THE NETHERLANDS
(N E D E R L A N D)

E4

COMMUNICATION

Concerning (1):

- approval granted
- ~~approval extended~~
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of electrical/electronic sub-assembly (1) with regard to Regulation number 10.

Approval number: E4*10R05/01*4121*00

1.	Make (trade name of manufacturer)	: MANY WAIN, SoundOff Signal
2.	Type and general commercial description(s)	: PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X, X denotes the LED color : A (AMBER), B (BLUE), G (GREEN), R (RED), W (WHITE) LED WARNING LAMP
3.	Means of identification of type, if marked on the ~~vehicle~~/component/ ~~separate technical unit~~ (1)	: PY-9171-XX or EML6E20XX or PY-9171-X or EML6E20X
3.1.	Location of that marking	: Self-adhesive label, fixed on the cable of the product
4.	Category of vehicle	: Not applicable
5.	Name and address of manufacturer	: MANY WAIN ENTERPRISE CO., LTD. No. 10, Lane 808, Chung Shan Rd., Shin Hwa Dist., 71243 Tainan, Taiwan

Approval number: E4*10R05/01*4121*00

6.	In the case of components and separate technical units, location and method of affixing of the approval mark	:	Self-adhesive label, fixed on the cable of the product
7.	Address(es) of assembly plant(s)	:	MANY WAIN ENTERPRISE CO., LTD. No. 10, Lane 808, Chung Shan Rd., Shin Hwa Dist., 71243 Tainan, Taiwan
8.	Additional information (where applicable)	:	see Appendix
9.	Technical service responsible for carrying out the tests	:	TÜV NORD Mobilität GmbH & Co. KG IFM-Institut für Fahrzeugtechnik und Mobilität Schönscheidtstrasse 28, D-45307 Essen
10.	Date of test report	:	October 22, 2018
11.	Number of test report	:	TW010-A0-180221
12.	Remarks (if any)	:	see Appendix
13.	Place	:	Zoetermeer
14.	Date	:	06-NOV-2018
15.	Signature	:	

16. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

17.	Reasons for extension	:	Not applicable

(1) Strike out what does not apply.

APPENDIX

to type-approval communication form number: E4*10R05/01*4121*00

concerning the type-approval of an electrical /electronic sub-assembly [1] under Regulation number 10.

1.	Additional information		
1.1.	Electrical system rated voltage	:	DC 12 V / 24 V, ~~pos~~/neg ground [1]
1.2.	This ESA can be used on any vehicle type with the following restrictions	:	Vehicles with 12 V DC and 24 V DC supply
1.2.1.	Installation conditions, if any	:	Not applicable
1.3.	This ESA can be used only on the following vehicle types	:	Not applicable
1.3.1.	Installation conditions, if any	:	Not applicable
1.4.	The specific test method(s) used and the frequency ranges covered to determine immunity were	:	20-80 Mhz : Bulk Current Injection (BCI) Test 60 mA 80-2000 MHz : Free field method 30 V/m Modulation : AM (amplitude modulation), with 1 kHz modulation and 80 per cent modulation depth in the 20 to 800 MHz frequency range; PM (pulse modulation), t on 577 µs, period 4,600 µs in the 800 to 2,000 MHz frequency range.
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests	:	TÜV NORD Mobilität GmbH & Co. KG IFM-Institut für Fahrzeugtechnik und Mobilität Schönscheidtstrasse 28, D-45307 Essen
2.	Remarks	:	---

[1] Strike out what does not apply.

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

Test Report

Agreement

concerning the adoption of uniform technical prescriptions for the wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions

Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility

ECE-Regulation 10

including all amendments until

Series of Amendments:05
Supplement 1 Date of entry into force: October 08, 2016

	Approval status
ECE	Number of approval
	E4*10R05/01*4121*00

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

0. General information

0.1	Trade mark or trade name of manufacturer	:	MANY WAIN, SoundOff Signal
0.2	Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X X denotes the LED color : A (AMBER), B (BLUE), G (GREEN), R (RED), W (WHITE)
0.3	Name and address of manufacturer	:	MANY WAIN ENTERPRISE CO., LTD. No. 10, Lane 808, Chung Shan Rd., Shin Hwa Dist., 71243 Tainan, Taiwan
0.4	Name and address of authorized representative, if any	:	Not applicable
0.5	No. of information document	:	R10-PY-9171-XX-00
	Date of issue	:	October 22, 2018
	Date of last amendment	:	--------
0.6	Remarks:		

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RDW

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

1. Test object(s) and general test information

1.1 Test object(s)

Identification No.	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X, X denotes the LED color : A (AMBER), B (BLUE), G (GREEN), R (RED), W (WHITE) LED WARNING LAMP
Worst case	:	The flash pattern(s) be tested is Single Flash (refer to specification_pm1: SAE/T13 Single 75FPM Ph1(Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)) (Maximum power consumption)
Model(s) tested	:	PY-9171-AW

Remark :
All models are same of the designs, except the color of LED. The devices with one electrical circuity that has been shared with different flash patterns.
(Refer to the Specification)

1.2 General test information

1.2.1	Order issued by (if different from manufacturer)	:	Not applicable
1.2.2	Test object received on	:	---
1.2.3	Test date	:	August 13 ~ 22, 2018
1.2.4	Test site	:	Compliance Certification Services Inc. No. 8, Jiucengling, Xinhua Dist., Tainan City 712, Taiwan (R.O.C.)

1.2.5 Remarks: The test results refer exclusively to the sample(s) mentioned under clause 1.1 of this report.

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

2. Test protocol

2.1	Test facilities	:	The measurement equipment used was in compliance with the test requirements.
2.2	Test results (1)- The tests in configurations other than REESS charging mode coupled to the power grid.	:	The tests of radiated broadband / narrowband electromagnetic emission, immunity to and emission of transients, and immunity to electromagnetic radiation have been conducted.
	Test results (2)- Additional tests in the configuration "REESS charging mode coupled to the power grid".	:	Not applicable
2.2.1	Markings	:	The approval mark and trade mark are marked on self-adhesive label that fixed on the cable of the product.
2.2.2	Test data	:	See appendix
2.3	Variants and components	:	Not applicable

3 Remark concerning test object(s)

All versions of the ESA type as stated in the information document are covered with the tested version(s) and test sample(s) respectively.

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

4. Appendices

4.1	List of modification	:	----------
4.2	Test protocol	:	As attached
4.3	Information folder	:	R10-PY-9171-XX-00 (3 pages)

5. Statement of conformity

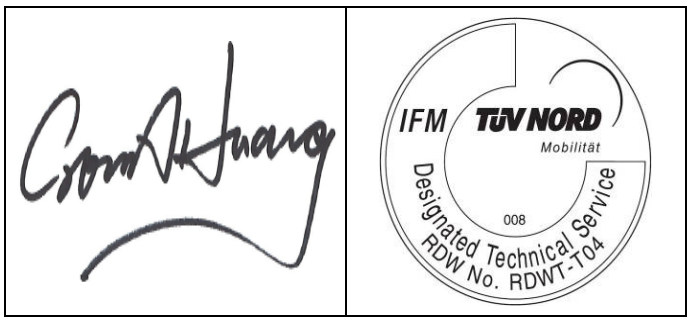
The information folder and the type described there comply with the requirements of ~~directive/~~ ECE Regulation 10.

The samples / test vehicles used were representative in terms of the type to be approved.

The technical report shall not be reproduced except in full without the written approval of the testing laboratory.

Designated Technical Service: RDWT-T04

Taipei, October 22, 2018
IFM/#



Cronus Huang
Engineer

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RDW

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

A1 List of modifications

Correction of : ---

Modification of : ---

Addition of : ---

Deletion of : ---

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Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

A2 Test protocol

Test object(s)	:	LED WARNING LAMP
Trade name	:	MANY WAIN, SoundOff Signal
Tested Version	:	PY-9171-AW

Technical data of the tested ESA type

Electrical system rated voltage	:	DC 12 V and DC 24 V, negative ground
This ESA can be used on any vehicle type with the following restrictions	:	Vehicles with 12 V DC and 24 V DC supply
Installation conditions, if any	:	Not applicable

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

Test results of Emission Test:

Remarks: The electromagnetic radiation of ESA has been tested under DC 12 V input mode and DC 24 V input mode. Only the worst case results are depicted in the report.

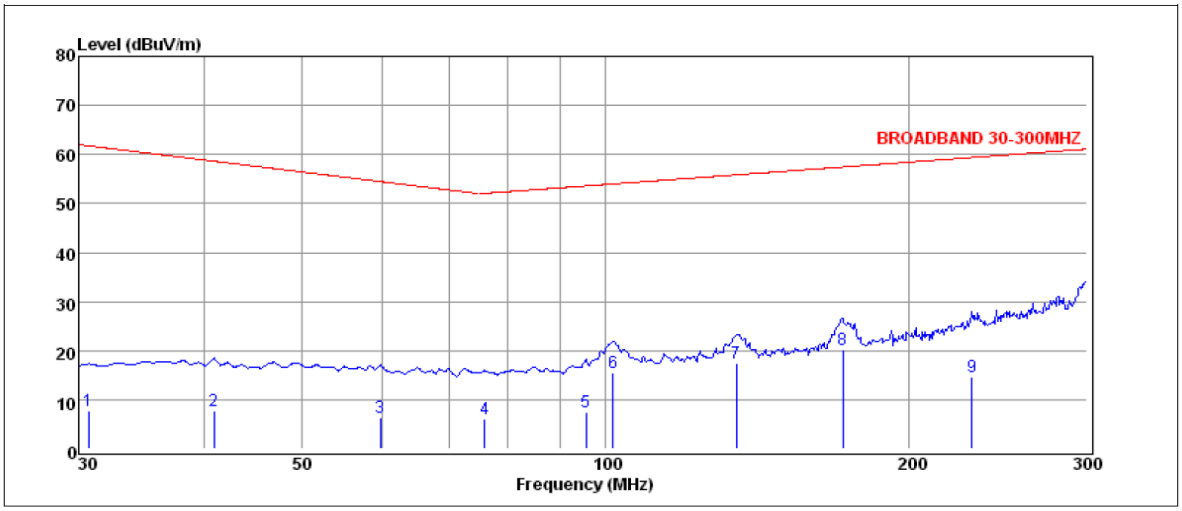
Radiated broadband electromagnetic emissions	:	Antenna positions - horizontal and vertical. Voltage –DC 12 V and DC 24 V

Test results of radiated broadband electromagnetic emissions

Normal Operation mode – (PY-9171-AW ; DC 12 V direct connected)

DC: 12V Broadband - 30 to 300MHz – Horizontal

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
30.70	21.65	-13.84	7.81	61.75	-53.94	QP
40.84	21.62	-13.82	7.80	58.63	-50.83	QP
59.72	21.38	-14.97	6.41	54.49	-48.08	QP
75.88	21.64	-15.42	6.22	52.08	-45.86	QP
95.53	21.80	-14.44	7.36	53.59	-46.23	QP
101.65	29.41	-14.04	15.37	54.00	-38.63	QP
134.62	29.80	-12.42	17.38	55.84	-38.46	QP
171.84	30.80	-10.48	20.32	57.45	-37.13	QP
230.74	20.98	-6.39	14.59	59.38	-44.79	QP

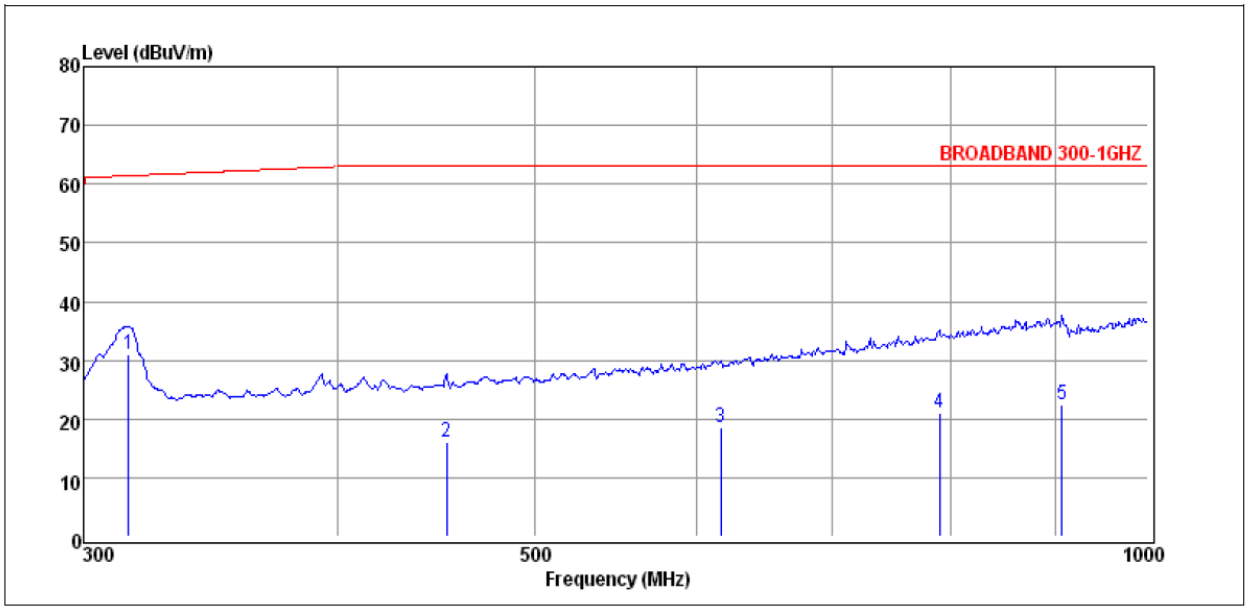
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 12V Broadband - 300MHz to 1GHz – Horizontal

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	38.51	-7.54	30.97	61.44	-30.47	QP
452.30	20.35	-4.31	16.04	63.00	-46.96	QP
617.06	19.44	-0.76	18.68	63.00	-44.32	QP
789.80	18.33	2.83	21.16	63.00	-41.84	QP
907.08	17.67	4.72	22.39	63.00	-40.61	QP

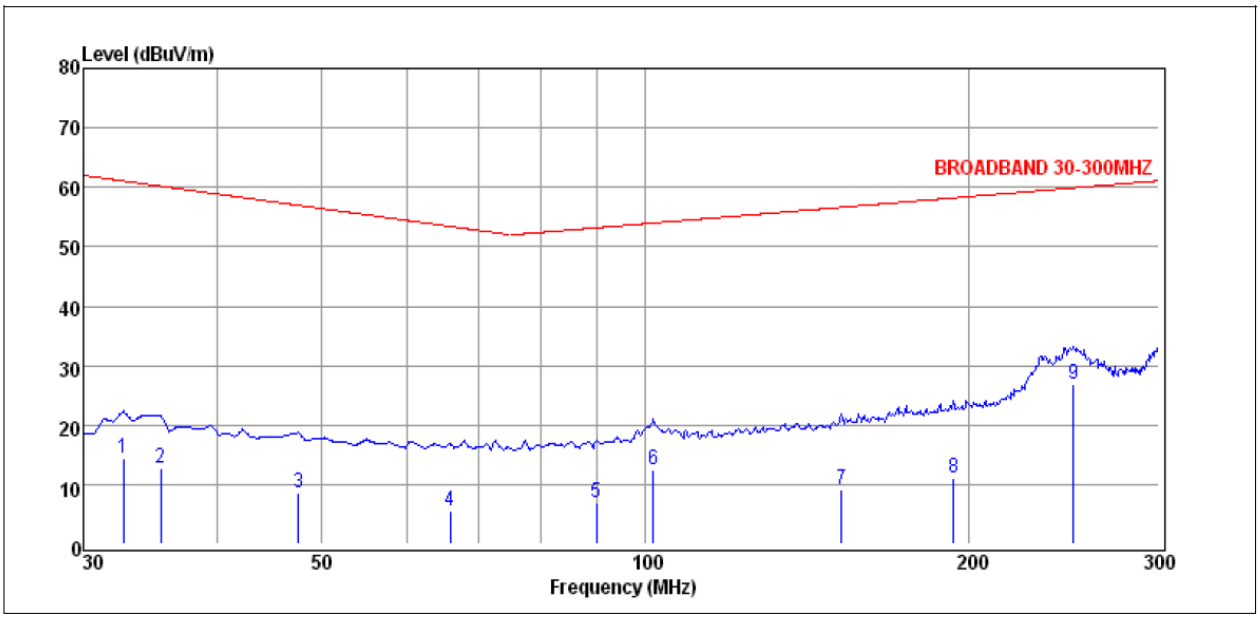
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 12V Broadband - 30 to 300MHz – Vertical

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
32.67	28.29	-13.87	14.42	61.07	-46.65	QP
35.41	26.70	-13.90	12.80	60.19	-47.39	QP
47.55	22.55	-13.99	8.56	56.97	-48.41	QP
65.78	20.95	-15.28	5.67	53.43	-47.76	QP
89.98	21.69	-14.85	6.84	53.20	-46.36	QP
101.65	26.61	-14.04	12.57	54.00	-41.43	QP
152.10	20.76	-11.65	9.11	56.65	-47.54	QP
193.25	20.06	-9.11	10.95	58.22	-47.27	QP
250.10	32.30	-5.34	26.96	59.91	-32.95	QP

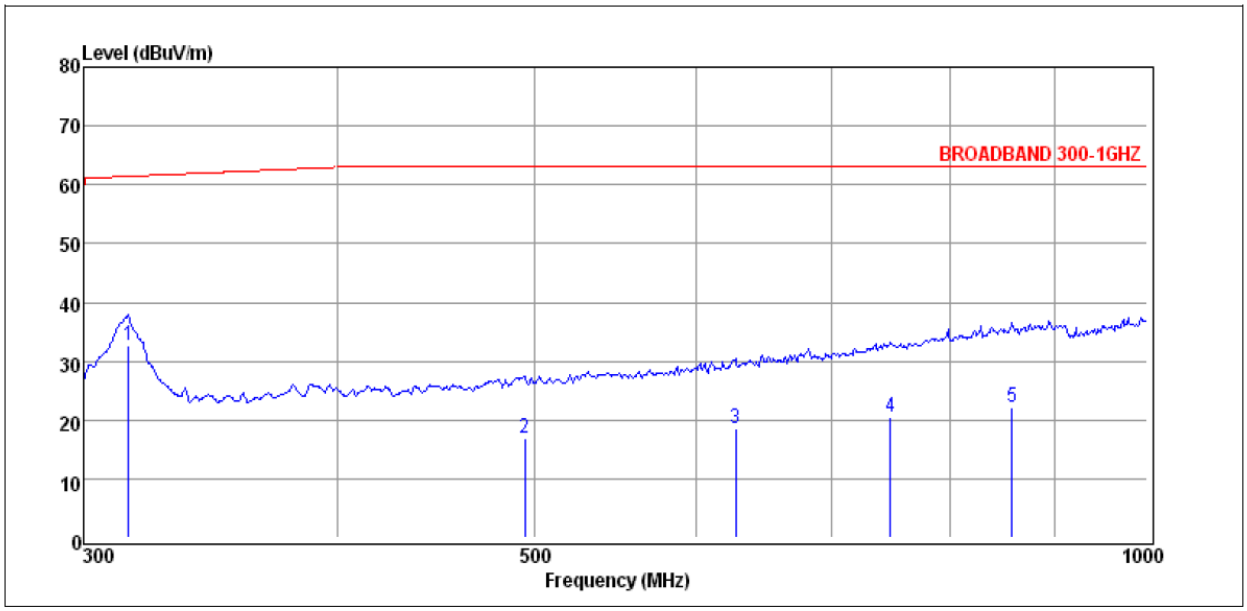
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 12V Broadband - 300MHz to 1GHz – Vertical

Model No. :	PY-9171-AW	**Temp/Humi** :	27.5℃ / 53%
Test Mode :	pm1	**Tested by** :	Sam Shen
Test Date :	2018/08/22	**Test Voltage** :	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	40.31	-7.54	32.77	61.44	-28.67	QP
494.44	20.18	-3.41	16.77	63.00	-46.23	QP
627.55	19.13	-0.55	18.58	63.00	-44.42	QP
748.15	18.34	2.03	20.37	63.00	-42.63	QP
858.21	18.05	4.14	22.19	63.00	-40.81	QP

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

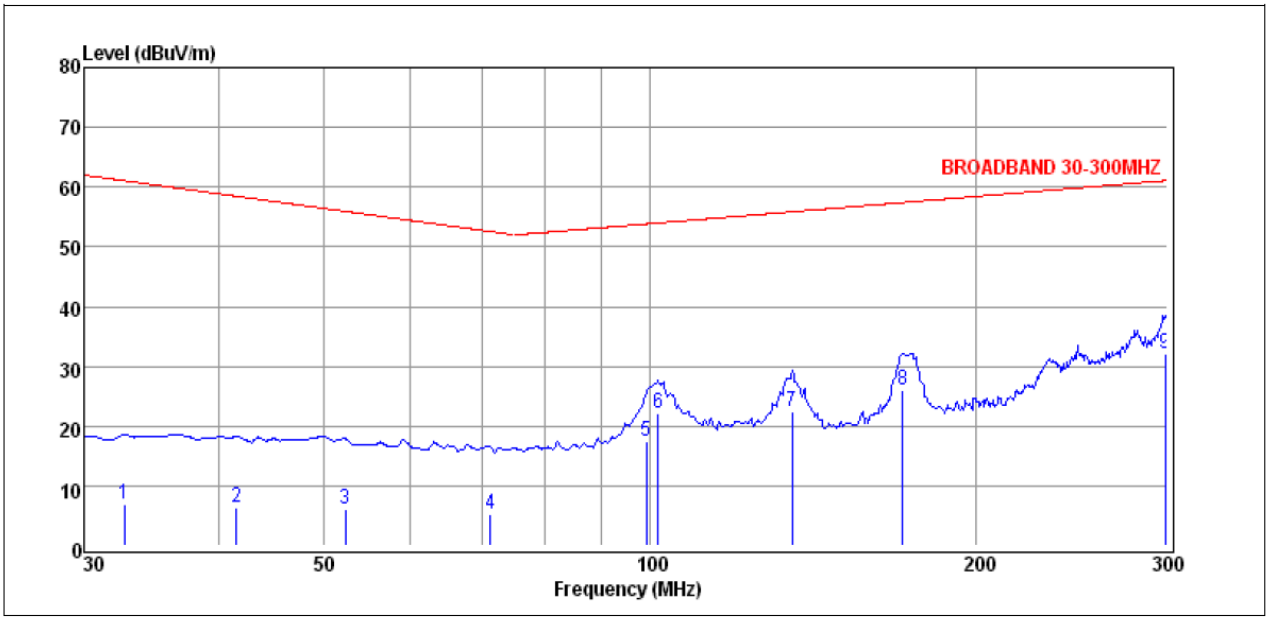
Decision : ■ Pass or □ Failed

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

Normal Operation mode – (PY-9171-AW ; DC 24 V direct connected)

DC: 24V Broadband - 30 to 300MHz – Horizontal

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
32.67	20.65	-13.87	6.78	61.07	-54.29	QP
41.51	20.32	-13.82	6.50	58.46	-51.96	QP
52.25	20.45	-14.32	6.13	55.94	-49.81	QP
71.14	20.76	-15.45	5.31	52.58	-47.27	QP
99.11	31.60	-14.17	17.43	53.83	-36.40	QP
101.65	36.31	-14.04	22.27	54.00	-31.73	QP
135.25	34.71	-12.40	22.31	55.87	-33.56	QP
171.05	36.50	-10.53	25.97	57.42	-31.45	QP
298.62	33.30	-1.33	31.97	61.08	-29.11	QP

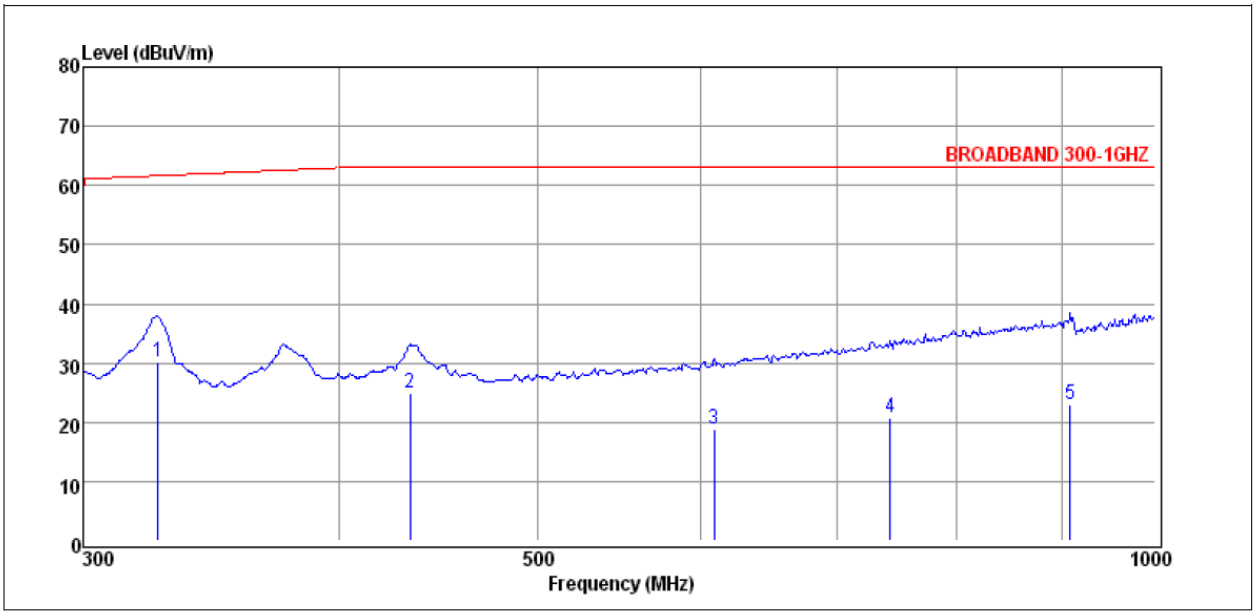
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 24V Broadband - 300MHz to 1GHz – Horizontal

Model No. :	PY-9171-AW	**Temp/Humi** :	27.5℃ / 53%
Test Mode :	pm1	**Tested by** :	Sam Shen
Test Date :	2018/08/22	**Test Voltage** :	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	42.61	-7.54	35.07	61.44	-26.37	QP
469.50	28.30	-3.93	24.37	63.00	-38.63	QP
597.32	19.71	-1.24	18.47	63.00	-44.53	QP
755.39	18.51	2.20	20.71	63.00	-42.29	QP
896.23	17.59	4.59	22.18	63.00	-40.82	QP

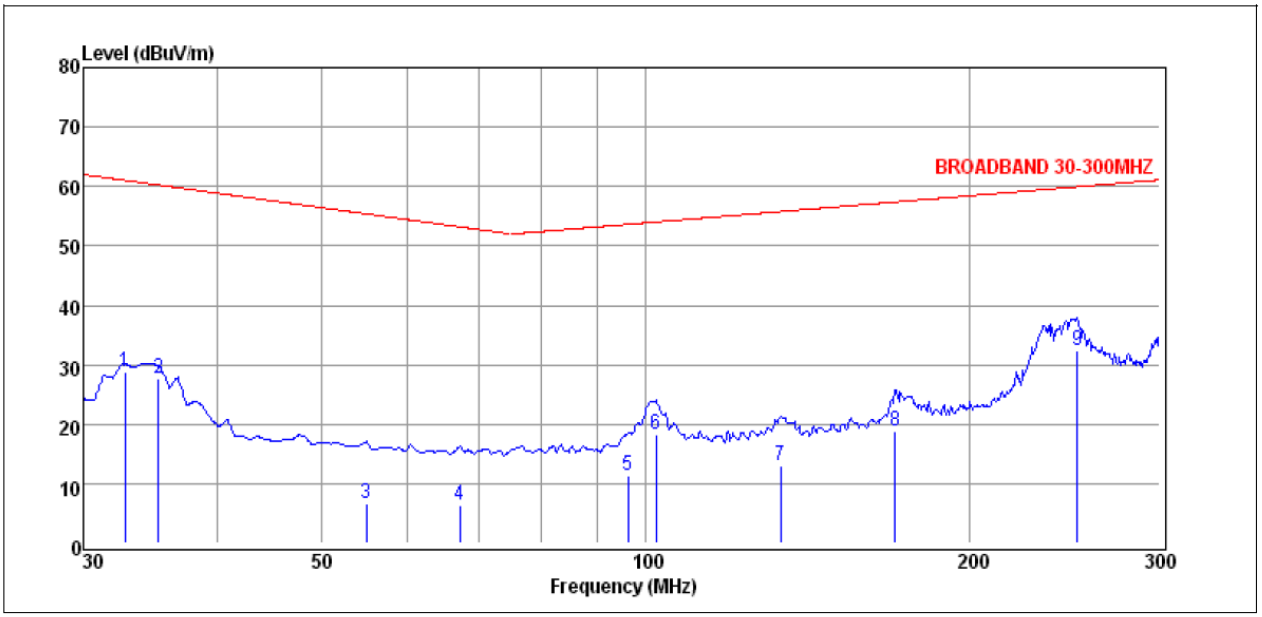
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 24V Broadband - 30 to 300MHz – Vertical

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
32.81	42.60	-13.88	28.72	61.02	-32.30	QP
35.26	41.70	-13.91	27.79	60.24	-32.45	QP
54.97	21.29	-14.57	6.72	55.39	-48.67	QP
67.16	21.78	-15.33	6.45	53.20	-46.75	QP
96.19	25.78	-14.37	11.41	53.64	-42.23	QP
102.12	32.30	-14.01	18.29	54.03	-35.74	QP
133.39	25.60	-12.46	13.14	55.78	-42.64	QP
170.26	29.40	-10.57	18.83	57.39	-38.56	QP
251.84	37.60	-5.24	32.36	59.96	-27.60	QP

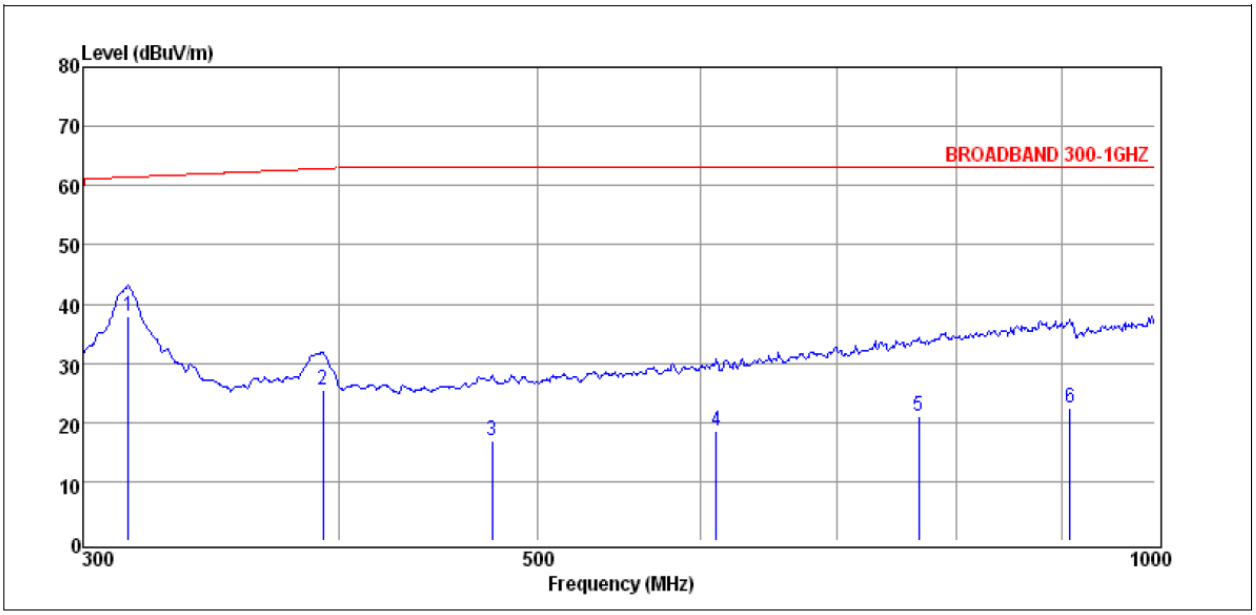
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 24V Broadband - 300MHz to 1GHz – Vertical

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	45.51	-7.54	37.97	61.44	-23.47	QP
392.87	31.20	-5.80	25.40	62.88	-37.48	QP
475.18	20.82	-3.82	17.00	63.00	-46.00	QP
611.14	19.56	-0.90	18.66	63.00	-44.34	QP
767.30	18.50	2.41	20.91	63.00	-42.09	QP
909.27	17.73	4.79	22.52	63.00	-40.48	QP

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Decision : ■ Pass or □ Failed

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

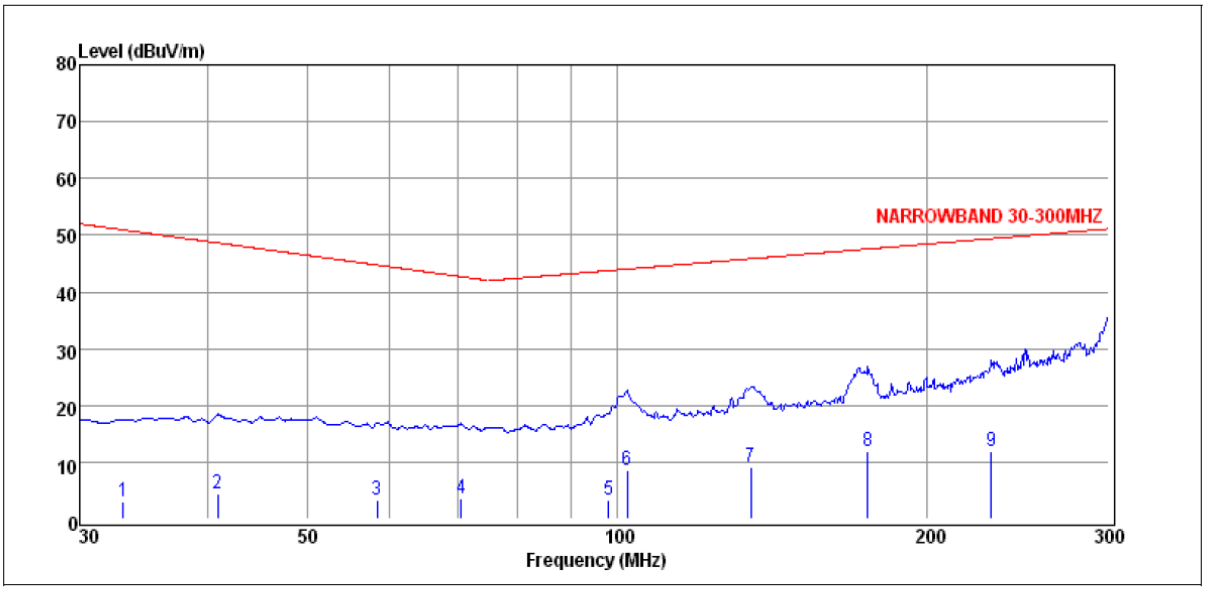
Radiated narrowband electromagnetic emissions : Antenna positions - horizontal and vertical. Voltage –DC 12 V and DC 24 V

Test results of radiated narrowband electromagnetic emissions

Normal Operation mode - (PY-9171-AW ; DC 12 V direct connected)

DC: 12V Narrowband - 30 to 300MHz – Horizontal

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
33.05	16.91	-13.89	3.02	50.94	-47.92	Average
40.84	18.14	-13.82	4.32	48.63	-44.31	Average
58.36	18.18	-14.87	3.31	44.74	-41.43	Average
70.49	19.08	-15.46	3.62	42.68	-39.06	Average
97.98	17.53	-14.26	3.27	43.76	-40.49	Average
102.12	22.61	-14.02	8.59	44.03	-35.44	Average
134.62	21.50	-12.42	9.08	45.84	-36.76	Average
175.03	22.08	-10.29	11.79	47.57	-35.78	Average
230.74	18.22	-6.40	11.82	49.38	-37.56	Average

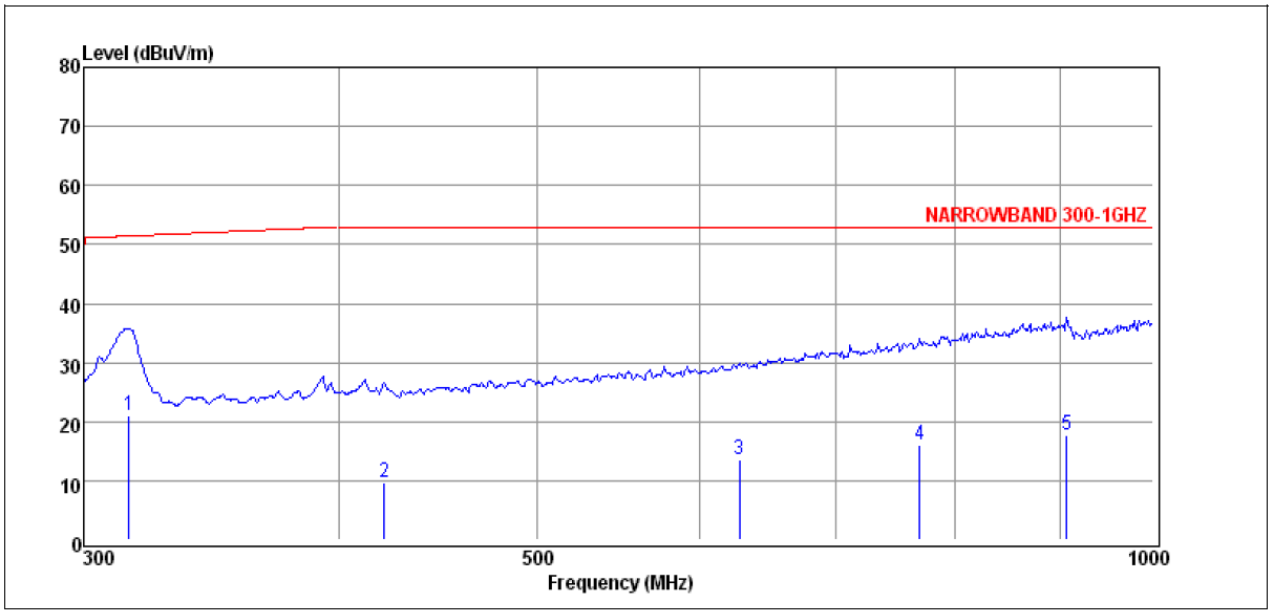
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 12V Narrowband - 300MHz to 1GHz – Horizontal

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	28.51	-7.54	20.97	51.44	-30.47	Average
420.78	14.90	-5.10	9.80	53.00	-43.20	Average
627.55	13.98	-0.55	13.43	53.00	-39.57	Average
769.15	13.48	2.47	15.95	53.00	-37.05	Average
907.08	13.02	4.72	17.74	53.00	-35.26	Average

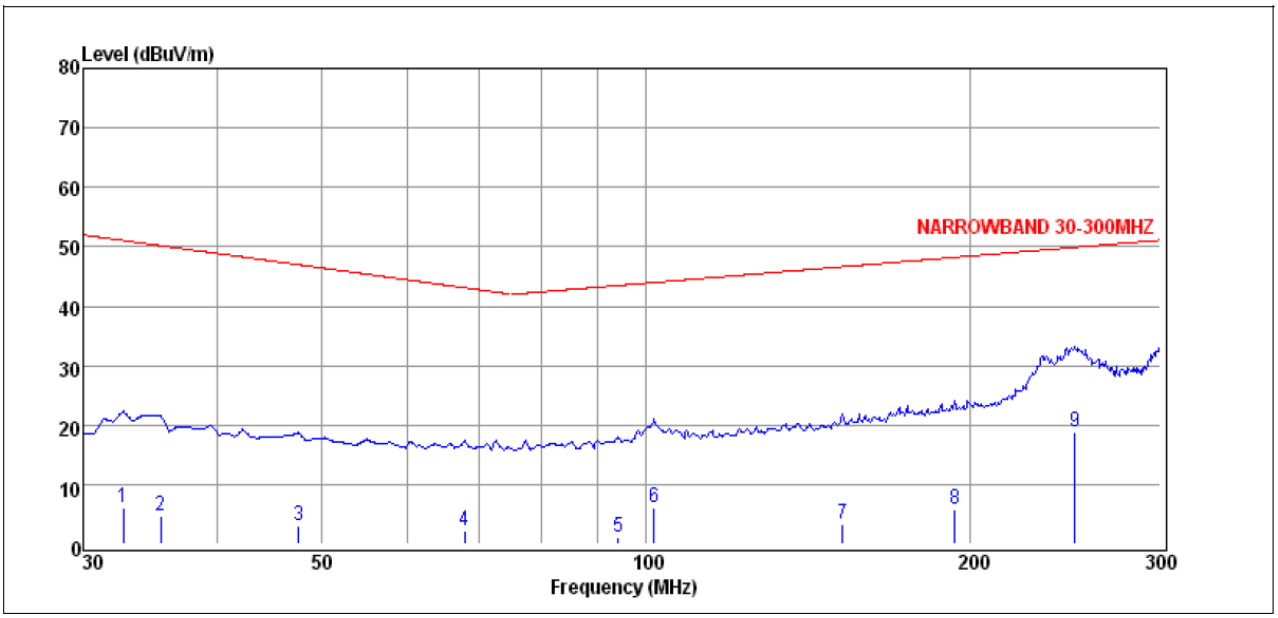
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 12V Narrowband - 30 to 300MHz – Vertical

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
32.67	20.09	-13.87	6.22	51.07	-44.85	Average
35.41	18.60	-13.90	4.70	50.19	-45.49	Average
47.55	17.11	-13.99	3.12	46.97	-43.85	Average
67.78	17.52	-15.36	2.16	43.10	-40.94	Average
94.22	15.53	-14.52	1.01	43.50	-42.49	Average
101.65	20.11	-14.04	6.07	44.00	-37.93	Average
152.10	15.07	-11.65	3.42	46.65	-43.23	Average
193.25	14.93	-9.11	5.82	48.22	-42.40	Average
250.10	24.27	-5.34	18.93	49.91	-30.98	Average

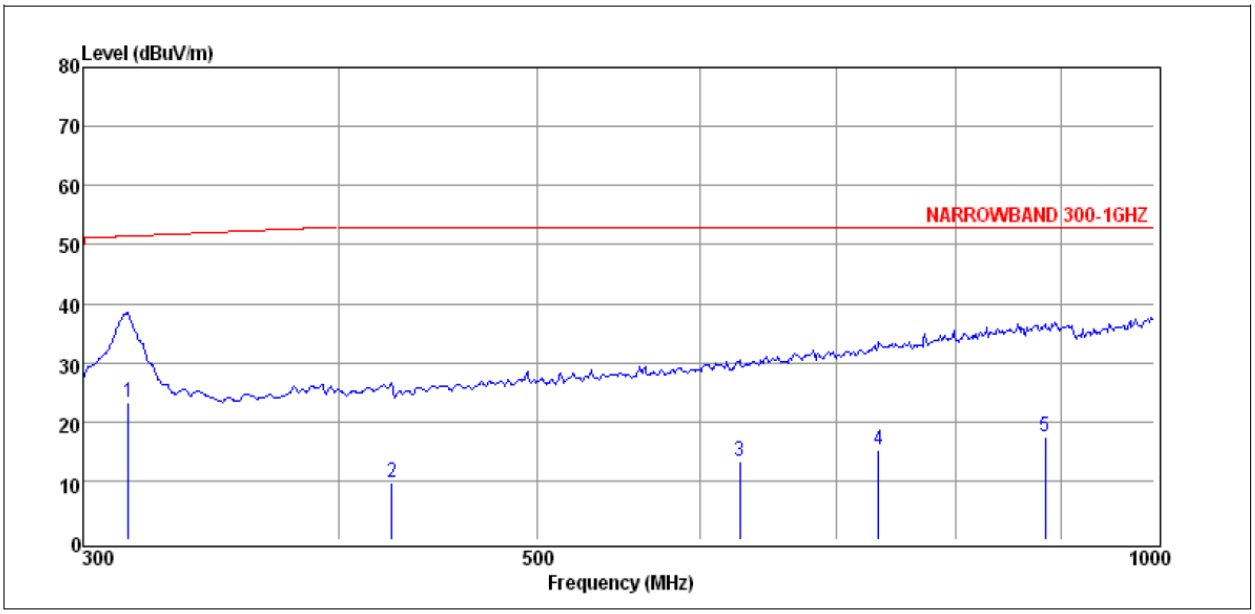
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 12V Narrowband - 300MHz to 1GHz – Vertical

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	13.5Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	30.91	-7.54	23.37	51.44	-28.07	Average
424.34	14.58	-5.01	9.57	53.00	-43.43	Average
627.55	13.89	-0.55	13.34	53.00	-39.66	Average
733.87	13.42	1.75	15.17	53.00	-37.83	Average
884.44	13.12	4.45	17.57	53.00	-35.43	Average

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Decision : ■ Pass or □ Failed

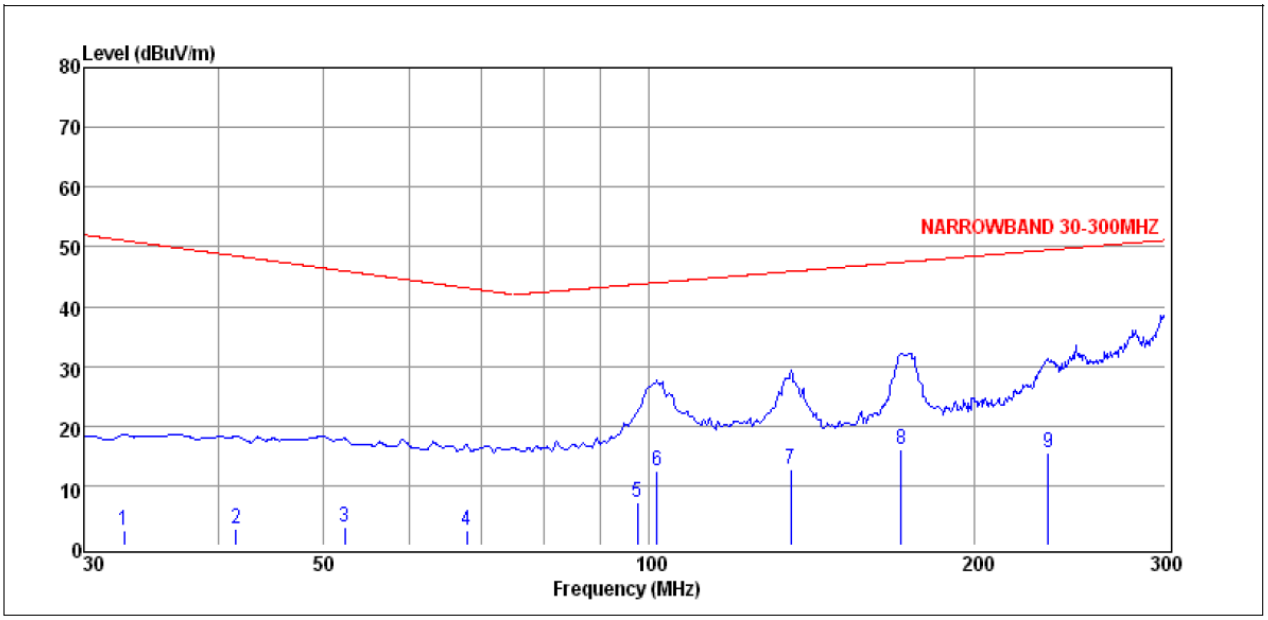
Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

Normal Operation mode - (PY-9171-AW ; DC 24 V direct connected)

DC: 24V Narrowband - 30 to 300MHz – Horizontal

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
32.67	16.35	-13.87	2.48	51.07	-48.59	Average
41.51	16.47	-13.82	2.65	48.46	-45.81	Average
52.25	17.46	-14.32	3.14	45.94	-42.80	Average
67.78	17.74	-15.36	2.38	43.10	-40.72	Average
97.53	21.60	-14.29	7.31	43.73	-36.42	Average
101.65	26.61	-14.04	12.57	44.00	-31.43	Average
135.25	25.11	-12.40	12.71	45.87	-33.16	Average
171.05	26.70	-10.53	16.17	47.42	-31.25	Average
233.95	21.59	-6.22	15.37	49.48	-34.11	Average

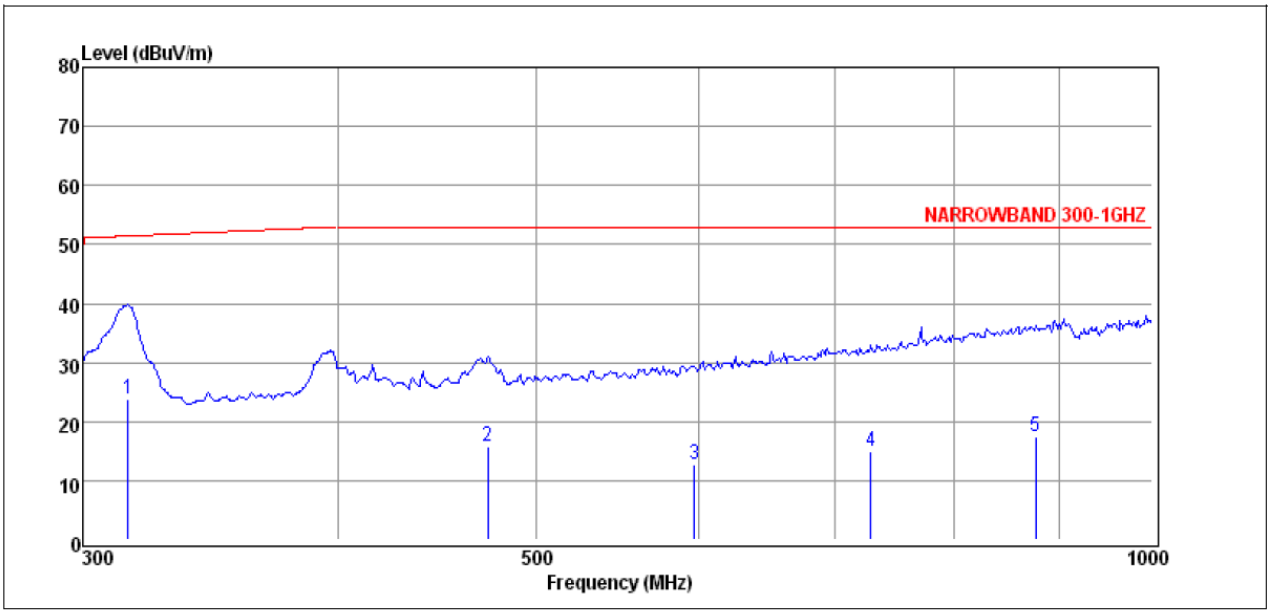
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 24V Narrowband - 300MHz to 1GHz – Horizontal

Model No. :	PY-9171-AW	**Temp/Humi** :	27.5℃ / 53%
Test Mode :	pm1	**Tested by** :	Sam Shen
Test Date :	2018/08/22	**Test Voltage** :	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	31.41	-7.54	23.87	51.44	-27.57	Average
473.47	19.49	-3.85	15.64	53.00	-37.36	Average
597.32	13.95	-1.24	12.71	53.00	-40.29	Average
728.59	13.34	1.67	15.01	53.00	-37.99	Average
877.01	13.10	4.36	17.46	53.00	-35.54	Average

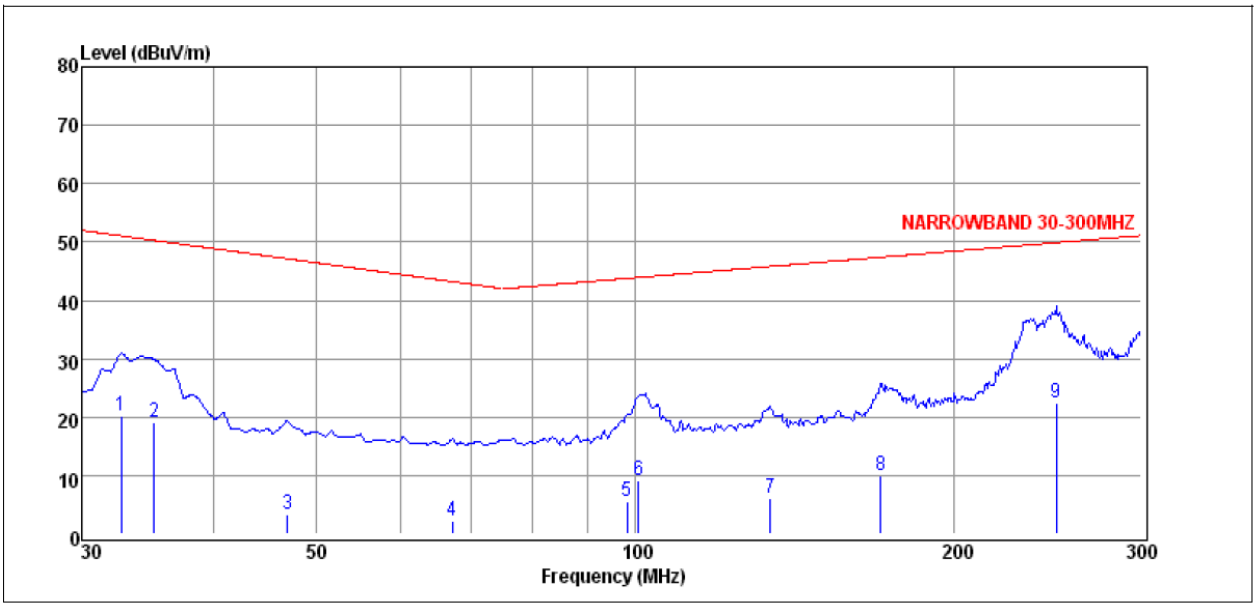
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 24V Narrowband - 30 to 300MHz – Vertical

Model No.	:	PY-9171-AW	**Temp/Humi**	:	27.5℃ / 53%
Test Mode	:	pm1	**Tested by**	:	Sam Shen
Test Date	:	2018/08/22	**Test Voltage**	:	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
32.67	34.09	-13.87	20.22	51.07	-30.85	Average
35.11	33.00	-13.91	19.09	50.28	-31.19	Average
46.89	17.21	-13.95	3.26	47.12	-43.86	Average
67.16	17.50	-15.33	2.17	43.20	-41.03	Average
98.20	19.70	-14.24	5.46	43.77	-38.31	Average
100.72	23.10	-14.08	9.02	43.94	-34.92	Average
134.01	18.50	-12.44	6.06	45.81	-39.75	Average
170.26	20.50	-10.57	9.93	47.39	-37.46	Average
249.53	27.80	-5.38	22.42	49.90	-27.48	Average

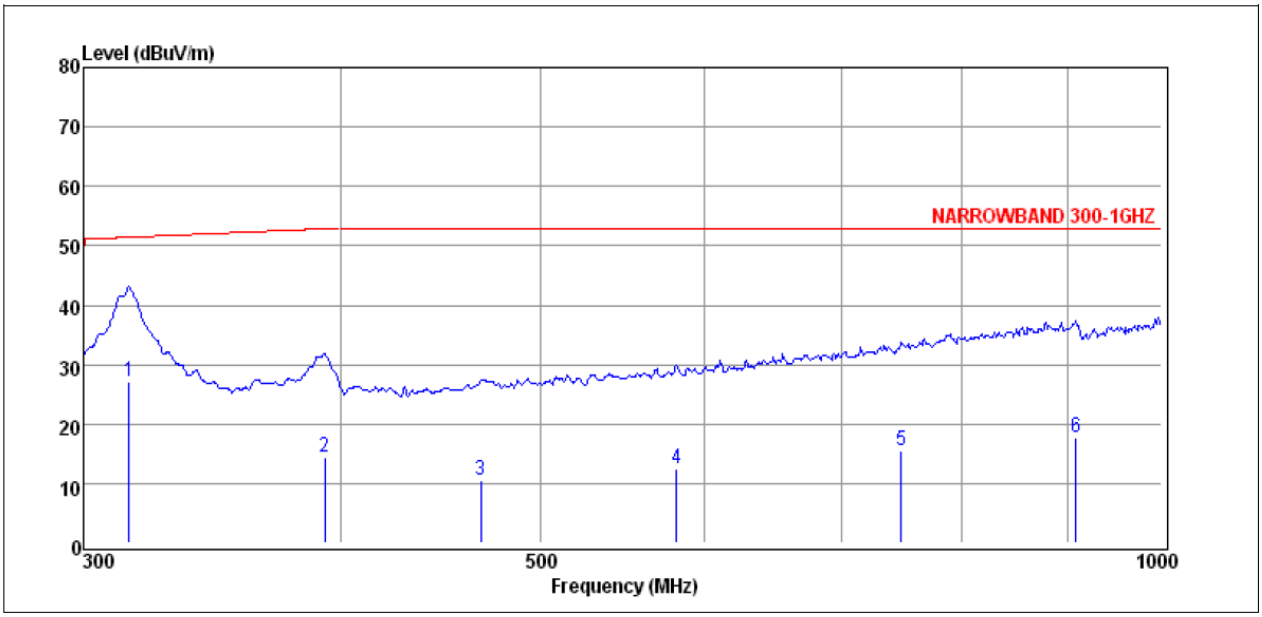
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

DC: 24V Narrowband - 300MHz to 1GHz – Vertical

Model No. :	PY-9171-AW	**Temp/Humi** :	27.5℃ / 53%
Test Mode :	pm1	**Tested by** :	Sam Shen
Test Date :	2018/08/22	**Test Voltage** :	27Vdc



Freq	Reading	C.F	Result	Limit	Margin	Detecter
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	QP/AV
315.56	34.61	-7.54	27.07	51.44	-24.37	Average
392.87	20.10	-5.80	14.30	52.88	-38.58	Average
467.80	14.52	-3.97	10.55	53.00	-42.45	Average
581.71	14.12	-1.58	12.54	53.00	-40.46	Average
748.15	13.34	2.03	15.37	53.00	-37.63	Average
909.27	12.98	4.79	17.77	53.00	-35.23	Average

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Decision : ■ Pass or □ Failed

Type	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X
Manufacturer	:	MANY WAIN ENTERPRISE CO., LTD.

Test results of Immunity Test:

Remarks: The subject ESA was concerned to provide with “immunity-related functions”. (Annex 9)

EUT	:	LED WARNING LAMP
Operation modes	:	PY-9171-AW ; DC 12 V and DC 24 V
Test method(1)	:	Bulk Current Injection (BCI) Test
Specified frequency range (1)	:	20 – 80 MHz
Tested frequency points (1)	:	27/45/65~~/90/120/150/190/230/280/380/450/600/750/900/1300/1800~~ MHz
Field strength(1)	:	60 mA

EUT	:	LED WARNING LAMP
Operation modes	:	PY-9171-AW ; DC 12 V and DC 24 V
Test method(2)	:	Absorber-Lined Shielded Enclosure Test
Specified frequency range (2)		80 – 2000 MHz
Tested frequency points (2)		~~27/45/65/~~90/120/150/190/230/280/380/450/600/750/900/1300/1800 MHz
Field strength (2)		30 V/m

Remarks: At the above mentioned frequency points the ESA did not exhibit any malfunction which would cause any degradation of performance which could cause confusion to other road users or any degradation in the driver’s direct control of a vehicle fitted with the system which could be observed by the driver or other road user.

Decision : ■ Pass or □ Failed

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

Test results of Immunity against disturbance conducted along supply line Test:

The tests were conducted by the method according to ISO 7637-2:2004 as described in Annex 10 and the functional status of the ESA after the tests complied with the levels shown in Table 2.

Remarks: The electromagnetic radiation of ESA has been tested under DC 12 V and DC 24 V input mode.

Normal Operation mode - (PY-9171-AW ; DC 12 V direct connected)

Test pulse number	Immunity test level	Functional status for systems		
		Related to immunity-related functions	Not related to immunity-related functions	**Test results**
1	III	C	D	C
2a	III	B	D	A
2b	III	C	D	C
3a	III	A	D	A
3b	III	A	D	A
4	III	C	D	C

Decision : ■ Pass or □ Failed

Normal Operation mode - (PY-9171-AW ; DC 24 V direct connected)

Test pulse number	Immunity test level	Functional status for systems		
		Related to immunity-related functions	Not related to immunity-related functions	**Test results**
1	III	C	D	C
2a	III	B	D	A
2b	III	C	D	C
3a	III	A	D	A
3b	III	A	D	A
4	III	C	D	A

Decision : ■ Pass or □ Failed

Type : PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X

Manufacturer : MANY WAIN ENTERPRISE CO., LTD.

Test results of Emission of conducted disturbance along supply line Test:

The tests were conducted by the method according to ISO 7637-2:2004 as described in Annex 10, and the pulse amplitudes were within the limits specified in Table 1

Remarks: The electromagnetic radiation of ESA has been tested under under DC 12 V and DC 24 V input mode.

Normal Operation mode - (PY-9171-AW ; DC 12 V direct connected)

Polarity of pulse amplitude		Maximum allowed pulse amplitude for vehicles with 12 V systems (V)	Test results	
			Slow pulse (V)	Fast pulse (V)
SW On-Off and SW Off-On	Positive	+ 75	15	14.875
	Negative	- 100	-13.875	-14.25

Decision : ■ Pass or □ Failed

Normal Operation mode - (PY-9171-AW ; DC 24 V direct connected)

Polarity of pulse amplitude		Maximum allowed pulse amplitude for vehicles with 24 V systems (V)	Test results	
			Slow pulse (V)	Fast pulse (V)
SW On-Off and SW Off-On	Positive	+ 150	17.125	16.75
	Negative	- 450	-27.625	-27.625

Decision : ■ Pass or □ Failed

A3 Information folder

1	Make (Trade name of the manufacturer)	:	MANY WAIN, SoundOff Signal
2	Type and general commercial description(s)	:	PY-9171-XX / EML6E20XX / PY-9171-X / EML6E20X X denotes the LED color : A (AMBER), B (BLUE), G (GREEN), R (RED), W (WHITE)
	commercial description	:	LED WARNING LAMP
	Version	:	Not applicable
3	Means of identification of the type if marked on the component ~~/separate technical unit~~	:	PY-9171-XX or EML6E20XX or PY-9171-X or EML6E20X
3.1	Location of that marking	:	Self-adhesive label, fixed on the cable of the product
4	Name and address of the manufacturer	:	MANY WAIN ENTERPRISE CO., LTD. No. 10, Lane 808, Chung Shan Rd., Shin Hwa Dist., 71243 Tainan, Taiwan
	Name and address of the Manufacturer's authorized representative, if any	:	Not applicable
5	In the case of components and separate technical units, location and method of affixing of the approval mark	:	Self-adhesive label, fixed on the cable of the product
6	Address(es) of the assembly plant(s)	:	MANY WAIN ENTERPRISE CO., LTD. No. 10, Lane 808, Chung Shan Rd., Shin Hwa Dist., 71243 Tainan, Taiwan
7	This ESA shall be approved as component/~~STU~~		
8	Any restrictions of use and conditions for fitting	:	Not applicable
9	Electrical system rated voltage	:	DC 12 V / 24 V, negative ground

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1. Additional information

1.2	This ESA can be used on any vehicle type with the following restrictions	:	Vehicles with 12 V DC and 24 V DC supply
1.2.1	Installation conditions, if any	:	Not applicable
1.3	This ESA can be used only on the following vehicle types	:	Not applicable
1.3.1	Installation conditions, if any	:	Not applicable
1.4	The specific test method(s) used and the frequency ranges covered to determine immunity were (please specify precise method used from Annex 9)	:	20-80 Mhz : Bulk Current Injection (BCI) Test 60 mA 80-2000 MHz : Free field method 30 V/m Modulation : AM (amplitude modulation), with 1 kHz modulation and 80 per cent modulation depth in the 20 to 800 MHz frequency range; PM (pulse modulation), t on 577 µs, period 4,600 µs in the 800 to 2,000 MHz frequency range.
1.5	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	:	TÜV NORD Mobilität GmbH & Co. KG IFM-Institut für Fahrzeugtechnik und Mobilität Schönscheidtstrasse 28, D-45307 Essen

2. Remarks:

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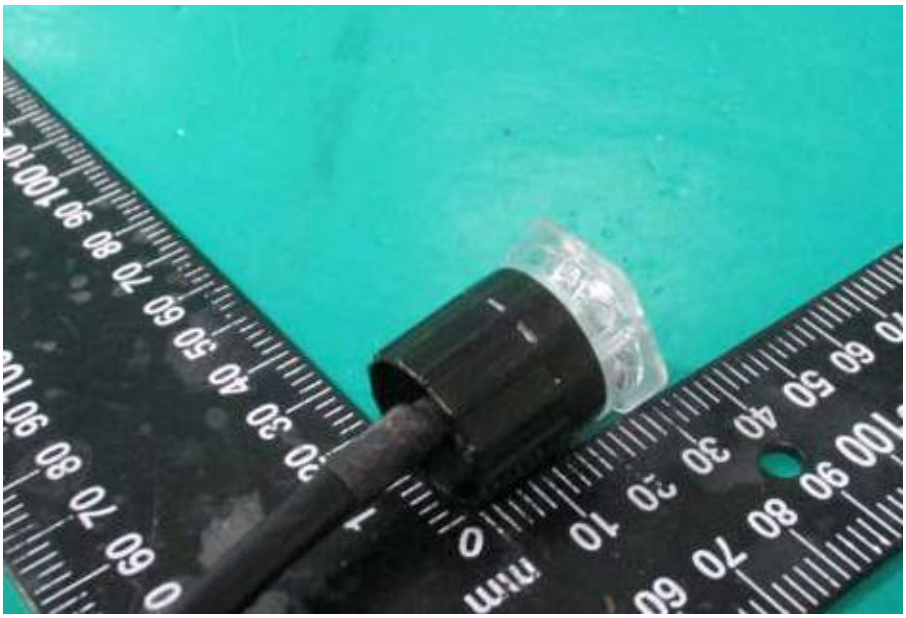
List of Annexes

Photos

Front View of EUT

Front View of EUT

Photos



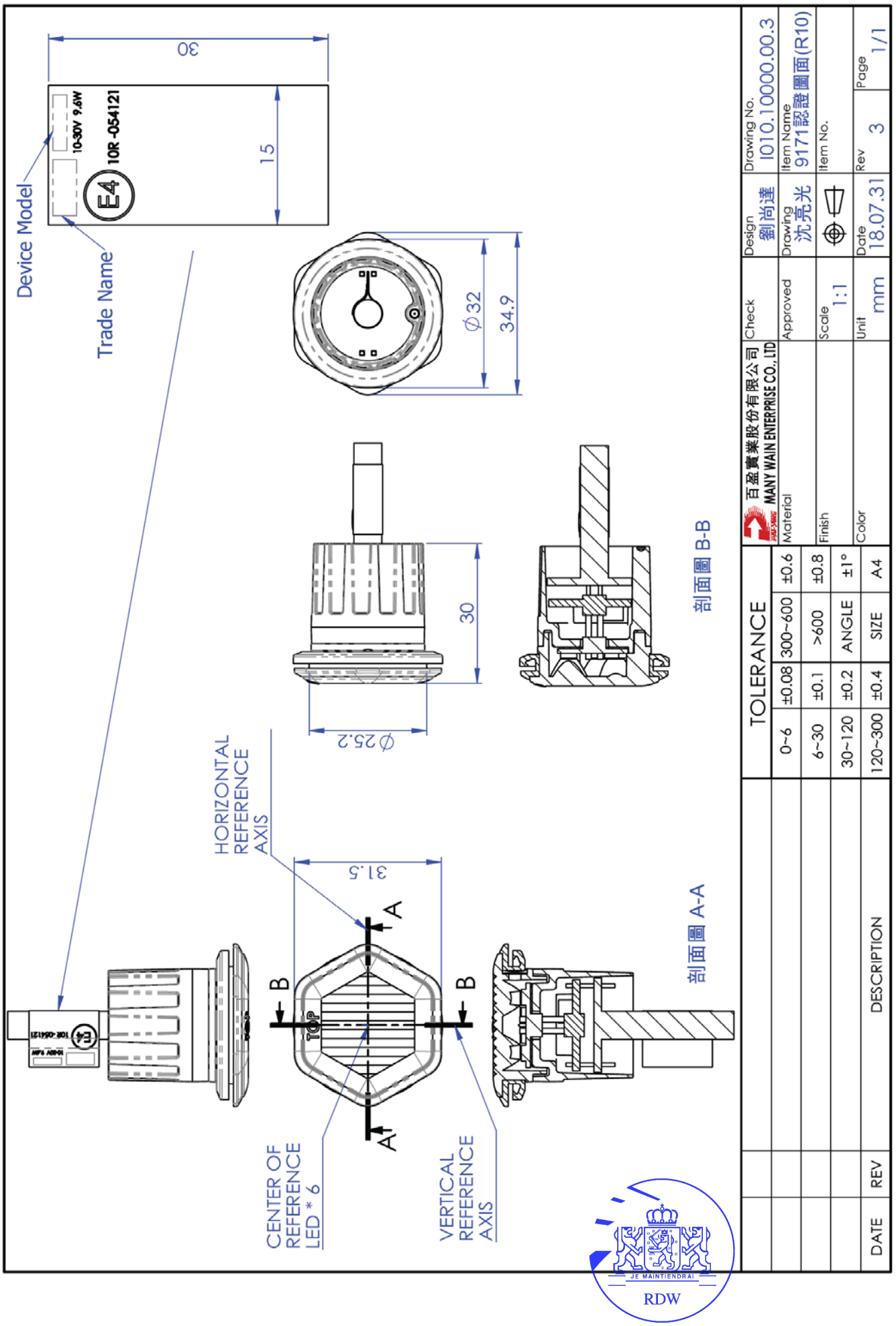
Back View of EUT

Connector View of EUT

Photos

Component View of EUT

Drawings


Device Model
Trade Name
30
15
E4
10R-054121
10-30V 9.6W
Ø32
34.9
30
Ø25.2
剖面圖 B-B
HORIZONTAL REFERENCE AXIS
31.5
A
A
B
B
TOP
剖面圖 A-A
CENTER OF REFERENCE LED * 6
VERTICAL REFERENCE AXIS
TOLERANCE
0~6 ±0.08
6~30 ±0.1
30~120 ±0.2
120~300 ±0.4
300~600 ±0.6
>600 ±0.8
ANGLE ±1°
SIZE A4
DATE
REV
DESCRIPTION
百盈實業股份有限公司 MANY WAIN ENTERPRISE CO., LTD
Material
Finish
Color
Check
Approved
Scale 1:1
Unit mm
Design 劉尚達
Drawing 沈亮光
Date 18.07.31
Drawing No. I010.10000.00.3
Item Name 9171認證圖面(R10)
Item No.
Rev 3
Page 1/1
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Specification_PY-9171-XX / EML6E20XX

MANY WAIN ENTERPRISE CO., LTD
SPECIFICATION

ITEM NO: PY-9171-XX / EML6E20XX X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
40 FLASH MODE	**Date**	2018/09/12
	Revision	2

PRODUCT DESCRIPTION	LED WARNING LIGHT DUAL COLOR, 6 x LED
LED COLOR	AMBER & WHITE / BLUE & WHITE / RED & WHITE / BLUE & AMBER / RED & AMBER / RED & BLUE / AMBER & GREEN
WIRE COLOR	FUNCTION
RED WIRE	VIN 1
PURPLE WIRE	VIN 2
BLACK WIRE	GND
BLUE WIRE	MODE CHANGE TOUCH GND / SYNC. 0~1 sec. NEXT PATTERN 1~3 sec. PREVIOUS PATTERN 3~5 sec. FACTORY DEFAULT(P1) OVER 5 sec. TEMPORARY OFF
WHITE WIRE	DIMMING TOUCH GND
STORAGE TEMP.	-40°C~+ 90°C
HUMIDITY	60%
OPERATION TEMP.	-30°C~+ 50°C
REGULATION	SAE J595 / EMI R10
OPERATION VOLTAGE	DC 10~30V

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Approved By: S. T. Liu	**Checked By: Y. F. CHEN**	**Made By: C. H. CHOU**

MANY WAIN ENTERPRISE CO., LTD

SPECIFICATION

ITEM NO: PY-9171-XX / EML6E20XX X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
40 FLASH MODE	**Date**	2018/09/12
	Revision	2

	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	AMBER (3 x LED)	P1	0.22A-0.30A	0.12A-0.17A
	WHITE (3 x LED)	P1	0.27A-0.37A	0.13A-0.18A

	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	BLUE (3 x LED)	P1	0.22A-0.30A	0.11A-0.16A
	WHITE (3 x LED)	P1	0.27A-0.37A	0.13A-0.18A

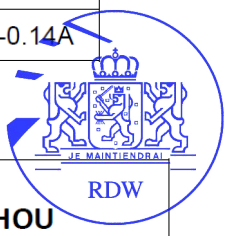
	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	RED (3 x LED)	P1	0.17A-0.24A	0.10A-0.14A
	WHITE (3 x LED)	P1	0.27A-0.37A	0.13A-0.18A

	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	BLUE (3 x LED)	P1	0.22A-0.30A	0.11A-0.16A
	AMBER (3 x LED)	P1	0.22A-0.30A	0.12A-0.17A

	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	RED (3 x LED)	P1	0.17A-0.24A	0.10A-0.14A
	AMBER (3 x LED)	P1	0.22A-0.30A	0.12A-0.17A

	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	RED (3 x LED)	P1	0.17A-0.24A	0.10A-0.14A
	BLUE (3 x LED)	P1	0.22A-0.30A	0.11A-0.16A

	LED COLOR	MODE	DC 12.8V	DC 25.6V
MAX CURRENT	AMBER (3 x LED)	P1	0.22A-0.30A	0.12A-0.17A
	GREEN (3 x LED)	P1	0.21A-0.29A	0.10A-0.14A



Approved By: S. T. Liu	**Checked By: Y. F. CHEN**	**Made By: C. H. CHOU**

MANY WAIN ENTERPRISE CO., LTD

SPECIFICATION

ITEM NO: PY-9171-XX / EML6E20XX X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
40 FLASH MODE	**Date**	2018/09/12
	Revision	2

FLASH PATTERN：

PATTERN NO.	DESCRIPTION	SYNC.	TIME	FACTORY DEFAULT
p1	SAE/T13 SAE/T13 Single 75FPM Ph1 Color 1 Synchronous Color 3	YES	800ms	●
p2	SAE/T13 SAE/T13 Single 75FPM Ph2 Color 1 Synchronous Color 3	YES	800ms	
p3	SAE/T13 Double 75FPM Ph1 Color 1 Synchronous Color 3	YES	800ms	
p4	SAE/T13 Double 75FPM Ph2 Color 1 Synchronous Color 3	YES	800ms	
p5	SAE/T13 Quad 75FPM Ph1 Color 1 Synchronous Color 3	YES	800ms	
p6	SAE/T13 Quad 75FPM Ph2 Color 1 Synchronous Color 3	YES	800ms	
p7	ECER65/SAE Single 120FPM Ph1 Color 1 Synchronous Color 3	YES	480ms	
p8	ECER65/SAE Single 120FPM Ph2 Color 1 Synchronous Color 3	YES	480ms	
p9	ECER65/SAE Double 120FPM Ph1 Color 1 Synchronous Color 3	YES	480ms	
p10	ECER65/SAE Double 120FPM Ph2 Color 1 Synchronous Color 3	YES	480ms	
p11	ECER65/SAE Quad 120FPM Ph1 Color 1 Synchronous Color 3	YES	480ms	
p12	ECER65/SAE Quad 120FPM Ph2 Color 1 Synchronous Color 3	YES	480ms	
p13	Steady burn-Color 1 & 3	NO	---ms	
m1	SAE/T13 Single 75FPM Ph1 Color 2 Synchronous Color 4	YES	800ms	
m2	SAE/T13 Single 75FPM Ph2 Color 2 Synchronous Color 4	YES	800ms	
m3	SAE/T13 Double 75FPM Ph1 Color 2 Synchronous Color 4	YES	800ms	
m4	SAE/T13 Double 75FPM Ph2 Color 2 Synchronous Color 4	YES	800ms	
m5	SAE/T13 Quad 75FPM Ph1 Color 2 Synchronous Color 4	YES	800ms	
m6	SAE/T13 Quad 75FPM Ph2 Color 2 Synchronous Color 4	YES	800ms	
m7	ECER65/SAE Single 120FPM Ph1 Color 2 Synchronous Color 4	YES	480ms	
m8	ECER65/SAE Single 120FPM Ph2 Color 2 Synchronous Color 4	YES	480ms	
m9	ECER65/SAE Double 120FPM Ph1 Color 2 Synchronous Color 4	YES	480ms	
m10	ECER65/SAE Double 120FPM Ph2 Color 2 Synchronous Color 4	YES	480ms	
m11	ECER65/SAE Quad 120FPM Ph1 Color 2 Synchronous Color 4	YES	480ms	
m12	ECER65/SAE Quad 120FPM Ph2 Color 2 Synchronous Color 4	YES	480ms	
m13	Steady burn-Color 2 & 4	NO	---ms	

Approved By: S. T. Liu	**Checked By: Y. F. CHEN**	**Made By: C. H. CHOU**

JE MAINTIENDRAI RDW

MANY WAIN ENTERPRISE CO., LTD

SPECIFICATION

ITEM NO: PY-9171-XX / EML6E20XX X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
40 FLASH MODE	**Date**	2018/09/12
	Revision	2

pm1	SAE/T13 Single 75FPM Ph1(Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	800ms	
pm2	SAE/T13 Single 75FPM Ph2(Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	800ms	
pm3	SAE/T13 Double 75FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	800ms	
pm4	SAE/T13 Double 75FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	800ms	
pm5	SAE/T13 Quad 75FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	800ms	
pm6	SAE/T13 Quad 75FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	800ms	
pm7	ECER65/SAE Single 120FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	480ms	
pm8	ECER65/SAE Single 120FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	480ms	
pm9	ECER65/SAE Double 120FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	480ms	
pm10	ECER65/SAE Double 120FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	480ms	
pm11	ECER65/SAE Quad 120FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	480ms	
pm12	ECER65/SAE Quad 120FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	YES	480ms	
pm13	Steady burn-Color 1 & 3	NO	---ms	
pm14	Steady burn-Color 2 & 4	NO	---ms	

JE MAINTIENDRAI

RDW

Approved By: S. T. Liu	Checked By: Y. F. CHEN	Made By: C. H. CHOU

Specification_PY-9171-X / EML6E20X

MANY WAIN ENTERPRISE CO., LTD
SPECIFICATION

ITEM NO: PY-9171-X / EML6E20X X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
19 FLASH MODE	**Date**	2018/09/12
	Revision	2

PRODUCT DESCRIPTION	LED WARNING LIGHT SINGLE COLOR, 6 x LED
LED COLOR	AMBER/WHITE/GREEN/RED/BLUE
WIRE COLOR	FUNCTION
RED WIRE	VIN
BLACK WIRE	GND
BLUE WIRE	MODE CHANGE TOUCH GND / SYNC. 0~1 sec. NEXT PATTERN 1~3 sec. PREVIOUS PATTERN 3~5 sec. FACTORY DEFAULT(P1) OVER 5 sec. TEMPORARY OFF
WHITE WIRE	DIMMING TOUCH GND
STORAGE TEMP.	-40°C~+ 90°C
HUMIDITY	60%
OPERATION TEMP.	-30°C~+ 50°C
REGULATION	SAE J595 / ECE R65 CLASS 1 / EMI R10
OPERATION VOLTAGE	DC 10~30V

JE MAINTIENDRAI
RDW

Approved By: S. T. Liu	**Checked By: Y. F. CHEN**	**Made By: C. H. CHOU**

MANY WAIN ENTERPRISE CO., LTD

SPECIFICATION

ITEM NO: PY-9171-X / EML6E20X X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
19 FLASH MODE	**Date**	2018/09/12
	Revision	2

MAX CURRENT	LED COLOR	MODE	DC 12.8V	DC 25.6V
	AMBER	P1	0.43A-0.59A	0.22A-0.31A

MAX CURRENT	LED COLOR	MODE	DC 12.8V	DC 25.6V
	BLUE	P1	0.43A-0.59A	0.22A-0.31A

MAX CURRENT	LED COLOR	MODE	DC 12.8V	DC 25.6V
	WHITE	P1	0.55A-0.75A	0.27A-0.37A

MAX CURRENT	LED COLOR	MODE	DC 12.8V	DC 25.6V
	GREEN	P1	0.55A-0.75A	0.27A-0.37A

MAX CURRENT	LED COLOR	MODE	DC 12.8V	DC 25.6V
	RED	P1	0.34A-0.47A	0.18A-0.25A

JE MAINTIENDRAI
RDW

Approved By: S. T. Liu	**Checked By: Y. F. CHEN**	**Made By: C. H. CHOU**

MANY WAIN ENTERPRISE CO., LTD

SPECIFICATION

ITEM NO: PY-9171-X / EML6E20X X= A(AMBER), B(BLUE), G(GREEN), R(RED), W(WHITE) [X denotes the LED color]	**File No.**	
19 FLASH MODE	**Date**	2018/09/12
	Revision	2

FLASH PATTERN：

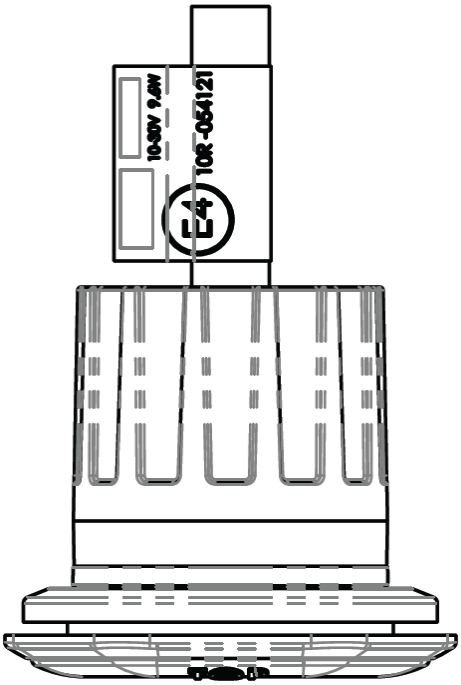
PATTERN NO.	DESCRIPTION	SYNC.	TIME	FACTORY DEFAULT
P1	Single Flash 75FPM sim. Phase1	YES	800ms	●
P2	Single Flash 75FPM sim. Phase2	YES	800ms	
P3	Single Flash 75FPM Alt.	YES	800ms	
P4	Double Flash 75FPM sim. Phase1	YES	800ms	
P5	Double Flash 75FPM sim. phase2	YES	800ms	
P6	Double Flash 75FPM Alt.	YES	800ms	
P7	Quad Flash 75FPM sim. Phase1	YES	800ms	
P8	Quad Flash 75FPM sim. Phase2	YES	800ms	
P9	Quad Flash 75FPM Alt.	YES	800ms	
P10	Single Flash 120FPM sim. Phase1	YES	480ms	
P11	Single Flash 120FPM sim. phase2	YES	480ms	
P12	Single Flash 120FPM Alt.	YES	480ms	
P13	Double Flash 120FPM sim. Phase1	YES	480ms	
P14	Double Flash 120FPM sim. phase2	YES	480ms	
P15	Double Flash 120FPM Alt.	YES	480ms	
P16	Quad Flash 150FPM sim. Phase1	YES	400ms	
P17	Quad Flash 150FPM sim. Phase2	YES	400ms	
P18	Quad Flash 150FPM Alt.	YES	400ms	
P19	Steady Burn	NO	---ms	

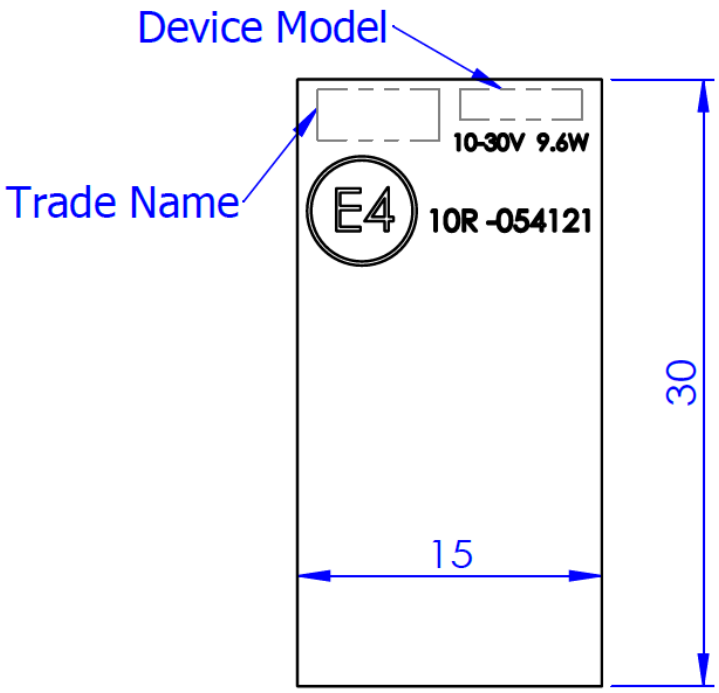
JE MAINTIENDRAI

RDW

Approved By: S. T. Liu	**Checked By: Y. F. CHEN**	**Made By: C. H. CHOU**

Location of the marking and approval No.





INSTALLATION & OPERATION MANUAL
PY-9171 HIDE-A BLAST

Introduction

A new generation hide-a-blast has unit-in-one design concept which has six high intensity LED per module and controller also incl. inside of unit
Color options of individual LED module: Amber, Blue, Green, Red and White.
Lens options: clear
Power options: 10 inch cable cord.

Features and Specification

Operating Voltage: DC11V-30V,Reverse Polarity Protected
Current Value: 0.67 A (MAX)

Setting the Flash Pattern

Direct wire with 4 wires cable cord:

Connect blue wire to black wire(chassis ground)
-Less than 1 second for the **NEXT** pattern
-1 to 3 seconds for the **PREVIOUS** pattern
-3 to 5 seconds for the **Factory Default** pattern (P1)
-Greater than 5 seconds to **TURN OFF** the device

COLOR	FUNCTION	CONNECT TO
Red	Power	+VDC
Black	Ground	Chassis Ground
Blue	Pattern Switching	Chassis Ground to Activate
	Synchronization	Connect up to 6 see flash pattern modes
White	Dimming to 30%	Chassis Power to Activate

Flash Patterns Modes- Single Color

PATTERN	Mode	Sync.	Timing	Default
P1	Single Flash 75FPM sim. Phase1	Sync.	800ms	●
P2	Single Flash 75FPM sim. Phase2	Sync.	800ms	
P3	Single Flash 75FPM Alt.	Sync.	800ms	
P4	Double Flash 75FPM sim. Phase1	Sync.	800ms	
P5	Double Flash 75FPM sim. phase2	Sync.	800ms	
P6	Double Flash 75FPM Alt.	Sync.	800ms	
P7	Quad Flash 75FPM sim. Phase1	Sync.	800ms	
P8	Quad Flash 75FPM sim. Phase2	Sync.	800ms	
P9	Quad Flash 75FPM Alt.	Sync.	800ms	
P10	Single Flash 120FPM sim. Phase1	Sync.	480ms	
P11	Single Flash 120FPM sim. phase2	Sync.	480ms	
P12	Single Flash 120FPM Alt.	Sync.	480ms	
P13	Double Flash 120FPM sim. Phase1	Sync.	480ms	
P14	Double Flash 120FPM sim. phase2	Sync.	480ms	
P15	Double Flash 120FPM Alt.	Sync.	480ms	
P16	Quad Flash 150FPM sim. Phase1	Sync.	400ms	
P17	Quad Flash 150FPM sim. Phase2	Sync.	400ms	
P18	Quad Flash 150FPM Alt.	Sync.	400ms	
P19	Steady Burn	No Sync.	---ms	

Setting the Flash Pattern-

Direct wire with 5 wires cable cord:

Connect blue wire to black wire(chassis ground)
-Less than 1 second for the **NEXT** pattern
-1 to 3 seconds for the **PREVIOUS** pattern
-3 to 5 seconds for the **Factory Default** pattern (P1)
-Greater than 5 seconds to **TURN OFF** the device

COLOR	FUNCTION	CONNECT TO
Red	Power	+VDC- color 1
Purple	Power	+VDC- color 2
Black	Ground	Chassis Ground
Blue	Pattern Switching	Chassis Ground to Activate
	Synchronization	Connect up to 6 see flash pattern modes
White	Dimming to 30%	Chassis Power to Activate

Flash Patterns Modes- Dual Color

PATTERN	Mode	Sync.	Timing	Default
p1	SAE/T13 SAE/T13 Single 75FPM Ph1 Color 1 Synchronous Color 3	Sync.	800ms	●
p2	SAE/T13 SAE/T13 Single 75FPM Ph2 Color 1 Synchronous Color 3	Sync.	800ms	
p3	Single 120FPMFPM Ph1 Color 1 Synchronous Color 3	Sync.	480ms	
p4	Single 120FPMFPM Ph2 Color 1 Synchronous Color 3	Sync.	480ms	
p5	SAE/T13 Double 75FPM Ph1 Color 1 Synchronous Color 3	Sync.	800ms	
p6	SAE/T13 Double 75FPM Ph2 Color 1 Synchronous Color 3	Sync.	800ms	
p7	ECER65/SAE Double 120FPM Ph1 Color 1 Synchronous Color 3	Sync.	480ms	
p8	ECER65/SAE Double 120FPM Ph2 Color 1 Synchronous Color 3	Sync.	480ms	
p9	SAE/T13 Quad 75FPM Ph1 Color 1 Synchronous Color 3	Sync.	800ms	
p10	SAE/T13 Quad 75FPM Ph2 Color 1 Synchronous Color 3	Sync.	800ms	
p11	ECER65/SAE Quad 120FPM Ph1 Color 1 Synchronous Color 3	Sync.	480ms	
p12	ECER65/SAE Quad 120FPM Ph2 Color 1 Synchronous Color 3	Sync.	480ms	
p13	Steady burn-Color 1 & 3	No Sync.	---ms	
m1	SAE/T13 Single 75FPM Ph1 Color 2 Synchronous Color 4	Sync.	800ms	
m2	SAE/T13 Single 75FPM Ph2 Color 2 Synchronous Color 4	Sync.	800ms	
m3	Single 120FPMFPM Ph1 Color 2 Synchronous Color 4	Sync.	480ms	
m4	Single 120FPMFPM Ph2 Color 2 Synchronous Color 4	Sync.	480ms	
m5	SAE/T13 Double 75FPM Ph1 Color 2 Synchronous Color 4	Sync.	800ms	
m6	SAE/T13 Double 75FPM Ph2 Color 2 Synchronous Color 4	Sync.	800ms	
m7	ECER65/SAE Double 120FPM Ph1 Color 2 Synchronous Color 4	Sync.	480ms	
m8	ECER65/SAE Double 120FPM Ph2 Color 2 Synchronous Color 4	Sync.	480ms	
m9	SAE/T13 Quad 75FPM Ph1 Color 2 Synchronous Color 4	Sync.	800ms	
m10	SAE/T13 Quad 75FPM Ph2 Color 2 Synchronous Color 4	Sync.	800ms	
m11	ECER65/SAE Quad 120FPM Ph1 Color 2 Synchronous Color 4	Sync.	480ms	
m12	ECER65/SAE Quad 120FPM Ph2 Color 2 Synchronous Color 4	Sync.	480ms	
m13	Steady burn-Color 2 & 4	No Sync.	---ms	
pm1	SAE/T13 Single 75FPM Ph1(Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	800ms	
pm2	SAE/T13 Single 75FPM Ph2(Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	800ms	
pm3	Single 120FPMFPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	480ms	
pm4	Single 120FPMFPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	480ms	
pm5	SAE/T13 Double 75FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	800ms	
pm6	SAE/T13 Double 75FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	800ms	
pm7	ECER65/SAE Double 120FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	480ms	
pm8	ECER65/SAE Double 120FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	480ms	
pm9	SAE/T13 Quad 75FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	800ms	
pm10	SAE/T13 Quad 75FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	800ms	
pm11	ECER65/SAE Quad 120FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	480ms	
pm12	ECER65/SAE Quad 120FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	Sync.	480ms	
pm13	Steady burn-Color 1 & 3	No Sync.	---ms	
pm14	Steady burn-Color 2 & 4	No Sync.	---ms	

BOM_PY-9171-XX / EML6E20XX

單頭資料

主件品號	品名	規格
BCM-9171X-0-04	PY-9171 控制板 PCBA加工	雙色 6股線(紅/黑/紫/藍/白/黃) 350mm

單身資料

BOM用量資料建立作業

序號	元件品號	品名	規格
0010	ACPCB-9167M02	PY-9167 MAIN PCB REV.B D201708012	A17029S2 20.3*20.3mm FR4 1.6T 無鉛噴錫 黑底白字 (20連板)
0020	ACRESSM-0402001K	RESISTOR 電阻	0402 SMD 1K 5%
0030	ACDIO-1N4148WS	DIODE 二極體	1N4148WS SOD-323
0040	ACRESSM-040204K7	RESISTOR 電阻	0402 SMD 4.7K 5%
0050	ACRESSM-040206K8	RESISTOR 電阻	0402 SMD 6.8K 5%
0060	ACRESSM-0402010K	RESISTOR 電阻	0402 SMD 10K 5%
0070	ACRESSM-0603010K	RESISTOR 電阻	0603 SMD 10K 5%
0080	ACCAPS04-50V104	電容 SMD 0402	104(0.1uF)/50V X7R
0090	ACCAPS06-50V105	電容 SMD 0603	105(1uF)/50V X5R
0100	ACRESSM-0603220R	RESISTOR 電阻	0603 SMD 220R 5%
0110	ACCAPS12-50V475	電容 SMD 1206	475(4.7uF)/50V X7R
0120	ACTRA-MMBT2222A-01	TRANSISTOR 電晶體	MMBT2222A (ON) 600mA/40V AEC-Q101 NPN SOT-23
0130	ACTRA-MMBT2907-01	TRANSISTOR 電晶體	MMBT2907ALT(ON)500mA AEC-Q101 PNP SOT-23
0140	ACDIO-MMSZ5V1	ZENER 齊納二極體	MMSZ5V1 5.1V SOD-123
0150	ACS-16F1824V7-001	TSSOP PIC16F1824 (橘色漆)	CODE:V7 PY-9171 DC v3 D20180329.HEX
0160	ACDIO-SMF33A	DIODE 二極體	SMF33A SOD-123FL(3K/捲)
0170	ACXICS-L78L05	SMD IC	L78L05 (UTC) SOT-89
0180	ACDIO-SS2060FL	DIODE 二極體	SS2060FL SOD-123FL
0190	BCAK356	2103 6股線 AWG#20 *350mm	脫15mm剝12mm/脫50mm剝10mm
0200	ABBD210	熱縮套管(黑)(含膠)	φ6.4x50mm

單身資料

BOM用量資料建立作業

單位	組成用量	插件位置1
PC	1	
PC	3	R13.R14.R15
PC	3	D3.D4.D6
PC	3	R4.R5.R20
PC	2	R17.R18
PC	8	R6-R12.R16
PC	2	R2.R3
PC	3	C2.C3.C4
PC	2	C5.C6
PC	1	R19
PC	1	C1
PC	1	Q2
PC	1	Q1
PC	3	DZ1.DZ3.DZ4
PC	1	U1
PC	1	TZ1
PC	1	U2
PC	2	D1,D2
PC	1	紅:R,黑:GND,紫:W,藍:Y,白:B,黃線剪掉,背面出線(剪腳不超過1mm)
PC	1	

BOM_PY-9171-X / EML6E20X

單頭資料

主件品號	品名	規格
BCM-9171X-0-03	PY-9171 控制板 PCBA加工	單色 4股線(紅/黑/藍/白) 330mm

BOM用量資料建立作業　　單身資料

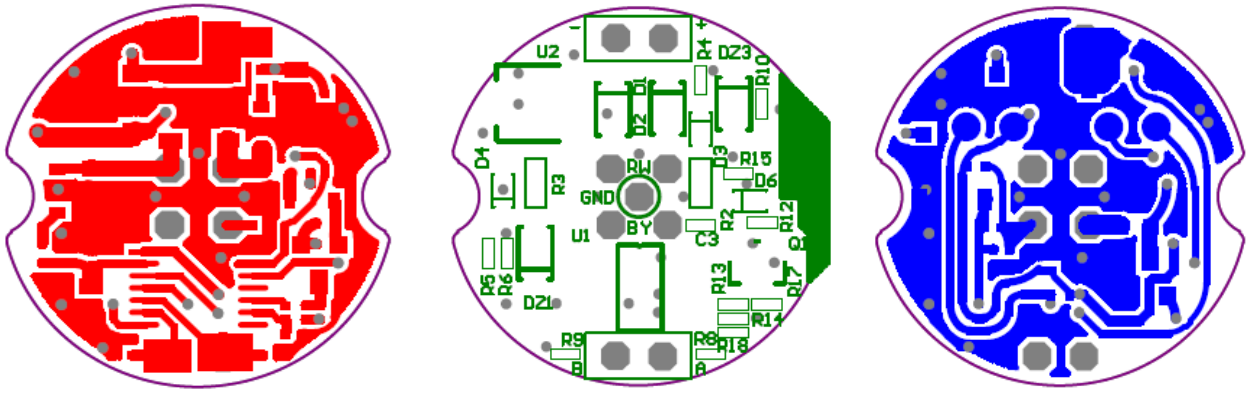
序號	元件品號	品名
0010	ACPCB-9167M01	(庫存用完,改ACPCB-9167M02)PY-9167 MAIN PCB REV.A D20170522
0020	ACRESSM-0402001K	RESISTOR 電阻
0030	ACDIO-1N4148WS	DIODE 二極體
0040	ACRESSM-040204K7	RESISTOR 電阻
0050	ACRESSM-040206K8	RESISTOR 電阻
0060	ACRESSM-0402010K	RESISTOR 電阻
0070	ACRESSM-0603010K	RESISTOR 電阻
0080	ACCAPS04-50V104	電容 SMD 0402
0090	ACCAPS06-50V105	電容 SMD 0603
0100	ACRESSM-0603220R	RESISTOR 電阻
0110	ACCAPS12-50V475	電容 SMD 1206
0120	ACTRA-MMBT2222A-01	TRANSISTOR 電晶體
0130	ACTRA-MMBT2907-01	TRANSISTOR 電晶體
0140	ACDIO-MMSZ5V1	ZENER 濟納二極體
0150	ACS-16F1824V6-001	TSSOP PIC16F1824 (橘色漆)
0160	ACDIO-SMF33A	DIODE 二極體
0170	ACXICS-L78L05	SMD IC
0180	ACDIO-SS2060FL	DIODE 二極體
0190	BCAK354	2103 4股線(紅黑藍白),1007#20 *330mm
0200	ABBD210	熱縮套管(黑)(含膠)

BOM用量資料建立作業　　單身資料

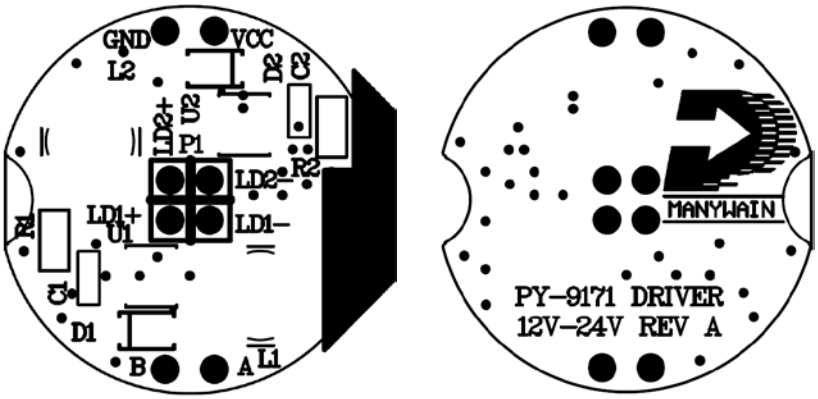
規格	單位	組成用量	插件位置1
A16864S2 20.3*20.3mm FR4 1.6T 無鉛噴錫 黑底白字 (20連板)	PC	1	
0402 SMD 1K 5%	PC	3	R13.R14.R15
1N4148WS SOD-323	PC	3	D3.D4.D6
0402 SMD 4.7K 5%	PC	3	R4.R5.R20
0402 SMD 6.8K 5%	PC	2	R17.R18
0402 SMD 10K 5%	PC	8	R6-R12.R16
0603 SMD 10K 5%	PC	2	R2.R3
104(0.1uF)/50V X7R	PC	3	C2.C3.C4
105(1uF)/50V X5R	PC	2	C5.C6
0603 SMD 220R 5%	PC	1	R19
475(4.7uF)/50V X7R	PC	1	C1
MMBT2222A (ON) 600mA/40V AEC-Q101 NPN SOT-23	PC	1	Q2
MMBT2907ALT(ON)500mA AEC-Q101 PNP SOT-23	PC	1	Q1
MMSZ5V1 5.1V SOD-123	PC	3	DZ1.DZ3.DZ4
CODE:V6 PY-9171 SC v3 D20180323.HEX	PC	1	U1
SMF33A SOD-123FL(3K/捲)	PC	1	TZ1
L78L05 (UTC) SOT-89	PC	1	U2
SS2060FL SOD-123FL	PC	2	D1.D2
脫50mm*剝10mm/脫10mm*剝5mm	PC	1	紅:R,黑:GND,藍:Y,白:B 背面出線(剪腳不超過1mm)
φ6.4x50mm	PC	1	

PCB Layout

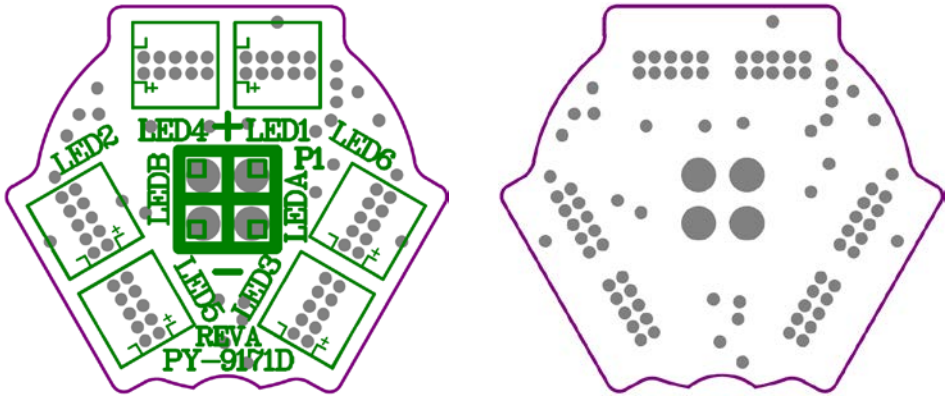
Main board



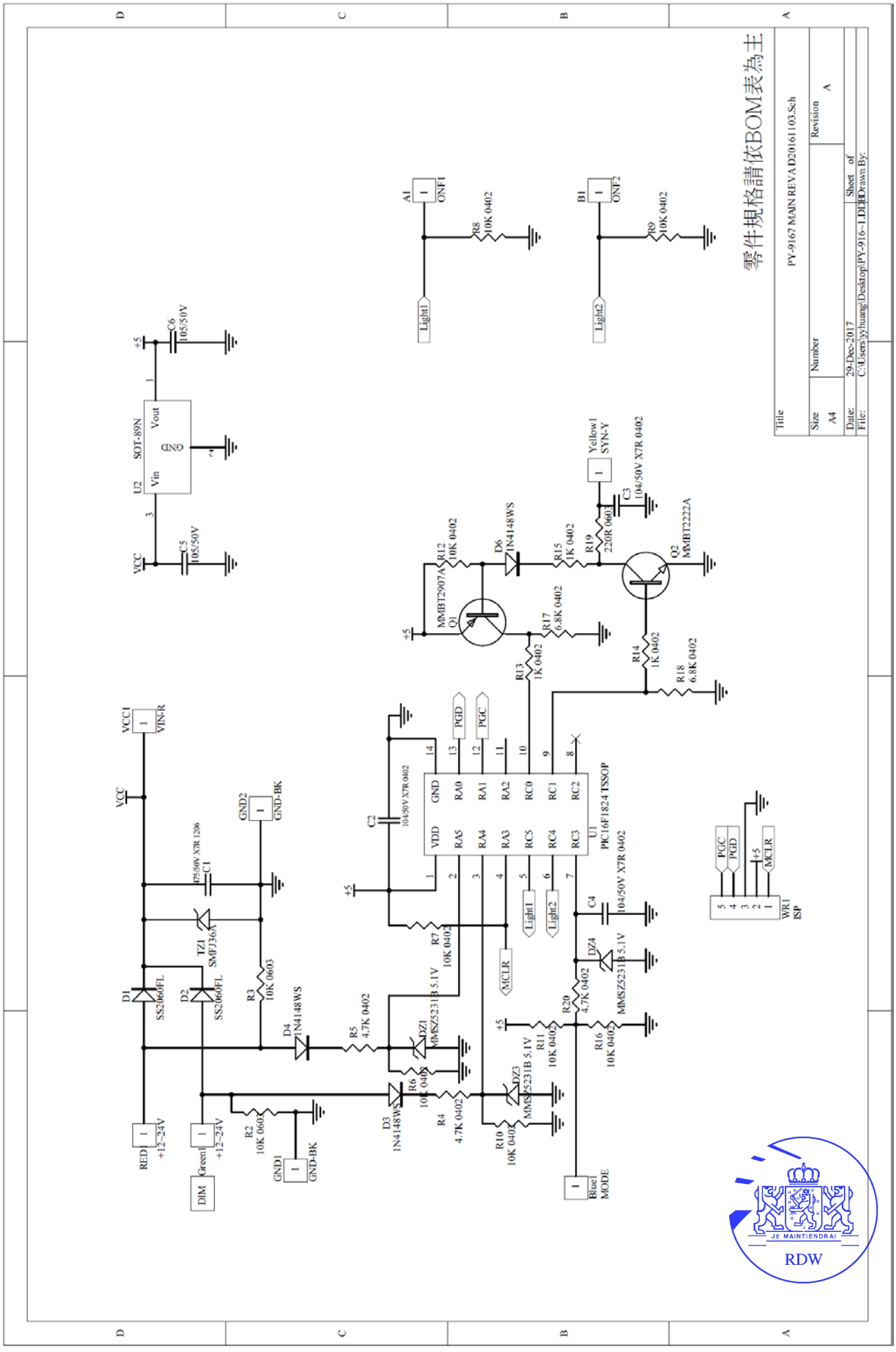
Driver board



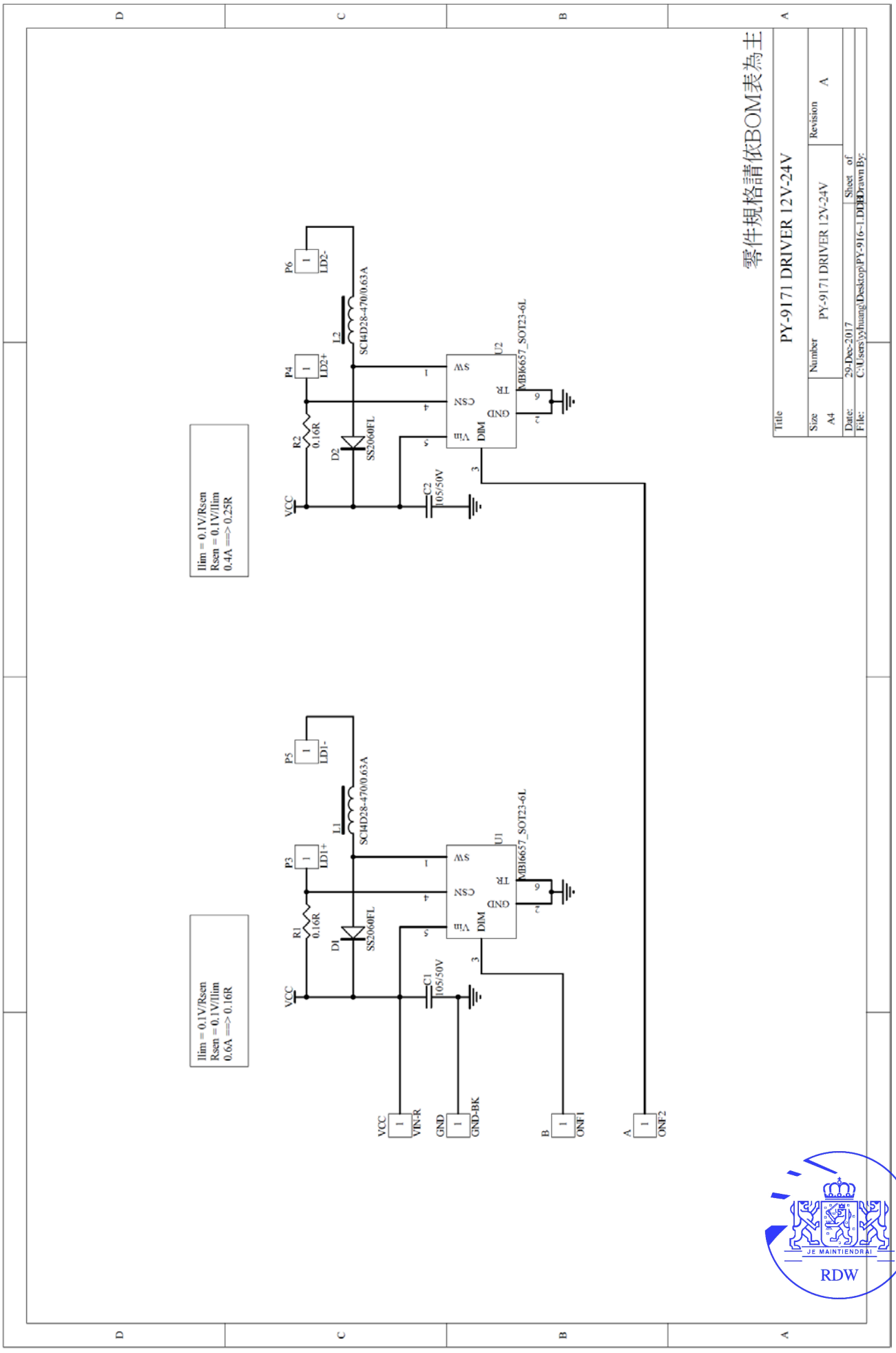
LED board



Circuit Diagrams_Main board



Circuit Diagrams_Driver board



Circuit Diagrams_LED board