



CALIBRATION CERTIFICATE

No. : CC/2016-2017/105



SAMEER - CENTRE FOR ELECTROMAGNETICS

(An Institution setup by Ministry of Communications and Information Technology, Government of India)

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Tel. : +91-44-22541352 / 22541817 Fax : +91-44-22541424 / 1938

Email: ccc@scemcd.gov.in Web: www.scemcd.gov.in

July 2016

NOTE

1. This certificate is valid only for the particular item(s) submitted for calibration.
2. Certified that the results reported in this certificate are valid at the time of and under the stated conditions / standards of measurement.
3. Particulars on Manufacturer / Supplier, given in this certificate, are based on the information given by the customer along with calibration request. SAMEER-CEM does not assume any responsibility for the correctness of that information.
4. This certificate shall not be reproduced except in full without the written approval of Programme Director, SAMEER – Centre for Electromagnetics, Chennai.





CALIBRATION CERTIFICATE

1. Calibrated for : M/s. Scientific Mes-Technik Pvt. Ltd., Indore

2. Details of Equipment Under Calibration (EUC)
 1. Name : Line Impedance Stabilization Network
 2. Make : M/s. Scientific Mes-Technik Pvt. Ltd., India
 3. Model No. : SMLIN200-1M
 4. SI.No. : 1511002

3. Date of receipt of EUC : 14.07.2016
4. Date(s) of calibration : 15.07.2016
5. Condition of EUC on receipt : Functional
6. Calibration requested : Calibration of Artificial Mains Network (LISN) as per CISPR 16-1-2, 2014
7. Calibration procedure used : DOC/7.6-01/CAL/PROC/002
8. Calibration venue : SAMEER - CEM, Chennai
9. Environmental conditions : Ambient temperature : 25° C ± 3° C
 Relative humidity : 50 % ± 15 %

10. Standard(s) used for calibration :

Sl.No.	Description	Make, Model & Serial Number	Calibration Due Date	Traceability*
1.	Network Analyzer	Agilent, E5071C & MY46107788	26.03.2017	BEL (B)

* The standard(s) used for calibration are traceable to National or International Standards

Calibration plan & Reviewed by:

Authorized signatory:

Office seal with Date

(P. Salit)
Scientist-E

(G. Vincentraj)



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1. Calibration Results:

Table-1 shows measured result for EUT port Impedance and its Measurement uncertainty

Table-2 shows measured result for Insertion Loss and its Measurement uncertainty

Table 1 – EUT Port Impedance

Frequency (MHz)	Min. Specified Value (Ω)	Measured Values (Ω)	Max. Specified Value (Ω)	Measurement Uncertainty* (Ω)
0.009	4.18	5.01	6.26	± 0.32
0.015	4.98	5.85	7.46	± 0.32
0.020	5.80	6.89	8.70	± 0.32
0.025	6.70	8.04	10.06	± 0.32
0.03	7.65	9.23	11.47	± 0.32
0.04	9.59	11.64	14.39	± 0.32
0.05	11.53	13.99	17.29	± 0.32
0.06	13.42	16.26	20.12	± 0.32
0.07	15.23	18.42	22.85	± 0.32
0.08	16.95	20.45	25.43	± 0.32
0.09	18.58	22.35	27.86	± 0.32
0.10	20.09	24.12	30.13	± 0.32
0.15	27.43	31.13	41.15	± 0.32
0.17	29.20	33.21	43.80	± 0.32
0.20	31.30	35.73	46.94	± 0.32
0.25	33.74	38.75	50.62	± 0.32
0.30	35.34	40.77	53.00	± 0.32
0.35	36.42	42.17	54.62	± 0.32
0.40	37.17	43.17	55.75	± 0.32
0.50	38.12	44.46	57.18	± 0.32
0.60	38.66	45.22	58.00	± 0.32
0.70	39.01	45.71	58.51	± 0.32
0.80	39.23	46.04	58.85	± 0.32
0.90	39.39	46.27	59.09	± 0.32
1.0	39.50	46.44	59.26	± 0.32
1.2	39.66	46.67	59.48	± 0.32
1.5	39.78	46.86	59.66	± 0.32
2.0	39.87	47.03	59.81	± 0.32
2.5	39.92	47.11	59.88	± 0.32
3.0	39.94	47.16	59.92	± 0.32
4.0	39.97	47.23	59.95	± 0.32
5.0	39.98	47.27	59.98	± 0.32
7.0	39.99	47.33	59.99	± 0.32
10	39.99	47.34	59.99	± 0.32
15	40.00	46.25	60.00	± 0.32
20	40.00	46.90	60.00	± 0.32
30	40.00	46.72	60.00	± 0.32





Table 2 – Insertion Loss

Frequency (MHz)	Measured Values (dB)	Measurement Uncertainty* (dB)
0.009	-6.69	± 0.72
0.015	-3.76	± 0.72
0.020	-2.51	± 0.72
0.025	-1.77	± 0.72
0.03	-1.30	± 0.72
0.04	-0.78	± 0.72
0.05	-0.52	± 0.72
0.06	-0.37	± 0.72
0.07	-0.28	± 0.72
0.08	-0.22	± 0.72
0.09	-0.17	± 0.72
0.10	-0.14	± 0.72
0.15	-0.07	± 0.72
0.17	-0.06	± 0.72
0.20	-0.05	± 0.72
0.25	-0.04	± 0.72
0.30	-0.03	± 0.72
0.35	-0.03	± 0.72
0.40	-0.03	± 0.72
0.50	-0.03	± 0.72
0.60	-0.03	± 0.72
0.70	-0.03	± 0.72
0.80	-0.03	± 0.72
0.90	-0.03	± 0.72
1.0	-0.03	± 0.72
1.2	-0.03	± 0.72
1.5	-0.03	± 0.72
2.0	-0.04	± 0.72
2.5	-0.04	± 0.72
3.0	-0.04	± 0.72
4.0	-0.05	± 0.72
5.0	-0.06	± 0.72
7.0	-0.07	± 0.72
10	-0.08	± 0.72
15	-0.12	± 0.72
20	-0.13	± 0.72
30	-0.28	± 0.72

Note: * Measurement Uncertainty reported is at approximately 95% confidence level with k=2.

2. Enclosed document(s):

Annexure – I shows the photograph of the EUC.

Calibration done by:

P. Prasanna Kumar
(P. Prasanna Kumar)
Research Scientist





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Annexure – I



Photograph of EUC

SMLIN200-1M Sr. No. 1511002

Enlarged view of model number & serial number of EUC

