller	1390306	N/A
■ - TT2.5SI	maturu GmbH	Turntable	1390307	N/A
■ - TK-PA18H	Testek	Low Noise Amplifier	220107-L	Apr. 03, 2024.
■ - TK-PA1840H	Testek	Preamplifier	170007-L	Apr. 08, 2024
■ - CO3000	Inco system GmbH	Position Controller	CO3000/1084/42760218/P	N/A
■ - EMC 32	Rohde & Schwarz	Software	Ver. 10.50.10	N/A
■ - VULB9160	Rohde & Schwarz	Broadband Test Antenna	3313	Apr. 19, 2024
■ - WRCJV8-2350-2400- 2483.5-2533.5-40SS	AAMCS	Band reject filter	5	Apr. 04, 2024
■ - WHKX7.0/18G-10SS	Rohde & Schwarz	WAINWRIGHT INSTRUMENTS	SN33	Apr. 04, 2024
■ - 310N	Sonoma Instrument	Amplifier	187164	Apr. 04, 2024



### 6.5 Test data for Radiated Emission

- Test Date : Jul. 19, 2024
- Measurement Distance : 3 m (30 MHz ~ 26.5 GHz)
- Note : -
- Test Mode : A

▪ Test Mode: A



— Preview Result 1H-PK+      — Preview Result 1V-PK+  
— FCC Part 15 Subpart B      ◆ Final\_Result QPK

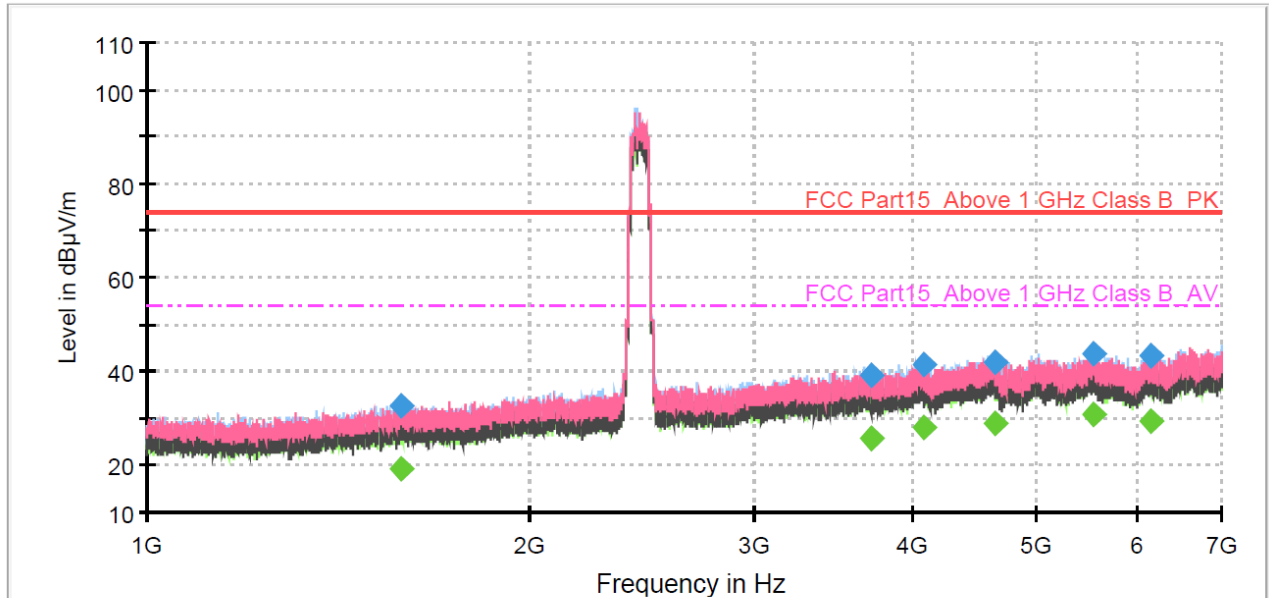
### Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
48.709000	29.43	40.00	10.57	1000.0	120.000	120.0	V	228.0	-18.3
58.830333	32.15	40.00	7.85	1000.0	120.000	100.0	V	300.0	-18.7
78.450667	32.79	40.00	7.21	1000.0	120.000	125.0	V	134.0	-22.2
128.753667	28.20	43.52	15.32	1000.0	120.000	100.0	V	32.0	-18.5
190.584333	31.00	43.52	12.52	1000.0	120.000	198.0	H	96.0	-19.1
289.813667	27.45	46.02	18.57	1000.0	120.000	121.0	H	14.0	-15.7

< Fig 6. Radiated emission result (30 MHz ~ 1 000 MHz) >



▪ Test Mode: A



- Preview Result 2H-AVG
- Preview Result 2V-AVG
- FCC Part15\_Above 1 GHz Class B\_PK
- ◆ Final\_Result PK+
- Preview Result 1H-PK+
- Preview Result 1V-PK+
- - - FCC Part15\_Above 1 GHz Class B\_AV
- ◆ Final\_Result CAV

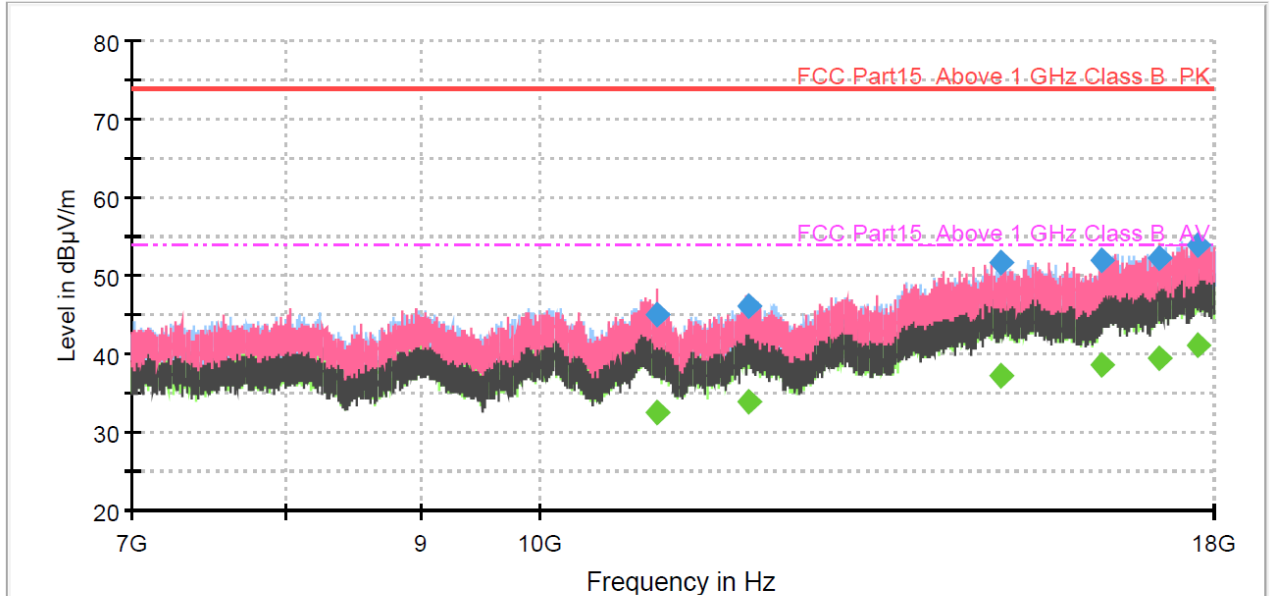
### Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1587.2000	32.82	---	74.00	41.18	1000.0	1000.000	105.0	V	128.0	-14.8
1587.2000	---	19.18	54.00	34.82	1000.0	1000.000	105.0	V	128.0	-14.8
3702.6000	39.14	---	74.00	34.86	1000.0	1000.000	179.0	H	241.0	-5.9
3702.6000	---	25.91	54.00	28.09	1000.0	1000.000	179.0	H	241.0	-5.9
4074.4000	41.67	---	74.00	32.33	1000.0	1000.000	175.0	H	213.0	-3.4
4074.4000	---	27.84	54.00	26.16	1000.0	1000.000	175.0	H	213.0	-3.4
4639.2000	42.11	---	74.00	31.89	1000.0	1000.000	105.0	V	199.0	-1.2
4639.2000	---	28.98	54.00	25.02	1000.0	1000.000	105.0	V	199.0	-1.2
5548.4000	43.99	---	74.00	30.01	1000.0	1000.000	125.0	H	-16.0	2.1
5548.4000	---	30.78	54.00	23.22	1000.0	1000.000	125.0	H	-16.0	2.1
6161.8000	43.20	---	74.00	30.80	1000.0	1000.000	125.0	V	31.0	2.0
6161.8000	---	29.36	54.00	24.64	1000.0	1000.000	125.0	V	31.0	2.0

< Fig 7. Radiated emission result (1 000 MHz ~ 7 000 MHz) >



▪ Test Mode: A



- Preview Result 2H-AVG
- Preview Result 2V-AVG
- FCC Part15\_Above 1 GHz Class B\_PK
- ◆ Final\_Result PK+
- Preview Result 1H-PK+
- Preview Result 1V-PK+
- - - FCC Part15\_Above 1 GHz Class B\_AV
- ◆ Final\_Result CAV

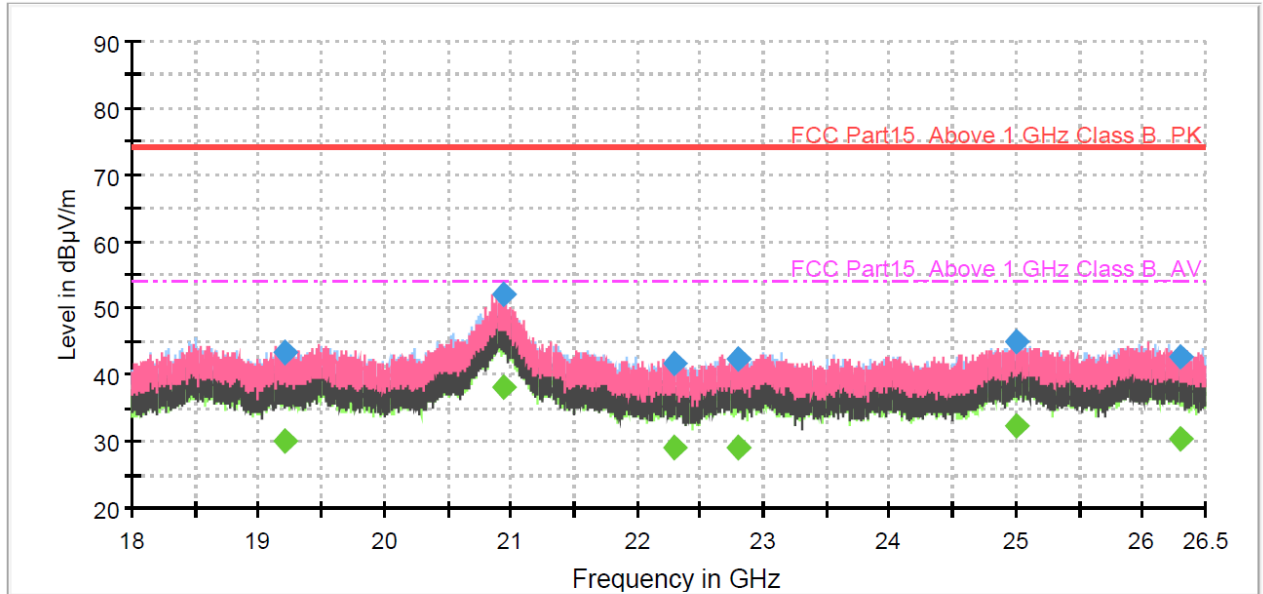
### Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
11075.9333	---	32.38	54.00	21.62	1000.0	1000.000	100.0	V	2.0	7.4
11075.9333	44.93	---	74.00	29.07	1000.0	1000.000	100.0	V	2.0	7.4
12000.4000	46.11	---	74.00	27.89	1000.0	1000.000	225.0	H	-3.0	10.3
12000.4000	---	33.95	54.00	20.05	1000.0	1000.000	225.0	H	-3.0	10.3
14957.9000	51.72	---	74.00	22.28	1000.0	1000.000	125.0	V	329.0	17.2
14957.9000	---	37.21	54.00	16.79	1000.0	1000.000	125.0	V	329.0	17.2
16326.3333	---	38.67	54.00	15.33	1000.0	1000.000	125.0	H	80.0	18.8
16326.3333	51.96	---	74.00	22.04	1000.0	1000.000	125.0	H	80.0	18.8
17152.3000	52.22	---	74.00	21.78	1000.0	1000.000	175.0	V	66.0	19.8
17152.3000	---	39.55	54.00	14.45	1000.0	1000.000	175.0	V	66.0	19.8
17756.5667	53.85	---	74.00	20.15	1000.0	1000.000	125.0	H	167.0	21.9
17756.5667	---	41.10	54.00	12.90	1000.0	1000.000	125.0	H	167.0	21.9

< Fig 8. Radiated emission result (7 000 MHz ~ 18 000 MHz) >



▪ Test Mode: A



— Preview Result 2H-AVG      — Preview Result 1H-PK+  
— Preview Result 2V-AVG      — Preview Result 1V-PK+  
— FCC Part15\_Above 1 GHz Class B\_PK      - - - FCC Part15\_Above 1 GHz Class B\_AV  
◆ Final\_Result PK+      ◆ Final\_Result CAV

### Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
19200.7333	43.26	---	74.00	30.74	1000.0	1000.000	125.0	V	-18.0	-12.4
19200.7333	---	29.91	54.00	24.09	1000.0	1000.000	125.0	V	-18.0	-12.4
20932.9833	52.16	---	74.00	21.84	1000.0	1000.000	109.0	V	300.0	-2.9
20932.9833	---	38.06	54.00	15.94	1000.0	1000.000	109.0	V	300.0	-2.9
22290.6833	41.75	---	74.00	32.25	1000.0	1000.000	125.0	V	18.0	-11.5
22290.6833	---	28.97	54.00	25.03	1000.0	1000.000	125.0	V	18.0	-11.5
22803.7000	42.45	---	74.00	31.55	1000.0	1000.000	125.0	V	28.0	-10.7
22803.7000	---	29.23	54.00	24.77	1000.0	1000.000	125.0	V	28.0	-10.7
25010.7500	45.10	---	74.00	28.90	1000.0	1000.000	215.0	H	91.0	-7.9
25010.7500	---	32.25	54.00	21.75	1000.0	1000.000	215.0	H	91.0	-7.9
26306.1667	42.61	---	74.00	31.39	1000.0	1000.000	186.0	H	143.0	-9.8
26306.1667	---	30.29	54.00	23.71	1000.0	1000.000	186.0	H	143.0	-9.8

< Fig 16. Radiated emission result (18 000 MHz ~ 26 500 MHz) >



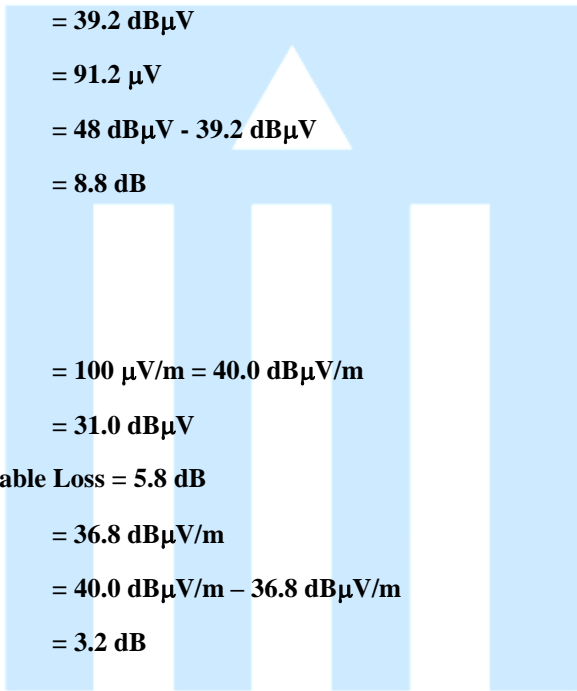
## 7. Sample Calculations

$$\begin{aligned} \text{dB}\mu\text{V} &= 20 \text{ Log}_{10}(\mu\text{V}/\text{m}) \\ \text{dB}\mu\text{V} &= \text{dBm} + 107 \\ \mu\text{V} &= 10^{(\text{dB}\mu\text{V}/20)} \end{aligned}$$

### 7.1 Example 1:

#### ■ 20.3 MHz

<b>Class B Limit</b>	<b>= 250 <math>\mu\text{V}</math> = 48 dB<math>\mu\text{V}</math></b>
<b>Reading</b>	<b>= 39.2 dB<math>\mu\text{V}</math></b>
<b>10<sup>(39.2dB<math>\mu\text{V}/20</math></sup>)</b>	<b>= 91.2 <math>\mu\text{V}</math></b>
<b>Margin</b>	<b>= 48 dB<math>\mu\text{V}</math> - 39.2 dB<math>\mu\text{V}</math></b>
	<b>= 8.8 dB</b>



### 7.2 Example 2:

#### ■ 66.7 MHz

<b>Class B Limit</b>	<b>= 100 <math>\mu\text{V}/\text{m}</math> = 40.0 dB<math>\mu\text{V}/\text{m}</math></b>
<b>Reading</b>	<b>= 31.0 dB<math>\mu\text{V}</math></b>
<b>Antenna Factor + Cable Loss</b>	<b>= 5.8 dB</b>
<b>Total</b>	<b>= 36.8 dB<math>\mu\text{V}/\text{m}</math></b>
<b>Margin</b>	<b>= 40.0 dB<math>\mu\text{V}/\text{m}</math> - 36.8 dB<math>\mu\text{V}/\text{m}</math></b>
	<b>= 3.2 dB</b>



## 8. Recommendation & Conclusion

The data collected shows that the **PDLC Power Controller (Model Name: GIS-1011)** was complies with §15.107, §15.109 of the FCC Rules

- The end -

