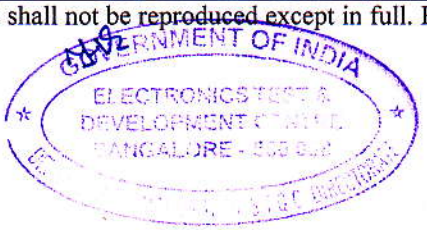
ELECTRONICS TEST AND DEVELOPMENT CENTRE
(STQC Directorate, Ministry of Communications & Information Technology)
100 ft Road, Peenya Industrial Estate, Bangalore-560 058
(Tel: 2839 5992, 2839 4647. Fax: 080 - 2839 1804)
E-mail: mailetdc29@yahoo.com

1. Scope

1.	Service request number	62242
2.	Requested by (Name & Address of the Organization)	M/s. CEM Solutions Pvt. Ltd. Akarsh Eco Place, Ground Floor, 176, EPIP, Industrial Area, Kundalahalli, Whitefield, Bangalore-560066
3.	Description of the equipment:	
	a) Nomenclature	NANO2 PBX
	b) Manufactured by	CEM Solutions Pvt. Ltd.
	c) Model / type no.	CPX-003
	d) Serial no.	001
4.	Date of submission of test samples	12/04/2013
5.	Condition of test samples on receipt	Good
6.	Date of start of tests	12/04/2013
7.	Date of completion of tests	12/04/2013
8.	Applicable test specification	FCC Part 15: 2007, Class B
9.	Test category	Performance Test
10.	Environment condition	Temp: 25±5 °C RH: 40 to 75%

2. Major equipment used

SN	Nomenclature	Make	Model	Cal. Due
1.	EMI Receiver	R&S	ESCI7	06-12-2013
2.	EMI test receiver	R&S	ESCI	29-10-2013
3.	Bi-Log Antenna	Electro-metrics	EM-6917B-1	02-07-2013
4.	V-Network	R&S	ESH3Z5	26-07-2013



Test Parameter : 1) Conducted Emission measurement on power line
2) Radiated Emission measurement @ 3mts. Distance
Test Specification : FCC Part 15: 2007, Class B
Detector used : Quasi Peak (QP) / Average (Avg)
Detector Bandwidth

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

Limits:

Class B				
Conducted Emission measurement on power line			Radiated Emission measurement @ 3mts. distance	
Freq (MHz)	QP (dBµV)	AVG (dBµV)	Freq (MHz)	QP (dBµV/m)
0.15 - 0.5 0.5 – 5 5 - 30	66-56 56 60	56-46 46 50	30 - 88 88-216 216-960 960-1000	40 43.5 46 54

EUT Configuration: The EUT is a NANO2 PBX, powered by 12V DC through adapter. It has 6 Fxs ports, 2 Fxo ports, 1 LAN port and 1 WAN port.

Remark: The Details of Accessories used in the Testing of EUT is shown in Annexure 'A'. The Image of EUT and test setup for Radiated Emission measurement are shown in Annexure 'B' and 'C' respectively. The graphs for Conducted Emission measurement on power line and Radiated Emission measurement tests are shown in Annexure 'D'and 'E' respectively.

Summary of test results:

Conducted Emission measurement on power line: Meets the Class B Limits of FCC Part 15 Few Significant emission are reported in page no. 03
Radiated Emission measurement @ 3mts. Distance Meets the Class B Limits of FCC Part 15 Few Significant emission are reported in page no. 04

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Results: (1) Conducted emission measurement on power line

Frequency (MHz)	Qp Reading (dBµV)	Qp Limit (dBµV)	Avg Reading (dBµV)	Avg Limit (dBµV)
On Line				
0.210	37.45	64.29	28.05	54.29
0.462	32.85	57.14	26.09	47.14
15.322	37.45	60	34.11	50
17.162	33.51	60	30.94	50
22.27	40.04	60	33.57	50
23.422	41.30	60	34.60	50
25.726	40.01	60	33.53	50
On Neutral				
0.214	37.90	64.29	28.57	54.29
0.474	33.87	56.86	27.12	46.86
13.482	34.36	60	30.58	50
15.322	38.62	60	35.70	50
15.938	37.87	60	34.70	50
22.27	40.46	60	33.70	50
23.806	40.61	60	34.59	50

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(2) Radiated Emission measurement

Frequency (MHz)	Quasi peak Emission level measured (dBμV/m)	Angle (deg)	Polarisation (H/V)*	Quasi peak Limit (dBμV/m)
288.76	41.61	90	H	46
300.04	40.78	90	H	46
350.2	43.37	270	H	46
362.48	45.37	270	H	46
423.92	41.94	270	H	46
493.52	42.64	0	V	46

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

Tested By
(Hemant Kumar Sahu)
(Scientist 'B')

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Approved By

Dr. N.C. JOSHI
Scientist 'E'
Electronics Test & Development Centre
Ministry of Comm. & IT., STQC Directorate,
Govt. of India, Bangalore - 560 058

19/04/13.

Issued By 19/4/13

CO-ORDINATOR
TESTING SERVICES,
E.T.D.C., BANGALORE

Annexure "A"

Details of Accessories used in the Testing of EUT

Sr.No.	Accessories name	Make	Model/Part No.	Serial No.
01.	Adapter	NetBit Switch Mode Power Supply	KSAH1200350T1M2	----

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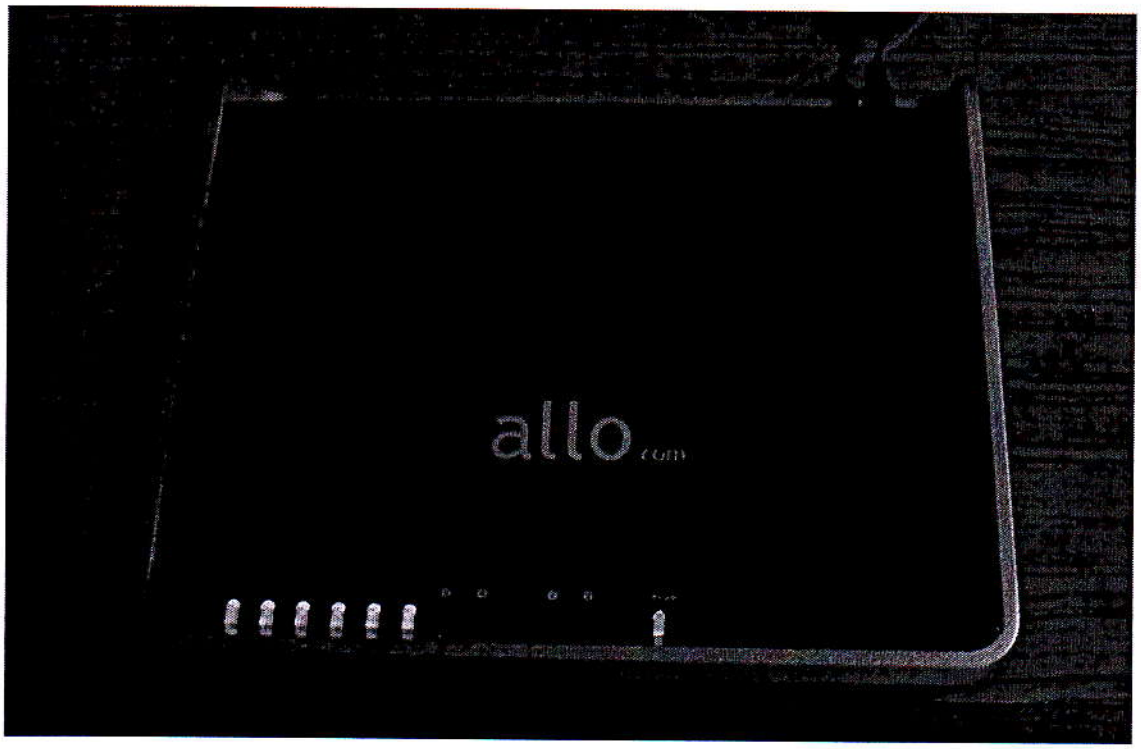
Image of EUT



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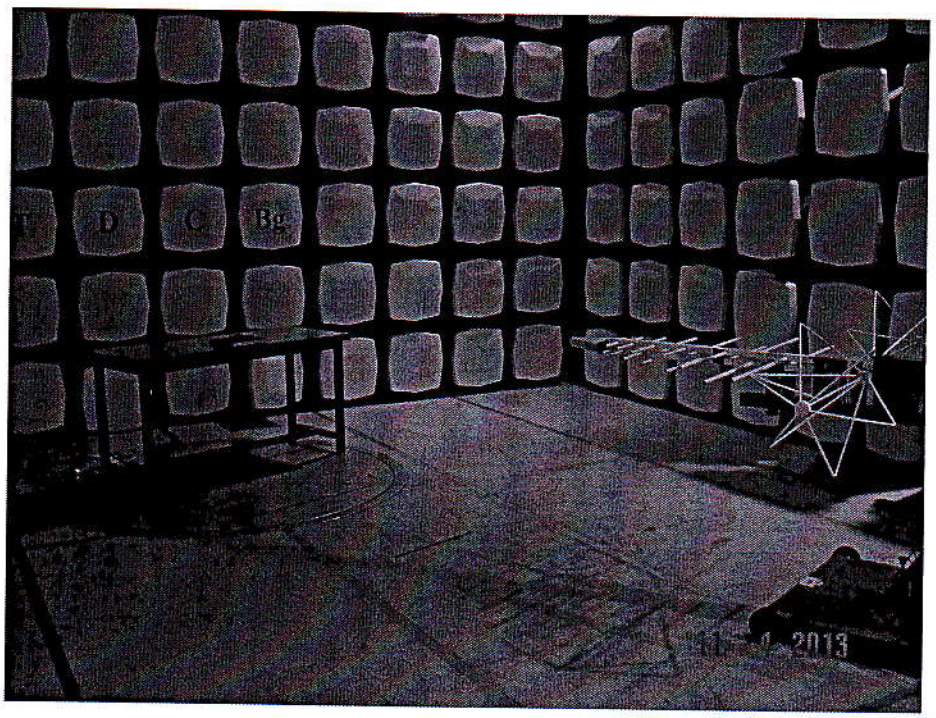
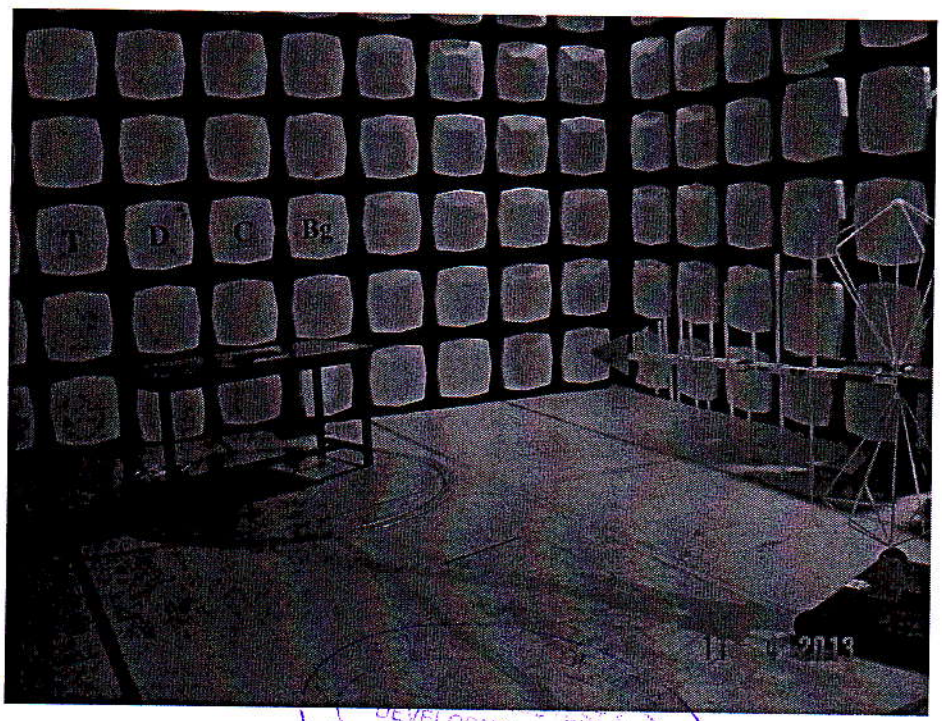
EUT Test Setup for Radiated Emission measurement





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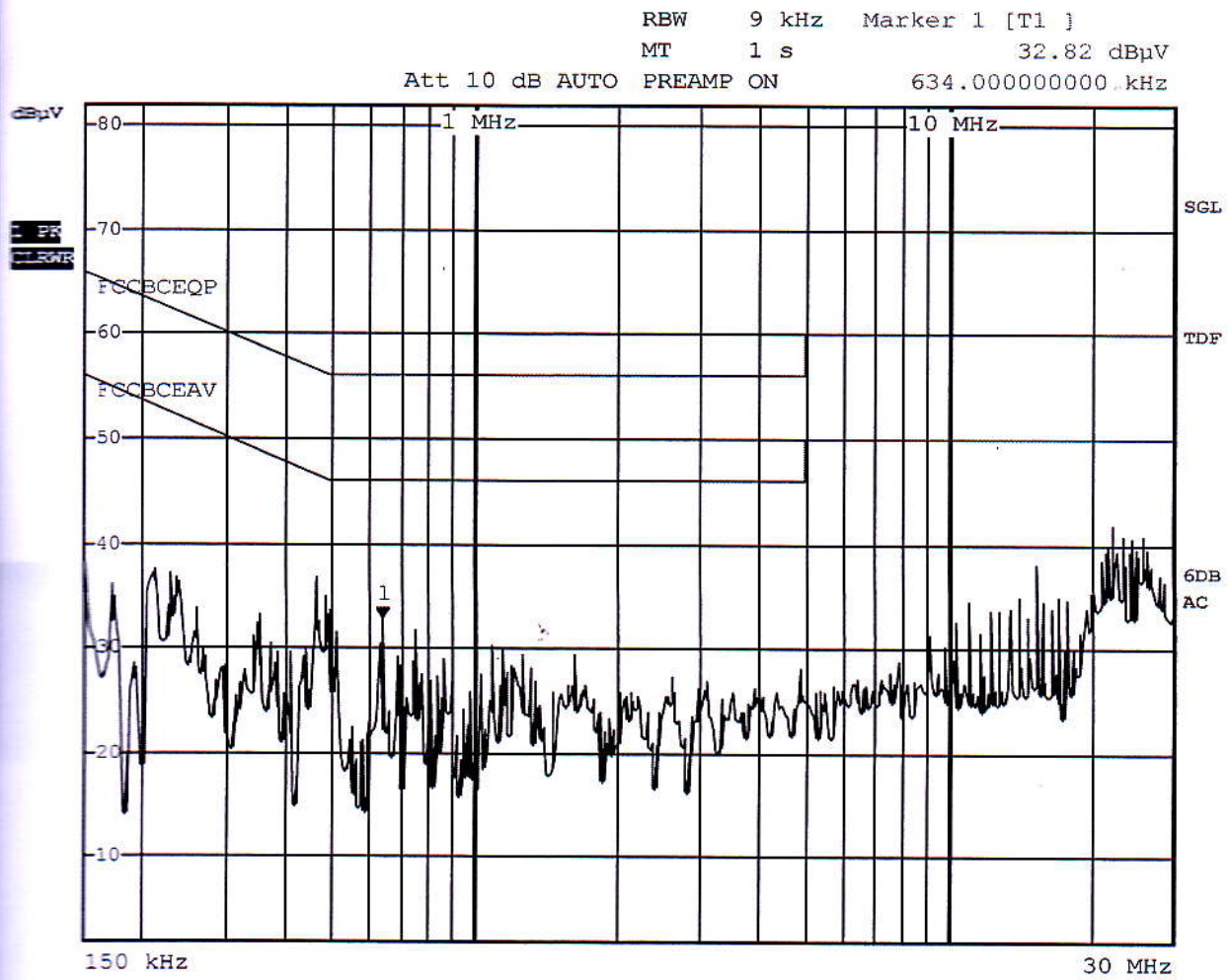
Graph of Conducted Emission measurement on power line



SRF 62242 CE Test (FCC Part 15) on Line

Date: 12.APR.2013 13:15:47

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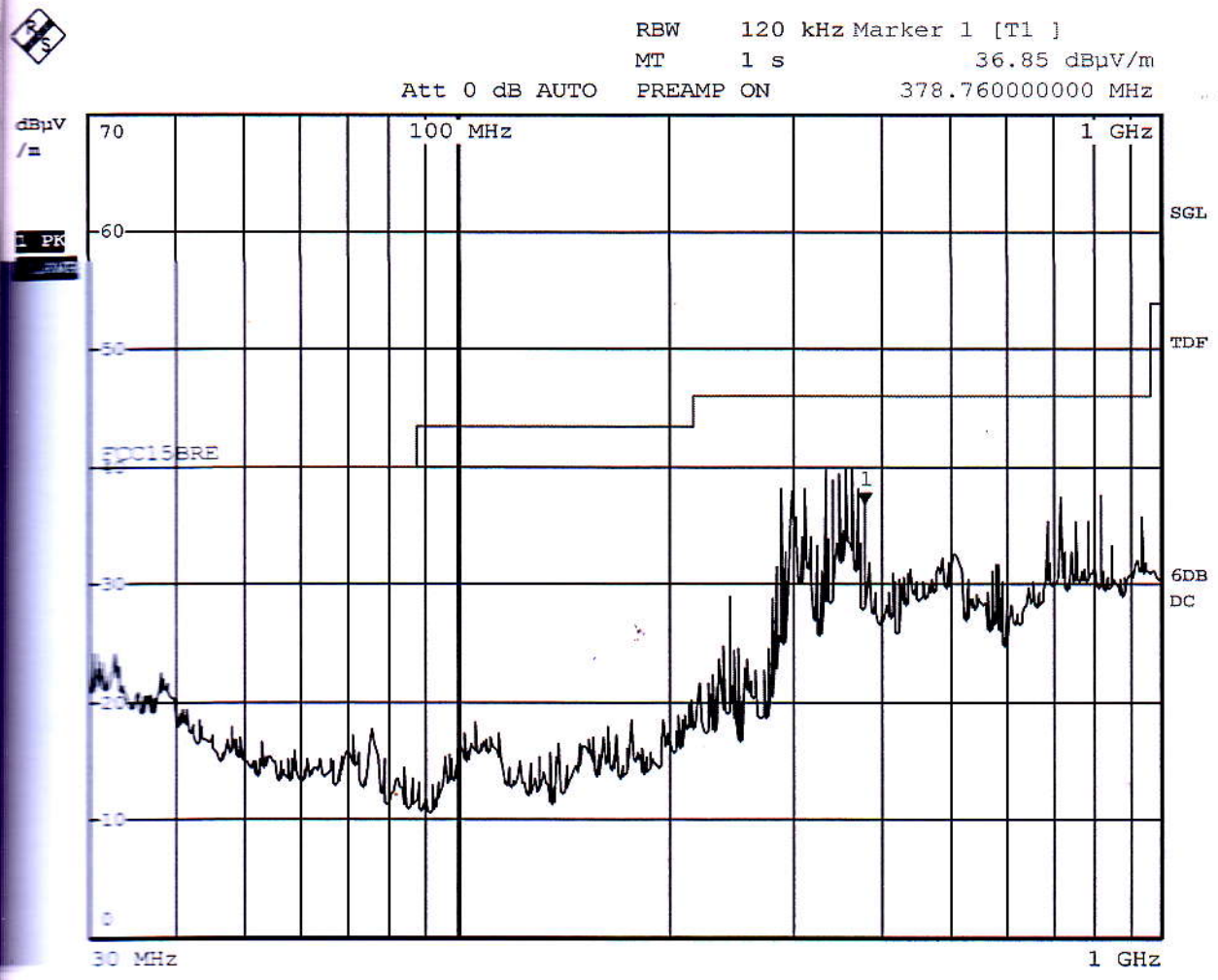
Graph of Radiated Emission measurement



SRF 62242 RE Test Angle:0 Deg Polarization:HP

Date: 12.APR.2013 11:26:01

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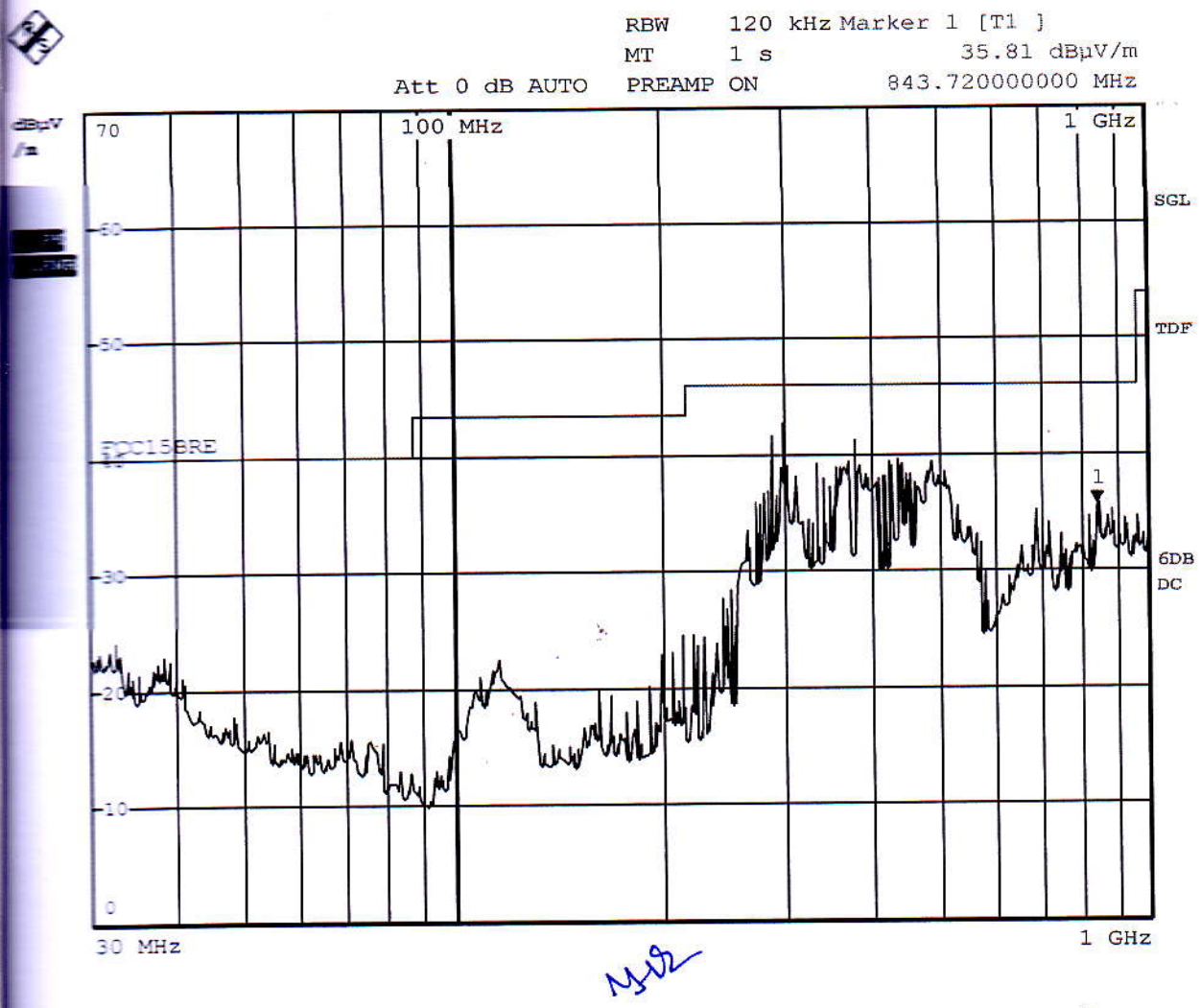
Annexure 'E' (Continued...)

Graph of Radiated Emission measurement

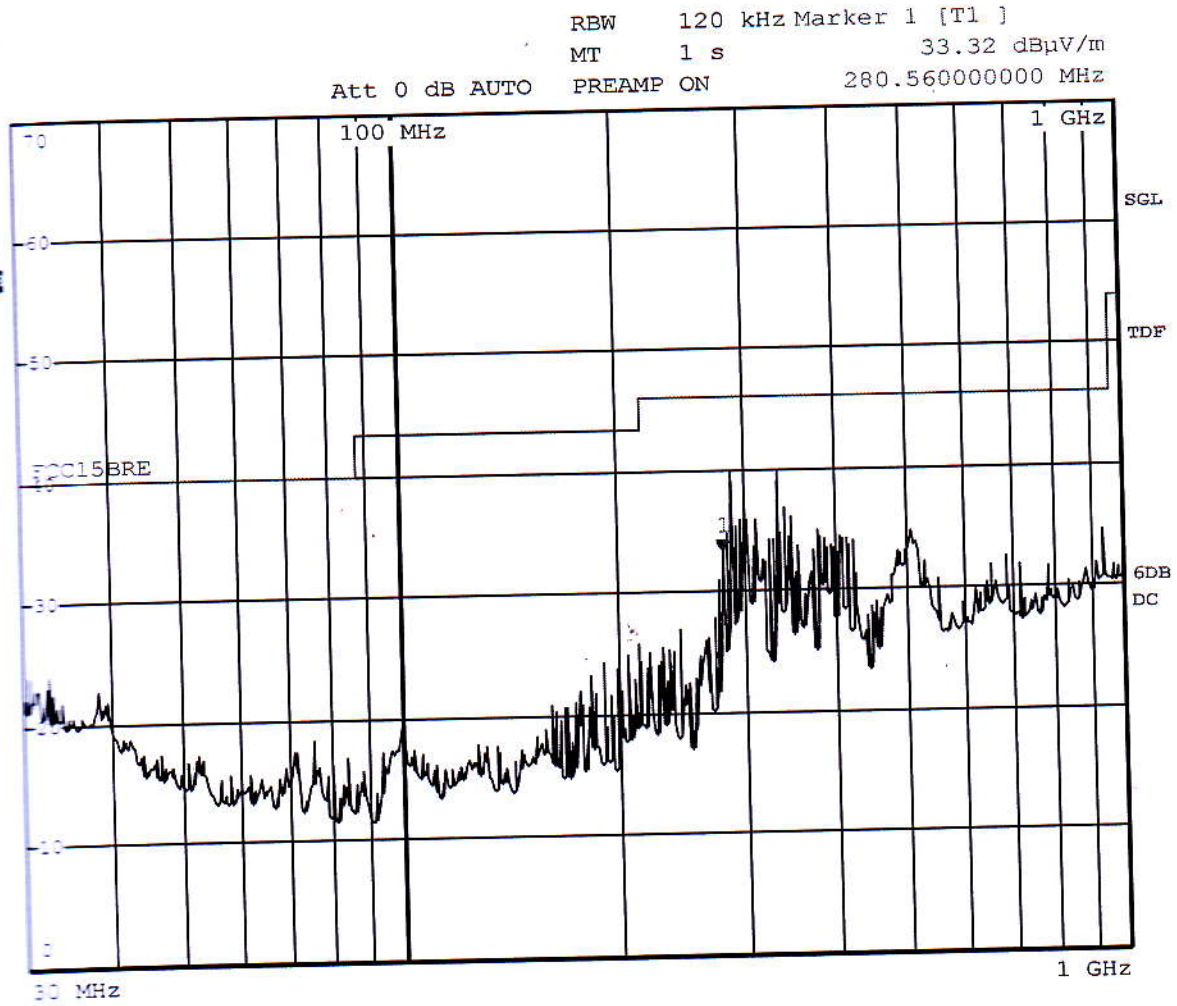


SRF 62242 RE Test Angle:90 Deg Polarization:HP

Date: 12.APR.2013 11:18:38

Annexure 'E' (Continued...)

Graph of Radiated Emission measurement



62242 RE Test Angle:180 Deg Polarization:HP

Date: 12.APR.2013 11:12:25

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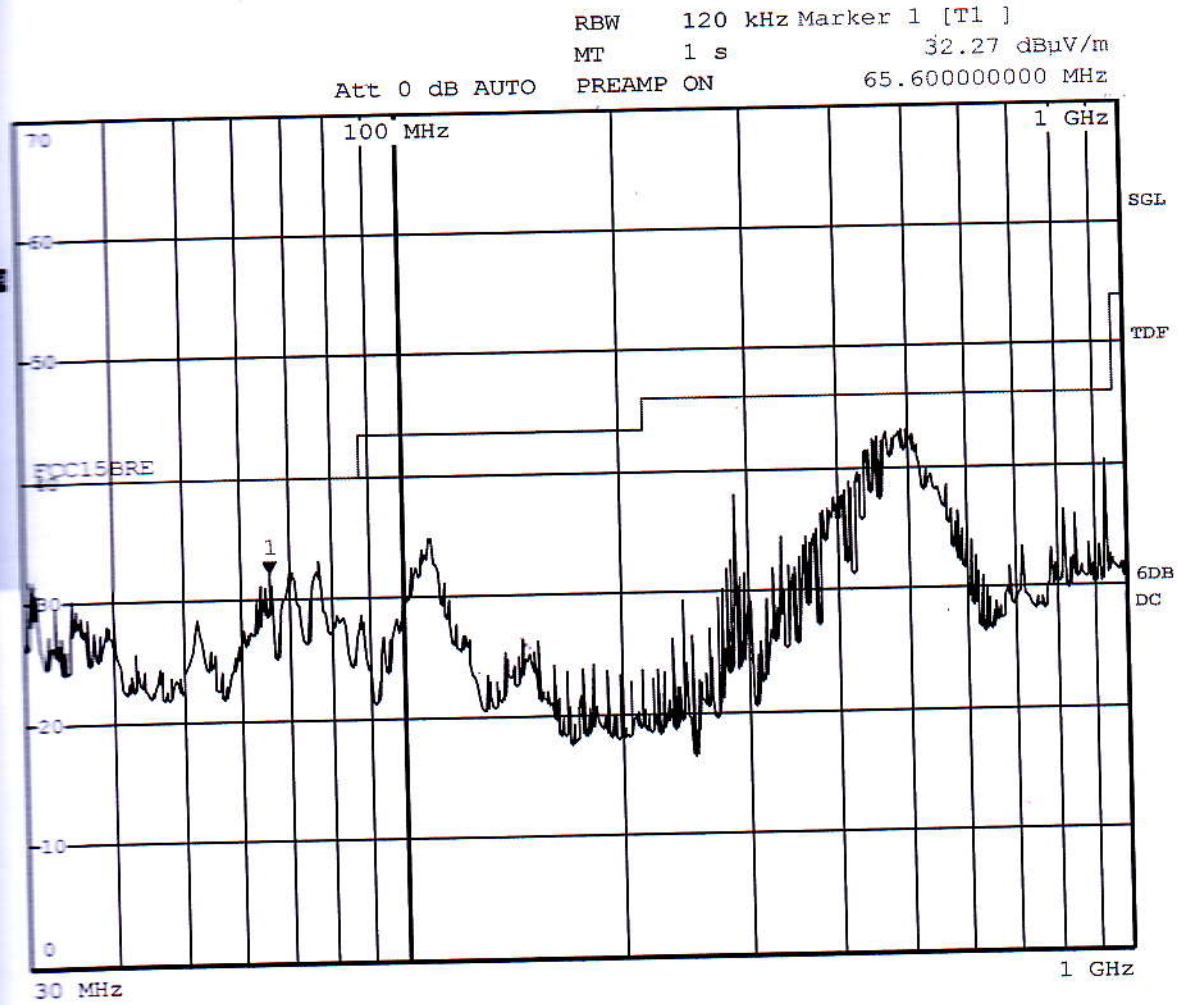
Annexure 'E' (Continued...)

Graph of Radiated Emission measurement



SHF 62242 RE Test Angle:0 Deg Polarization:VP

Date: 12.APR.2013 10:40:55

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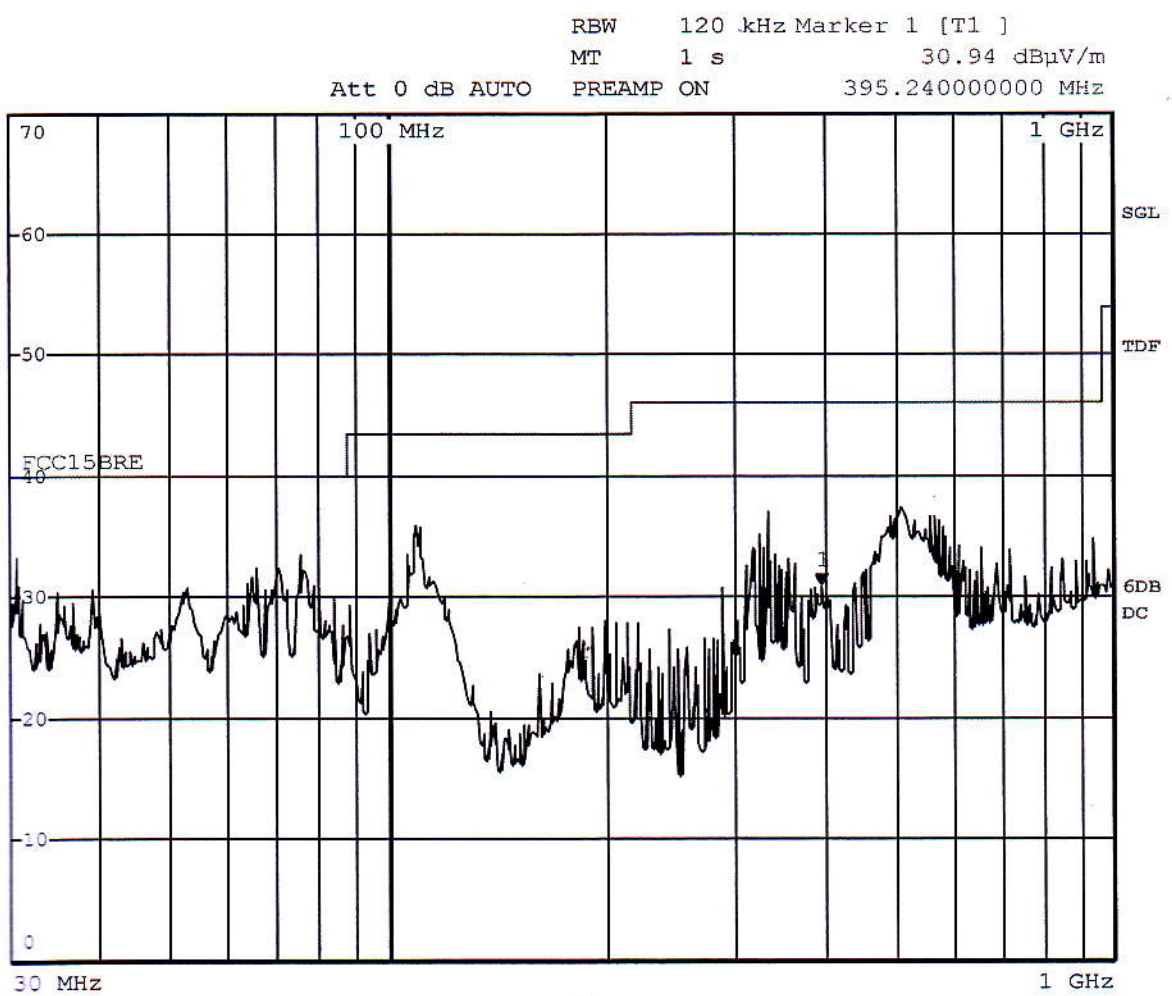
Graph of Radiated Emission measurement



SBF 62242 RE Test Angle:90 Deg Polarization:VP

Date: 12.APR.2013 10:49:58

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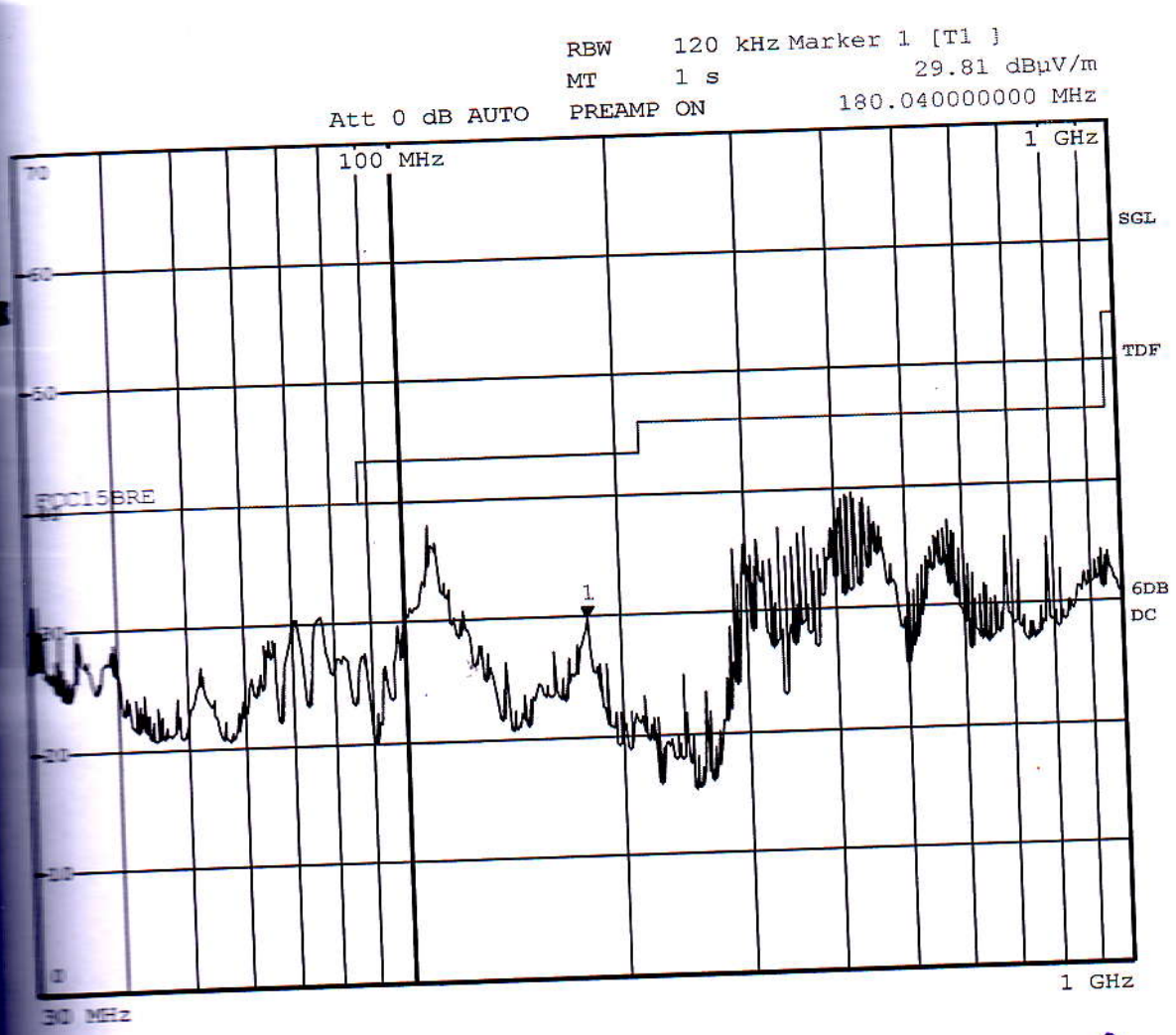
Annexure 'E' (Continued...)

Graph of Radiated Emission measurement



62242 RE Test Angle:180 Deg Polarization:VP

12.APR.2013 10:56:00

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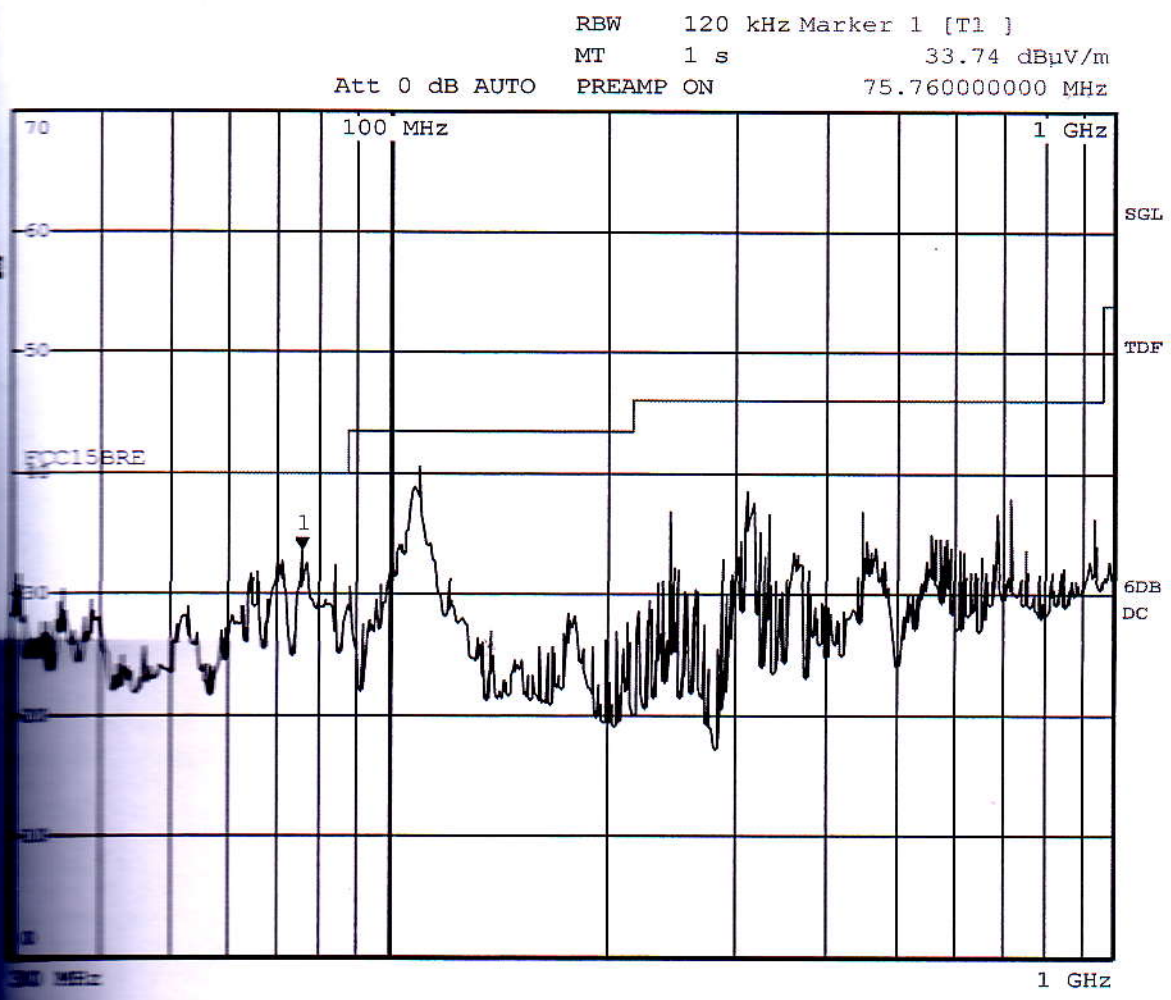
Graph of Radiated Emission measurement



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RE Test Angle:270 Deg Polarization:VP

12.APR.2013 11:01:12