Test Report No: SMR(K)/EMCD-TR/24-25/012/02

EMC TEST REPORT FOR PV MODULE TEMPERATURE SENSOR

Customer:

M/s. M. B. CONTROL & SYSTEMS PVT. LTD.
31/1, AHIRIPUKUR ROAD,
KOLKATA-700 019, WEST BENGAL,
INDIA.

SAMEER Centre for MILLIMETER WAVE RESEARCH
(SOCIETY FOR APPLIED MICROWAVE ELECTRONICS ENGINEERING AND RESEARCH)
R & D LABORATORY OF
MINISTRY OF ELECTRONICS & INFORMATION TECHNOLOGY (MeitY)
GOVT. OF INDIA

PLOT-L2, BLOCK-GP, SECTOR-V, SALT LAKE ELECTRONICS COMPLEX,
KOLKATA-700 091, INDIA

DECEMBER, 2024

URL NO.: TC1400724000000002F

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CERTIFICATE NO. TC-14007

SAMEER Centre for MILLIMETER WAVE RESEARCH, KOLKATA

EMC TEST REPORT FOR PV MODULE TEMPERATURE SENSOR

Test Report Particulars

1.	Equipment under test	: PV MODULE TEMPERATURE SENSOR
2.	Number of test sample	: One
3.	Model Number of EUT	: MBMet-803
4.	Serial Number of EUT	: 24252
5.	Brand	: Not Available
6.	Manufacturer	: M/s. M. B. CONTROL & SYSTEMS PVT. LTD.
7.	Customer	: M/s. M. B. CONTROL & SYSTEMS PVT. LTD. 31/1, AHIRIPUKUR ROAD, KOLKATA-700 019, WEST BENGAL, INDIA
8.	Type of test requested	: DAMPED OSCILLATORY WAVE IMMUNITY TEST
9.	Test Method used	: IEC 61000-4-18, Edition 2.0 2019-05
10.	Sample Received	: 5th Dec., 2024
11.	EUT condition	: Functional
12.	Tested on	: 5th Dec., 2024
13.	Test Venue	: SAMEER KOLKATA CENTRE
14.	Test Witnessed by	: Mr. MANOJ KUMAR GIRI (Quality Control Engineer)
15.	Test Request Number	: SMR(K)/EMCD-TRQ/24-25/012

The **"PV MODULE TEMPERATURE SENSOR"** has been tested for the parameters reflected in the subsequent pages and the data reported in this report are valid only for the test sample(s) mentioned above at the time of and under the stated condition of measurement. Particulars of manufacturer / supplier, given in this report, are based on the information given by the customer, along with test request and **SAMEER Centre for MILLIMETER WAVE RESEARCH** does not bear any responsibility for the correctness of that information for the above mentioned equipment under test.

TEST REPORT PREPARED By:	REVIEWED BY:	APPROVED BY:	OFFICE SEAL & REPORT ISSUED DATE
JYOTI PRAKASH	MAHESH C. ARYA	SATYAJIT CHAKRABARTI	
IN-CHARGE TECH SUPPORT	TEST ENGINEER	QM	

SAMEER KOLKATA CENTRE ★ SAMEER Govt. of India Date: 30.12.2024 Kolkata-700091 ★ R&D Laboratory of Ministry of Electronics & Information Technology

URL NO.: TC1400724000000002F

Equipment Under Test : PV MODULE TEMPERATURE SENSOR
Model No : MBMet-803
Sl. No. : 24252
Customer : M/s. M. B. CONTROL & SYSTEMS PVT. LTD, KOLKATA

EMC TEST REPORT FOR PV MODULE TEMPERATURE SENSOR

1.0 SLOW DAMPED OSCILLATORY WAVE IMMUNITY TEST

1.1 STANDARD USED : IEC 61000–4–18, Edition 2.0 2019–05

1.2 TEST SPECIFICATIONS :

Test Level : Up to 3
Test Voltage : ± 1 KV (L–L)
Wave-form rise time : 75 ns
Voltage oscillation frequency : 100 kHz.
Coupling : L–L

1.3 TEST INSTRUMENT USED:

EQUIPMENT	MAKE	MODEL NO.	SL. NO.	CAL. DUE DATE
DAMPED OSCILLATORY WAVE GENERATOR	EMC PARTNER AG	DOW-CG1-S	109929-1509	07/05/2025*
COUPLING DECOUPLING NETWORK		CDN-DOW-DATA-LF	1514	
MIXED SIGNAL OSCILLOSCOPE	TEKTRONIX	MSO4104B	C010745	25/10/2025

* Internal performance verification date

1.4 ENVIRONMENTAL CONDITION:

Temperature : 25.3°C
Humidity : 49.4%

1.5 LOAD USED: A Laptop was used as the load for verifying the communication during the testing.

1.6 TEST PROCEDURE:

As per SMR(K) / OP / 010; Issue 01, dated 2nd Sept 2021; Revision 00, dated -
EUT was configured for connection to a 12 V_{DC} power supply. The damped oscillatory wave generator and the EUT were switched ON and left ON for 10 minutes for stabilization. Both positive and negative damped oscillatory wave impulses were applied to the EUT. Test voltage coupling between L–L were considered.

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Equipment Under Test	: PV MODULE TEMPERATURE SENSOR
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EMC TEST REPORT FOR PV MODULE TEMPERATURE SENSOR

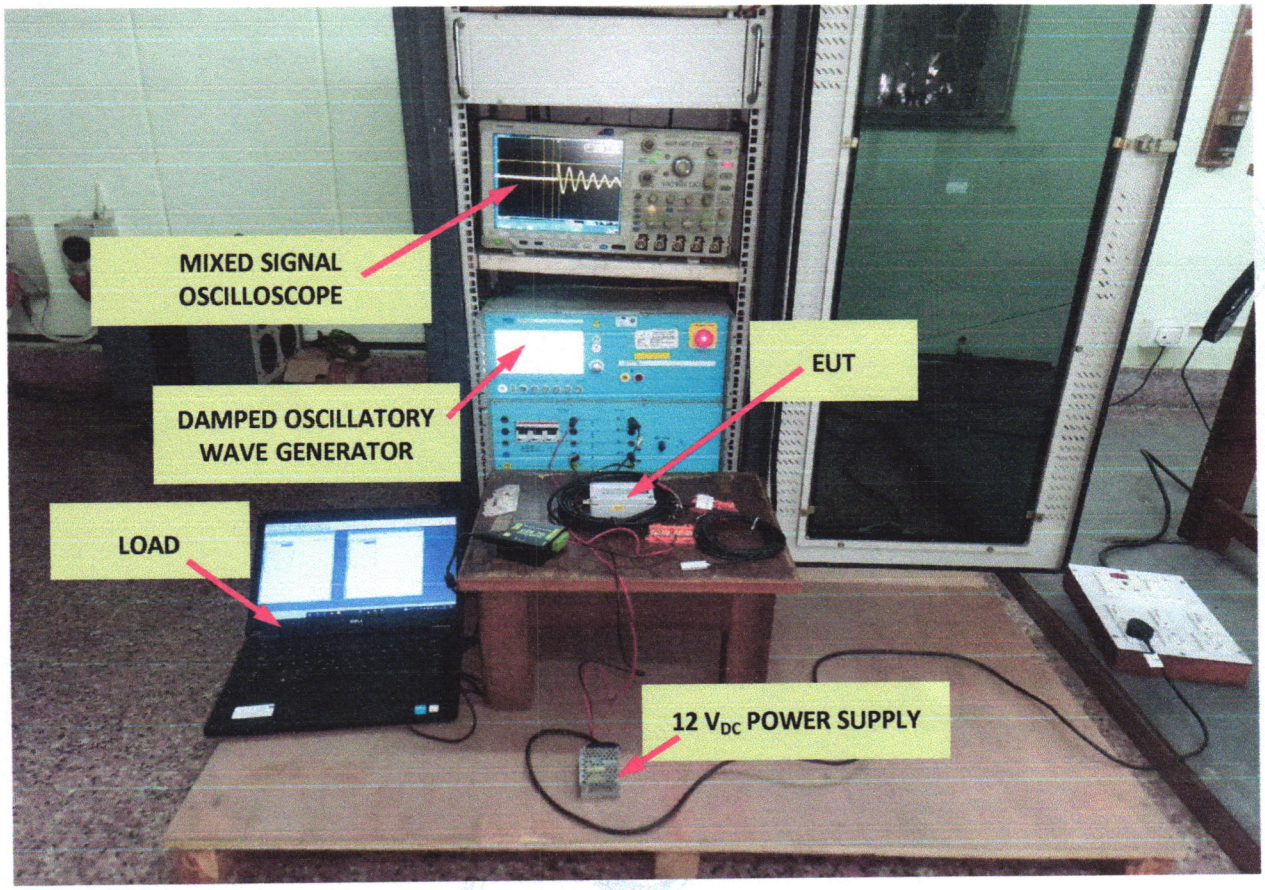
1.7 TEST SET-UP PHOTOGRAPHS :

(a)

(b)

Equipment Under Test	: PV MODULE TEMPERATURE SENSOR
Model No	: MBMet-803
Sl. No.	: 24252
Customer	: M/s. M. B. CONTROL & SYSTEMS PVT. LTD, KOLKATA

EMC TEST REPORT FOR PV MODULE TEMPERATURE SENSOR



(c)

Fig 1: Photographs of (a) Calibration set-up, (b) Equipment under Test (EUT) and (c) Test set-up for Slow Damped Oscillatory Immunity Test.
EUT: PV MODULE TEMPERATURE SENSOR

1.8 TEST OBSERVATION:

During and after test run, no impact on normal functioning of EUT is noticed. Normal operation within the specification limits of the equipment.

TEST CONDUCTED BY:

JYOTI PRAKASH
IN-CHARGE TECH SUPPORT

MAHESH C. ARYA
TEST ENGINEER

SAMEER KOLKATA CENTRE * R&D Laboratory of Ministry of Electronics & Information Technology * SAMEER Govt. of India Kolkata-700091

END OF THE TEST REPORT*