



ELECTRONICS TEST AND DEVELOPMENT CENTRE

(STQC Directorate, Ministry of Communications & Information Technology)
100 ft Road, Peenya Industrial Estate, Bengaluru-560 058
(Phone: (080) 2839 4252/4647/4766/5992; Telefax: +91-080- 23722314)
E-mail: etdcbg@stqc.gov.in



T-0044

Report No.: TR/EMC/64135-1

TEST REPORT

Page 01 of 25

1. Scope

1.	Service request number:	64135	Date:24/04/2017	Job No.: 01
2.	Test requested by (Name & Address of the Organization)	M/s. CEM Solutions Pvt. Ltd. #143/A1, Bommasandra Industrial Area, Hebagodi Village, Bangalore-560099.		
3.	Description/Unambiguous identification of the item:			
	a) Nomenclature	STM/BLOX eSBC		
	b) Manufactured by	ALLO.COM		
	c) Model / type no.	ALLO-STM/eSBC		
	d) No. of items submitted	01	Sampling :Not applicable	
	e) Serial no.	SP23001910816		
4.	Date of submission of test samples	24/04/2017		
5.	Condition of test samples on receipt	Good		
6.	Test carried out at	In-house/ On-site		
7.	Date of start of tests	24/04/2017		
8.	Date of completion of tests	26/04/2017		
9.	Date of issue of test report	28/04/2017		
10.	Applicable standard/test specification	CISPR 22:2008 Class B , IEC 61000-4-Series, IEC 61000-3-2:2009 & IEC 61000-3-3:2008.		
11.	Test category	Performance Test		
12.	Laboratory Environment condition	Temp: 15 to 35°C RH: 45 to 70% except for ESD test For ESD test RH: <60%.Atm pressure: 860-1060mbar		

2. Major equipment used

SN	Nomenclature	Make	Model	Cal. Due
1.	EMI test receiver	R&S	ESC17	19/10/2017
2.	Bi-Log Antenna	Electro metrics	EM-6917B-1	04/06/2017
3.	Horn Antenna	R&S	HF 906	20/10/2017
4.	V-Network	R&S	ESH3Z5	02/05/2017
5.	ESD generator	EM Test	ESD30N	20/03/2018
6.	Signal Generator	R&S	SML03	10/01/2018
7.	EFT Generator	EM Test	UCS500-M4	23/03/2018
8.	Continuous Wave Simulator	EM Test	CWS500C	02/09/2017
9.	Field strength meter	Holaday	HI3604	20/10/2017
10.	AC power source	Pacific	140 TMX	21/03/2018

* This report refers only to the item tested and shall not be reproduced except in full without the written approval from Director, ETDC, Bengaluru. Refer to information contained on the cover.

Date of Release: 15.06.16

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Page 02 of 25

Test Parameter : 1) Conducted disturbance at the mains ports
2) Radiated disturbance measurement @ 3 meter measuring distance
Test Specification : CISPR22:2008 Class B
Detector Used : Quasi Peak (QP) / Average (Avg)
Detector Bandwidth

Frequency (MHz)	Detector Bandwidth (kHz)
0.15 - 30	9
30 - 1000	120

Limits:

<i>Class B</i>				
Conducted disturbance at the mains ports			Radiated disturbance measurement @3 meter measuring distance	
Freq. Range (MHz)	QP (dB μ V)	AVG (dB μ V)	Freq. Range (MHz)	QP (dB μ V/m)
0.15 - 0.5	66 - 56	56 - 46	30 - 230 230 - 1000	40 47
0.5 - 5	56	46		
5 - 30	60	50		

EUT Configuration: The EUT is a STM/BLOX eSBC, powered by 5V DC through 230V AC to 5V DC adaptor (Make: XING YUAN, Model No: XY24S-0503000Q-U, Serial No: 1620).

Remark: The Image of EUT and test setup for Radiated disturbance measurement @3 meter measuring distance are shown in Annexure 'A' and 'B' respectively. The graphs for Conducted disturbance at the mains ports and Radiated disturbance measurement @3 meter measuring distance tests are shown in Annexure 'C' and 'D' respectively.

Summary of test results:

Conducted disturbance at the mains ports: Meets the Class B Limits of CISPR 22:2008 Few Significant emission are reported in page no. 04
Radiated disturbance measurement @ 3 meter measuring distance: Meets the Class B Limits of CISPR 22:2008 Few Significant emission are reported in page no. 05

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Page 03 of 25

Performance Criteria

Performance criterion A: The apparatus shall continue to operate as intended **during and after the test**. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Performance criterion B: The apparatus shall continue to operate as intended **after the test**. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed.

Performance criterion C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

Performance level specified by the manufacturer:

- 1) Power LED (Green) should glow continuously.
- 2) Boot LED (Blue) should glow continuously.

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Page 04 of 25

Results: (1) Conducted disturbance at the mains ports.

Frequency (MHz)	Qp Reading (dB μ V)	Qp Limit (dB μ V)	Avg Reading (dB μ V)	Avg Limit (dB μ V)
On Line				
0.154	43.21	66.00	31.79	59.00
0.194	37.52	64.86	26.02	57.52
0.226	36.65	63.71	26.04	56.04
0.246	35.25	63.14	24.98	55.30
0.422	36.49	58.29	29.70	49.01
1.226	29.74	56.00	20.68	46.00
On Neutral				
0.154	44.45	66.00	33.03	59.00
0.178	41.33	65.14	29.87	57.89
0.190	39.13	64.86	28.08	57.52
0.202	37.34	64.57	26.50	57.15
0.214	36.45	64.29	27.04	56.78
1.242	30.76	56.00	21.26	46.00

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(Signature)





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Page 05 of 25

Results: (2) Radiated disturbance measurement @ 3 meter measuring distance

Frequency (MHz)	Quasi-peak emission level* (dB μ V/m)	Angle (deg)	Polarisation (H/V)**	Quasi-peak Limit (dB μ V/m)
30.20	27.32	180	H	40
250.00	23.91	180	H	47
422.64	24.50	0	H	47
500.00	31.79	270	V	47
676.16	30.30	180	H	47
754.84	31.84	0	H	47

*-The antenna height adjusted between 1 m and 4 m above the ground plane for maximum emission level at each test frequency.

** (H/V): H-Horizontal polarization, V-Vertical polarization

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