



SIRIM QAS International Sdn. Bhd.
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TEST REPORT

REPORT NO.: 2021EA0083

PAGE : 1 OF 15

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THIS TEST REPORT IS ISSUED IN SECURED PDF SOFTCOPY

Applicant : SUPERGREENPLANET SDN. BHD.
A-31-1, JALAN 2/124A, BLOCK A,
MEGAN PHOENIX BUSINESS PARK,
56000, KUALA LUMPUR, MALAYSIA.

Manufacturer : SUPERGREENPLANET SDN. BHD.
A-31-1, JALAN 2/124A, BLOCK A,
MEGAN PHOENIX BUSINESS PARK,
56000, KUALA LUMPUR, MALAYSIA.

Product : DEMAND CONTROL DRIVES (DCD)

Reference Standard /
Test Method : Manufacturer Specification

Description of sample : Brand : Green Planet DCD
: Model : GEN3

Date received : 28 OCTOBER 2020

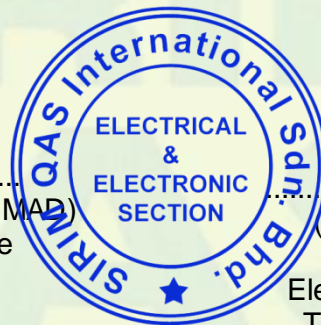
Job No. : J20201421381

Overall test result : **COMPLIED** (See page 2 for details)

Issue date : 22 JANUARY 2021

Approved Signatories :

(MOHAMAD ASNAN BIN AHMAD)
Senior Testing Executive



(M.ZAMRI BIN MUSTAFFA)
Head
Electrical & Electronic 1 Section
Testing Services Department

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SUMMARY OF TEST:

1. This is a partial test report as requested by the applicant.
2. The samples submitted for testing has been checked in accordance to Manufacturer specification.
3. This innovation product is as specified below;
 - a. Control the electrical power demand by maintaining the desired output. So, the power consumption reduced and indirectly reduced the carbon dioxide emission.
4. Unless otherwise specified, the tests were carried out at ambient temperature of 25 ± 5 °C at voltages of 240V, 50 Hz.
5. The abbreviation used in this test report denotes as follows:-
Pass - Complied with the requirement
NA - Not applicable with the requirement
Fail - Did not comply with the requirement
6. Simple Acceptance Rule is used for the conformity statement. The level of risk regarding the Probability of False Accept is up to 50%. Reference document for Simple Acceptance Rule is ILAC G8:09

SUMMARY OF RESULT:

The submitted test samples as described in this test report complied with the requirements of manufacturer specification.

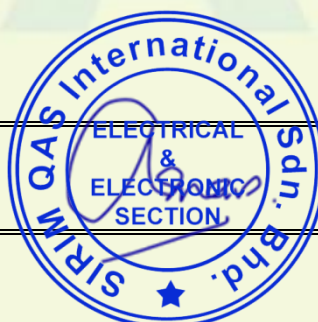
ADDITIONAL INFORMATION:

1. Tested by : Mr. Danial Naim bin Mat Rashid
2. Checked by: Mr. Mohamad Asnan bin Ahmad
3. Date of test sample(s) received;
 - a) 1st submission : 28 OCTOBER 2020
4. Date of test performed : 24 NOVEMBER 2020 to 07 DECEMBER 2020



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Clause	Requirement – Test	Result - Remark	Verdict
	<u>Manufacture spec.</u>		
	Testing location	AHU room, Level 2, GLO Damansara, 699, Jalan Damansara, Taman Tun Dr. Ismail, 60000, Kuala Lumpur.	Pass
	Duration of testing	7 days without DCD (24-30 NOV 2020) and 7 days with DCD (1-7 DEC 2020)	Pass
	Total power consumption for 7 days without DCD	944.58 kWh	Pass
	Total power consumption for 7 days with DCD	440.06 kWh	Pass
	Average daily power consumption without DCD	134.94 kWh	Pass
	Average daily power consumption with DCD	62.87 kWh	Pass
	Average daily power consumption reduced	72.07 kWh	Pass
	Average daily power consumption reduced in percentage	54.28%	Pass
	Yearly carbon saved	18257.14 kg	Pass
	CO ₂ Emissions	0.694 kg CO ₂ 0.694 per kW <i>(Source: GreenTech Malaysia)</i>	Pass
	Temperature and humidity recorder	Located at 2 places	Pass
	Temperature and humidity maintain after installation of the DCD	Refer Graph 3, 4, 5 & 6 and table 2 & 3	Pass
	Verification by SIRIM using Power Quality Analyser	Refer Figure 1-8	Pass



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Table 1: Daily power consumption data

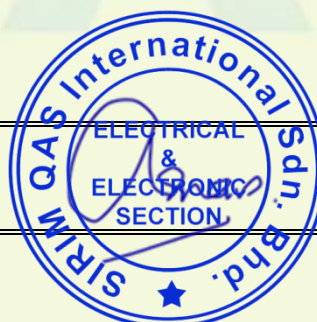
Date	Without DCD (kWh)	Date	With DCD (kWh)	Saved (kWh)	Carbon Saved (kg)
11/24/20	189.16	12/1/2020	58.43	130.73	90.73
11/25/20	125.77	12/2/2020	61.73	64.04	44.44
11/26/20	125.98	12/3/2020	60.61	65.37	45.37
11/27/20	125.53	12/4/2020	64.29	61.24	42.50
11/28/20	126.12	12/5/2020	64.74	61.38	42.60
11/29/20	125.89	12/6/2020	66.89	59	40.95
11/30/20	126.13	12/7/2020	63.37	62.76	43.56

Table 2: Average Temperature Recorded Daily

Date	Without DCD (°C)	Date	With DCD (°C)	Different (°C)
11/24/20	24.60	12/1/2020	24.92	+0.32
11/25/20	24.56	12/2/2020	24.96	+0.40
11/26/20	24.70	12/3/2020	24.93	+0.23
11/27/20	24.60	12/4/2020	25.16	+0.56
11/28/20	24.84	12/5/2020	25.17	+0.33
11/29/20	24.71	12/6/2020	25.18	+0.47
11/30/20	24.81	12/7/2020	25.13	+0.32

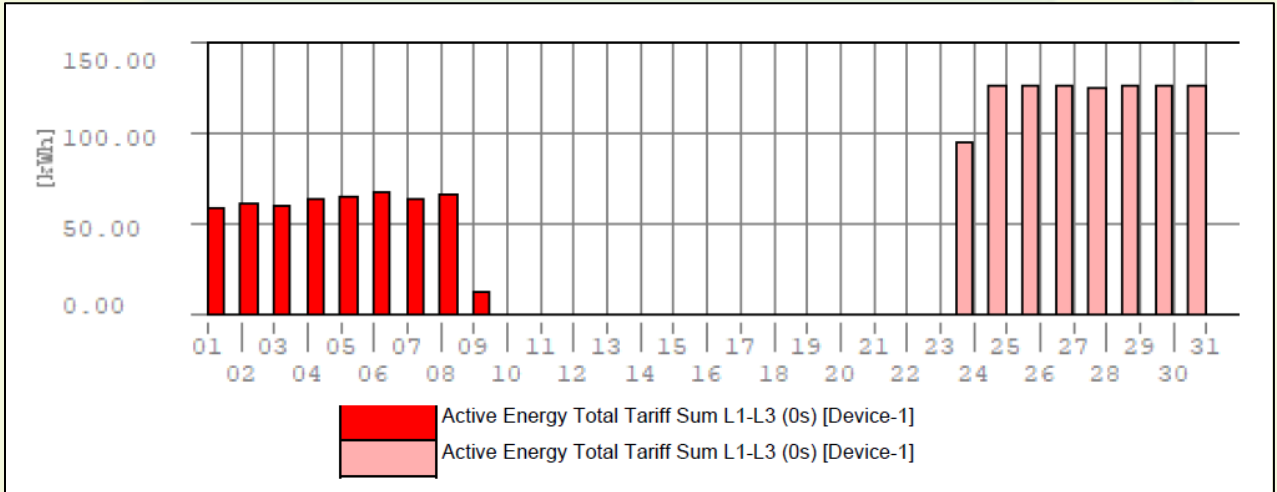
Table 3: Average Humidity Recorded Daily

Date	Without DCD (%)	Date	With DCD (%)	Different (%)
11/24/20	77.71	12/1/2020	77.27	-0.44
11/25/20	76.00	12/2/2020	76.07	+0.07
11/26/20	75.80	12/3/2020	76.50	+0.70
11/27/20	79.30	12/4/2020	74.99	-4.31
11/28/20	82.92	12/5/2020	74.41	-8.51
11/29/20	77.24	12/6/2020	72.68	-4.56
11/30/20	77.70	12/7/2020	76.78	-0.92

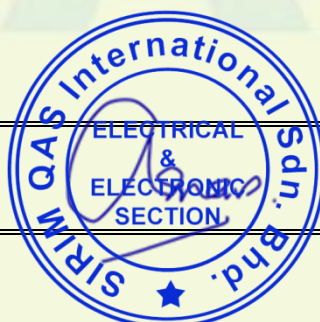
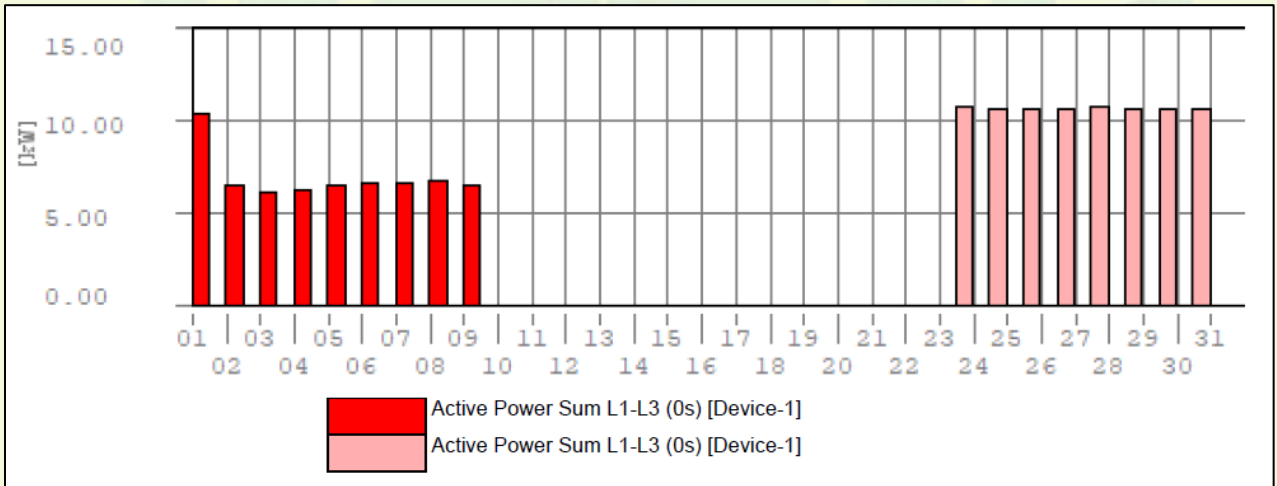


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Graph 1: Active Energy Comparison

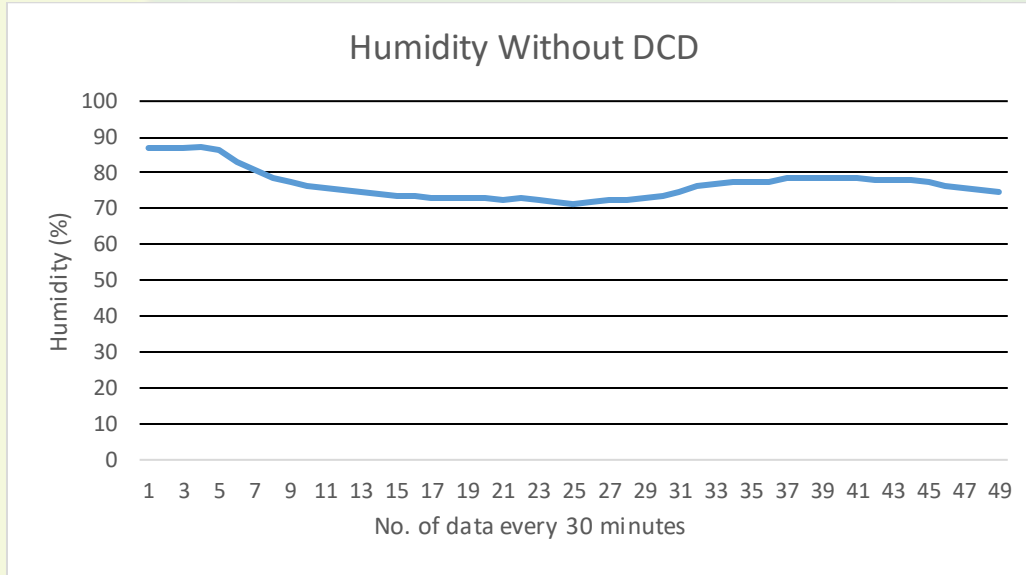


Graph 2: Active Power Comparison

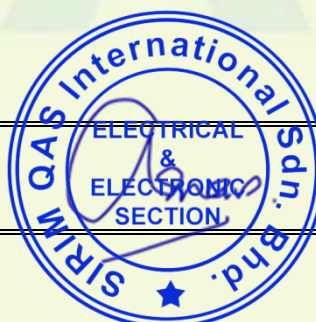
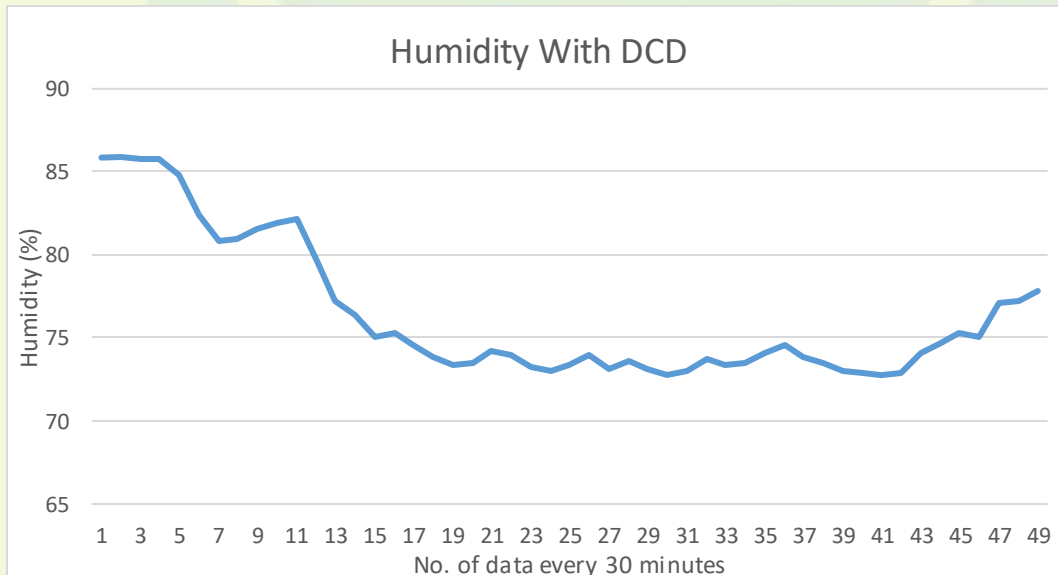


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Graph 3: Humidity without DCD (24 NOV 2020)

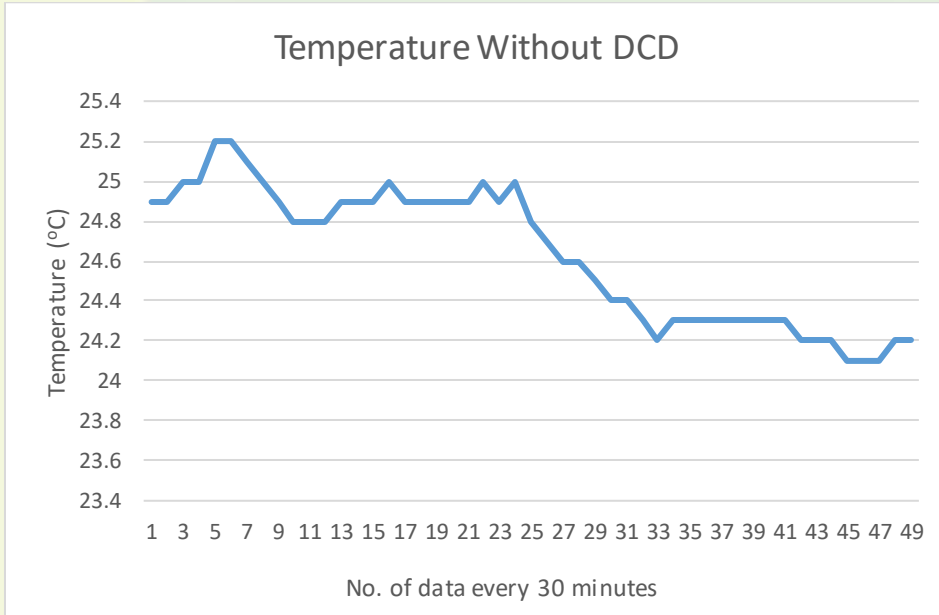


Graph 4: Humidity with DCD (1 DEC 2020)

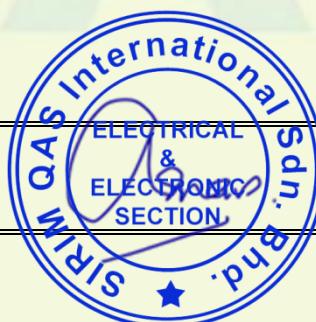
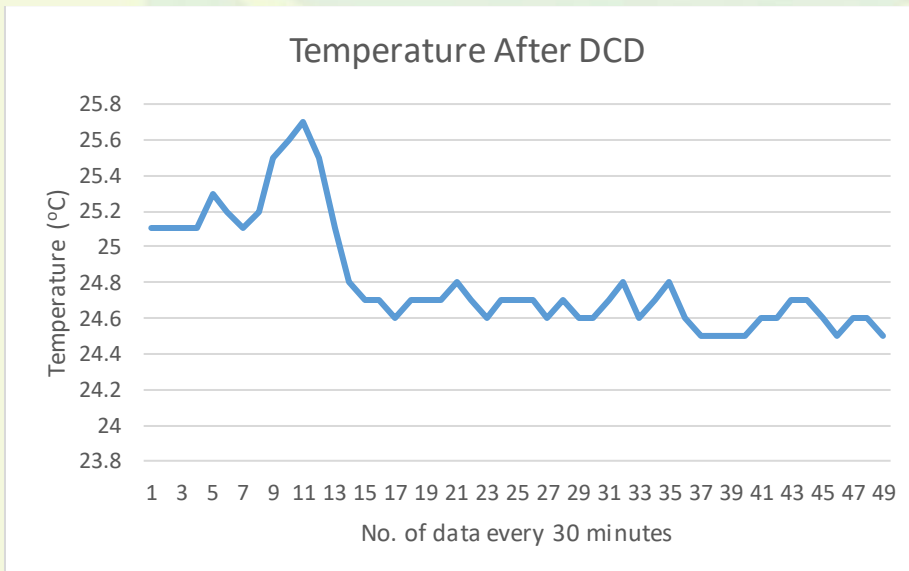


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Graph 5: Temperature without DCD (24 NOV 2020)



Graph 6: Temperature with DCD (1 DEC 2020)



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Verification data by SIRIM (without DCD)

Figure 1: Total power

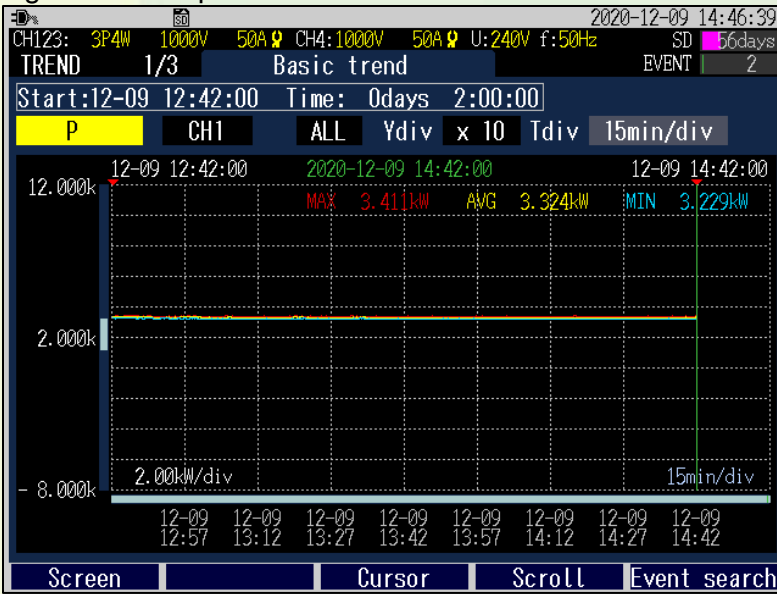
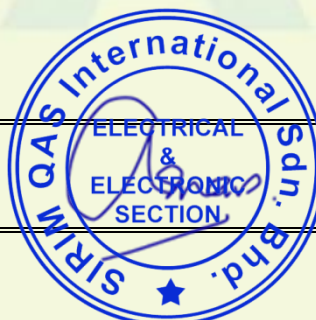
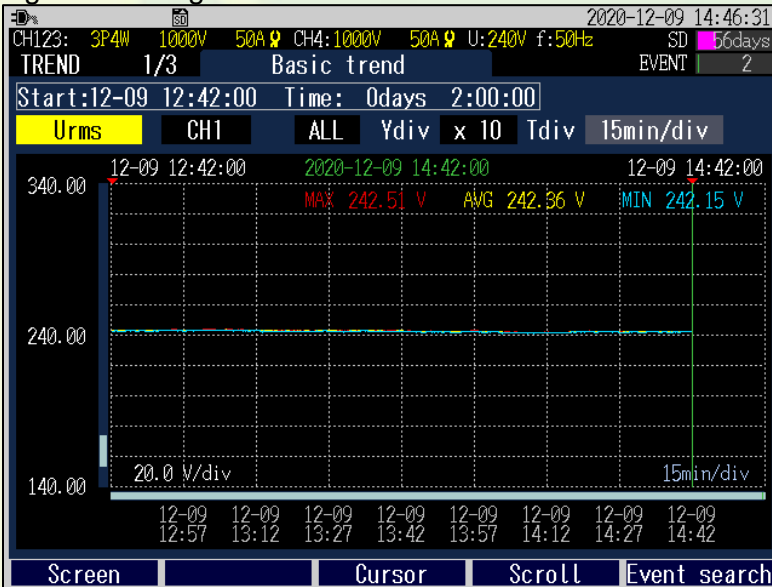


Figure 2: Voltage



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Figure 3: Current

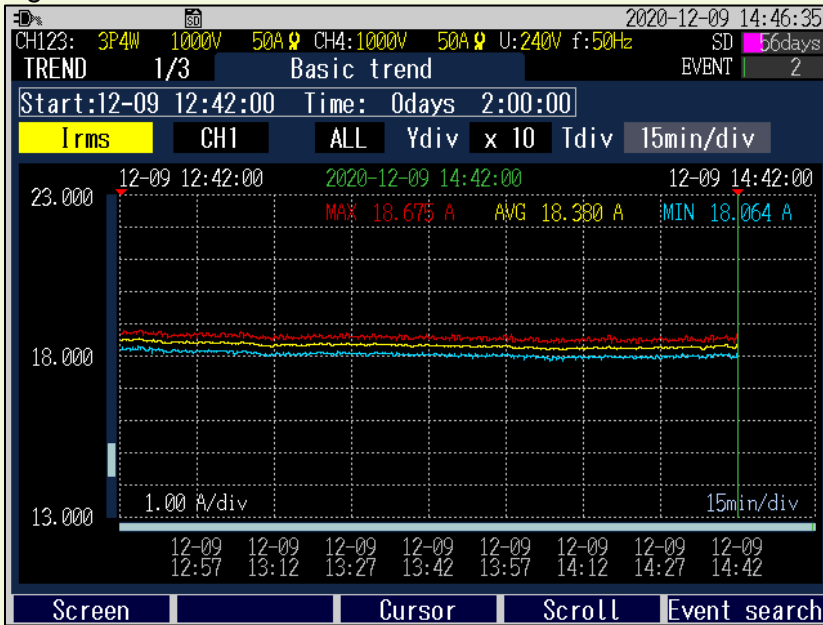
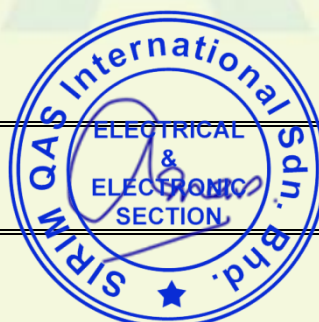
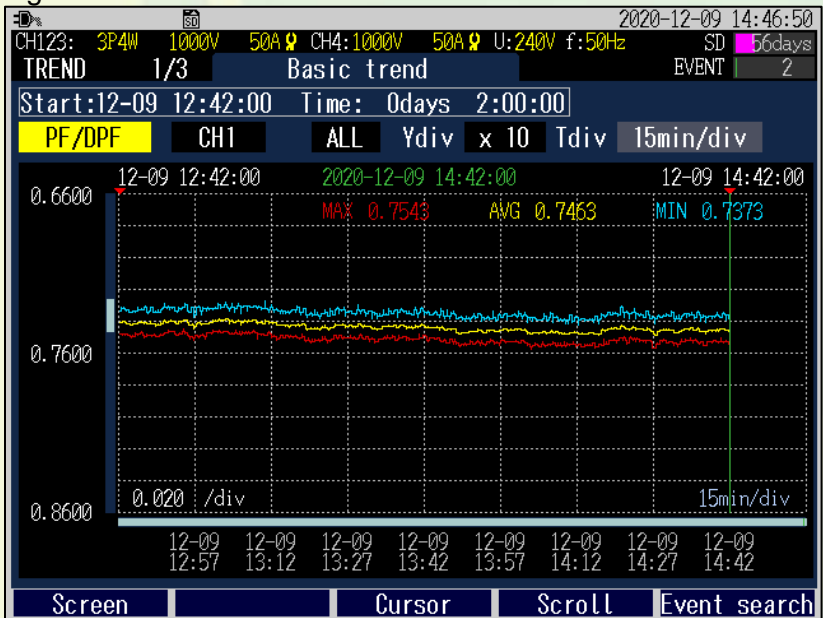


Figure 4: Power factor



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Verification data by SIRIM (with DCD)

Figure 5: Total power

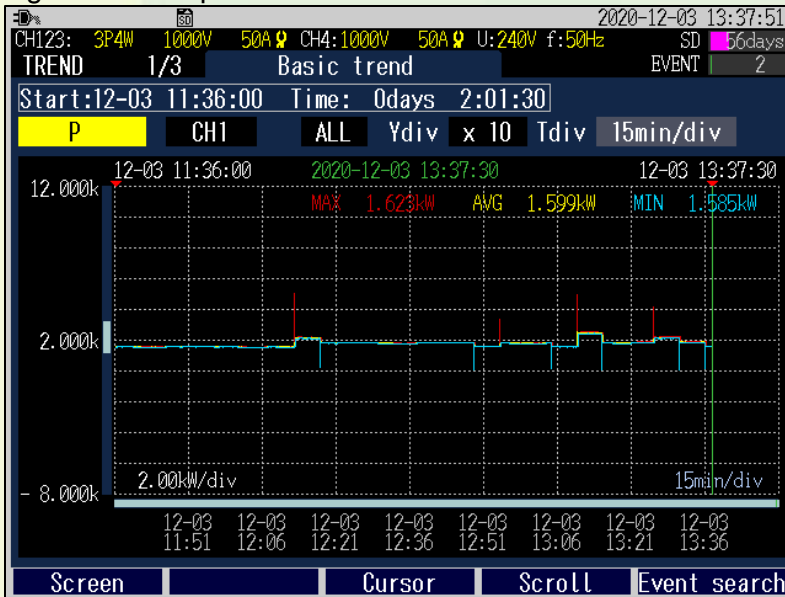
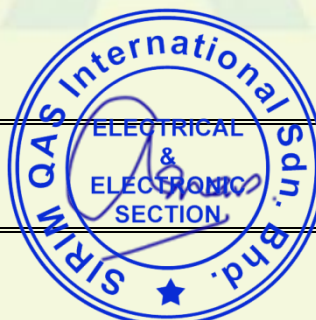
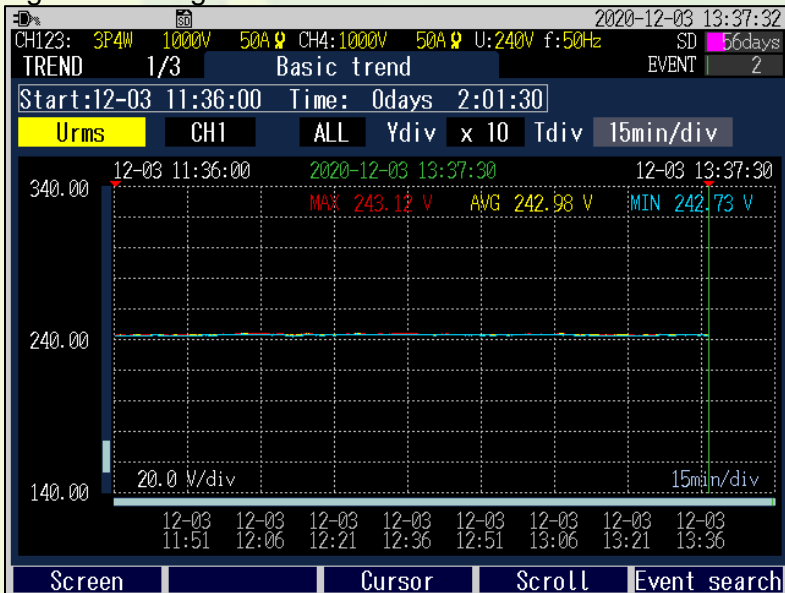


Figure 6: Voltage

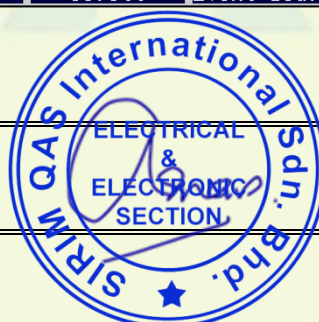
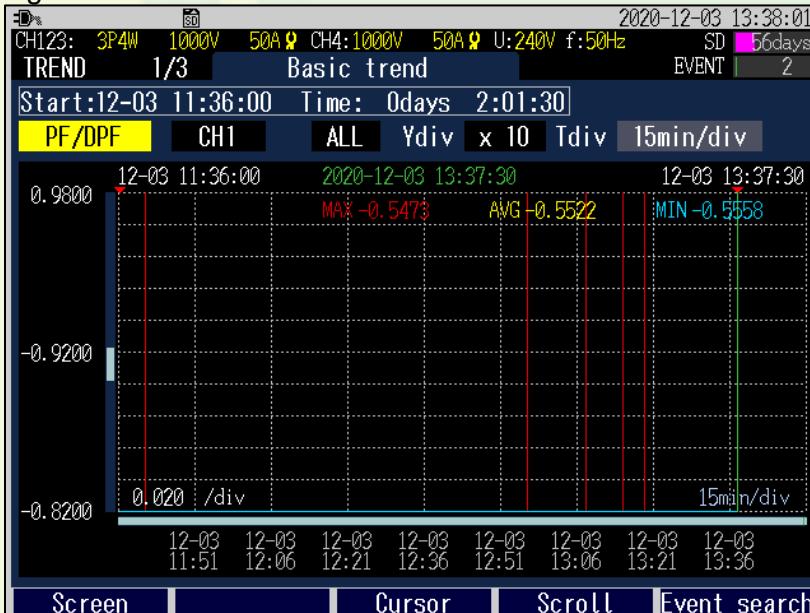


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Figure 7: Current



Figure 8: Power factor



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The display on the DCD

Figure 9:



One of the core components of the DCD system is the on-board computer **(OBC)** – Software which Tracks and Report key parameters related to system efficient, energy saving and algorithm selected and its run time.

Figure 10:

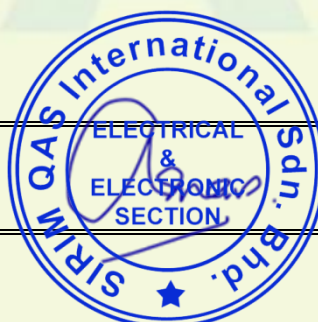


On-Board computer accuracy **(OBC)** calculated as 54.5%)
Final report shows 54.28%

Reason: Power meter ends on December 8th Midnight

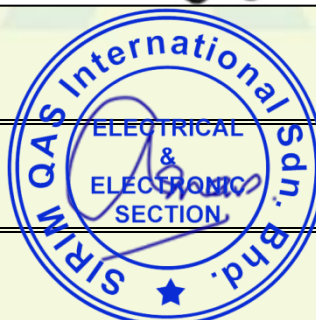
OBC was running till 12.30pm 9th December

Difference 0.4%



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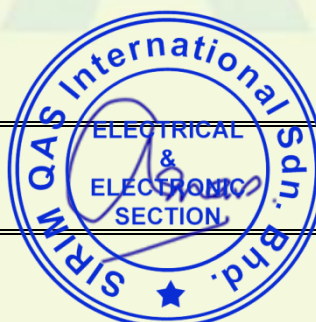
PHOTOGRAPHS OF TEST SAMPLES



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PHOTOGRAPHS OF TEST SAMPLES



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1. A Test Report will be issued in respect of Testing Services conducted and shall relate only to the sample actually tested. SIRIM QAS International makes no warranty whatsoever and the Applicant shall not represent in any manner that any duplication or mass production of the Product is same as the sample actually tested or that SIRIM QAS International has tested any of the duplicated or mass-produced Product. Measurement uncertainty shall be included in the Test Report when there is no statement of conformity required. When a statement of conformity to a specification or standard is applied, the Simple Acceptance Rule is used. Unless otherwise stated, the Acceptance Rule with Guard Band is used.
2. The Test Report shall not be misused, amended, changed, varied or modified in any manner whatsoever by the Applicant or otherwise.
3. If the Test Report is to be furnished to any third party or to the public, each such Test Report shall be furnished in full, legible and in its entirety.
4. The Test Report shall not be reproduced and shall not in any event be used for any advertising purposes or whatsoever without written approval from the Head of Quality, Occupational Safety and Health & Environment (QOSHE) of SIRIM QAS International of No 1, Persiaran Dato Menteri, Building 8, Section 2, P.O. Box 7035, 40700 Shah Alam, Selangor Darul Ehsan.
5. Customer (Applicant/Manufacture/Factory, etc.) is not permitted to use any SIRIM QAS International, SIRIM or other SIRIMs subsidiaries logo or words on packaging, sample's manual, technical specification, items and products.
6. Subject to consent and written approval from the Head of Quality, Occupational Safety and Health & Environment (QOSHE) of SIRIM QAS International, the customer (Applicant/Manufacture/Factory, etc.) may use SIRIM QAS International logo or word on the promotional materials and the Applicant shall only include the phrase, "A sample of this product has been tested by SIRIM QAS International ...(Test Report No) ...(dated) ...(for what test) ...(to which standard)" or such similar words which stress that only the sample was actually tested. This phrase shall only be used for the purpose of product advertisement or product promotion (eg; brochures/flyers/official website). For avoidance of doubt, the statement shall not be used on the sample, packaging of the sample, items and products.
7. In the event there is an investigation from a Government Regulatory Agency concerning the Applicant's Test Report, SIRIM QAS International may disclose the information pertaining to the Test Report for purposes of such investigation.
8. Further or in the alternative, it is strictly forbidden unless with prior written approval from the Chief Executive Officer of SIRIM QAS International, to represent in any manner whatsoever that SIRIM QAS International, SIRIM and/or other SIRIMs subsidiaries has endorsed, approved or validated the Product of the Applicant in any manner whatsoever.
9. In the event the Applicant is found in breach of this provision, SIRIM QAS International, SIRIM and/or other SIRIMs subsidiaries without prejudice to any other rights and remedies may take whatever action necessary including but not limited to:
 - a) Informing and placing a notice in the media;
 - b) Obtaining an injunction from Court (cost on a solicitor-client basis to be borne by the Applicant);
 - c) Refusing to accept any further Product for Testing Services from the Applicant or whatsoever related to the Applicant, whether subsidiary or otherwise;
 - d) Instructing the Applicant to withdraw and recall the advertisement, statement or document in question and advertise a clarification and apology to SIRIM QAS International, SIRIM and/or other SIRIMs subsidiaries twice in a national publication of SIRIM QAS International's choice at the Applicant's sole cost; and
 - e) Informing or lodging a report pertaining the Applicant's Test Report with the relevant authorities.
10. SIRIM QAS International is committed in supporting an environmentally-friendly business practices by reducing paper consumption, therefore we do not issue any hard copy of Test Report to the Applicant. However, additional certified true copy(ies) or softcopy of the Test Report may be issued upon request by the Applicant upon payment of the relevant fee. The certified true copy(ies) or softcopy of test report shall only be given for test report issued not more than three (3) years from the date of issuance.
11. Issuance of Amendment Report due to the following reasons are chargeable to the Applicant:
 - a) Changes in details of the Applicant name and/or address;
 - b) Changes in details of the Manufacturer's name and/or address;
 - c) Changes in details of the Factory location name and/or address;
 - d) Changes in details of the model and/or type designation
12. However, issuance of Supplementary Report due to the following reasons are FOC:
 - a) Misprints and typo errors;
 - b) Missing technical information as agreed in PP1 form;
 - c) Test data not reported;
 - d) Mistake in reporting of test data
13. Corrections to report shall only be allowed if the date of issuance of the original report has not exceeded 6 months and shall be limited to a maximum 3 times, after either case whichever occurs earlier, an Amendment or a Supplementary Report shall not be issued.