

APPENDIX I

GRAPHS OF EMI MEASUREMENTS

Conducted Emissions

Graph Number 1:	Active Line	0.15 to 30 MHz
Graph Number 2:	Neutral Line	0.15 to 30 MHz

Radiated Emissions

Graph Number 3:	H-Field	0.009 to 30 MHz
Graph Number 4:	Carrier zoom	13.55 to 13.57 MHz
Graph Number 5:	Vertical Antenna Polarisation	30 to 1000 MHz
Graph Number 6:	Horizontal Antenna Polarisation	30 to 1000 MHz

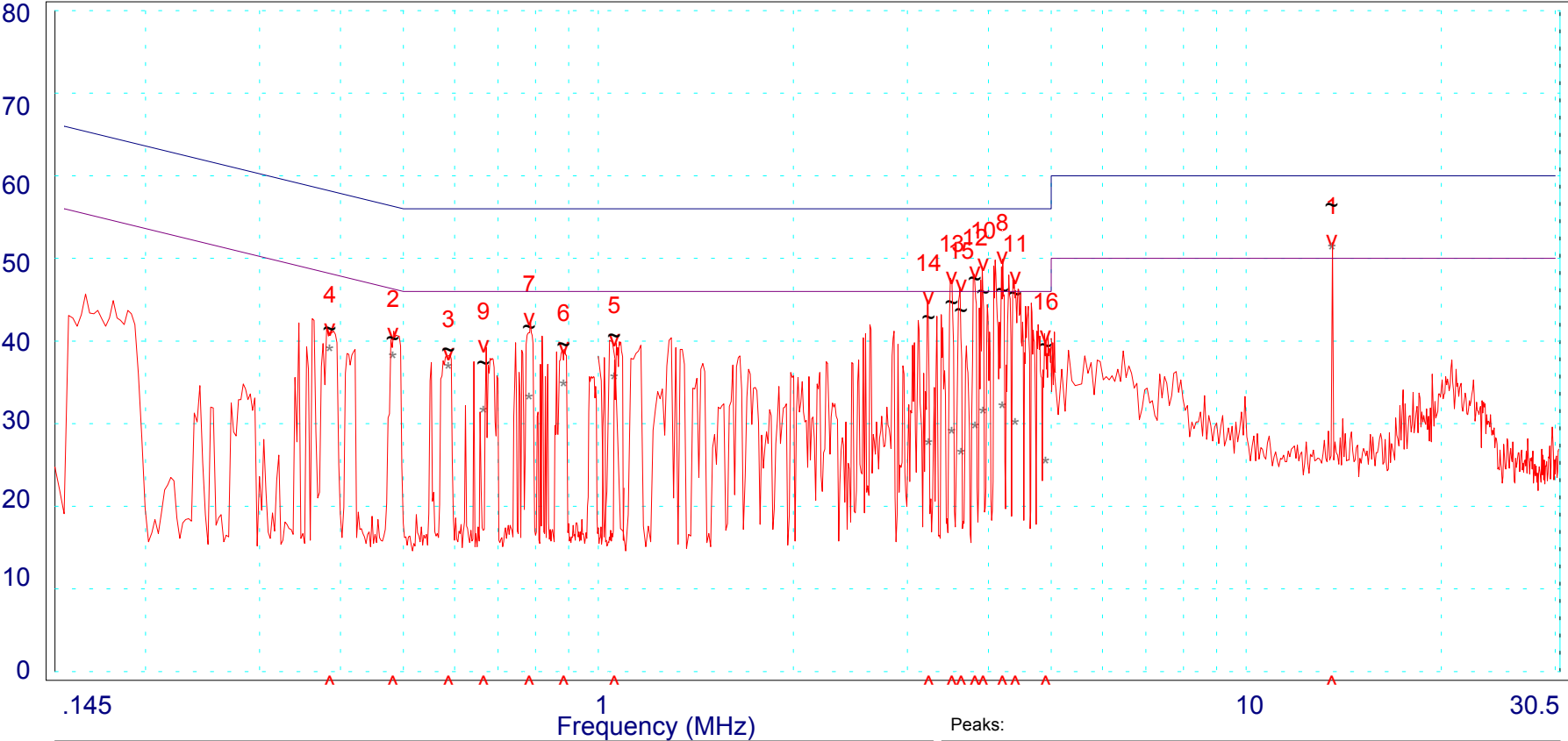


EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B
Conducted Emissions (dBuV)

Job No:T40115

r:\pc\T40115F_1.PCF
Test Date: 03-02-2004
GRAPH No. 1



ERG
3V PC Card Type II + Contactless Reader and 2 SAMS
Model No: MCR 500

Limits:
FCCN_BQP FCC CLASS B QP CONDUCTED LIMITS (CISPR)
FCCN_BAV FCC CLASS B AV CONDUCTED LIMITS (CISPR)

Legend:
Active Line

Ver 5.5 Build 74

Source:
t:L0360404 c1:C0030904 c2:p:NONE a:L0030704
Site ID: Syd Room#2,16/6 Gladstone Rd. Castle Hill, NSW
Test Officer:Kumar Thambiah

Melbourne- 57 Assembly Drv Tullamarine, 3043, Vic, Australia Ph+(613) 9335 3333 Fax+(613) 9338 9260
Sydney---- 16,6 Gladstone Rd Castle Hill, 2154, NSW, Australia Ph+(612) 9899 4599 Fax+(612) 9899 4019

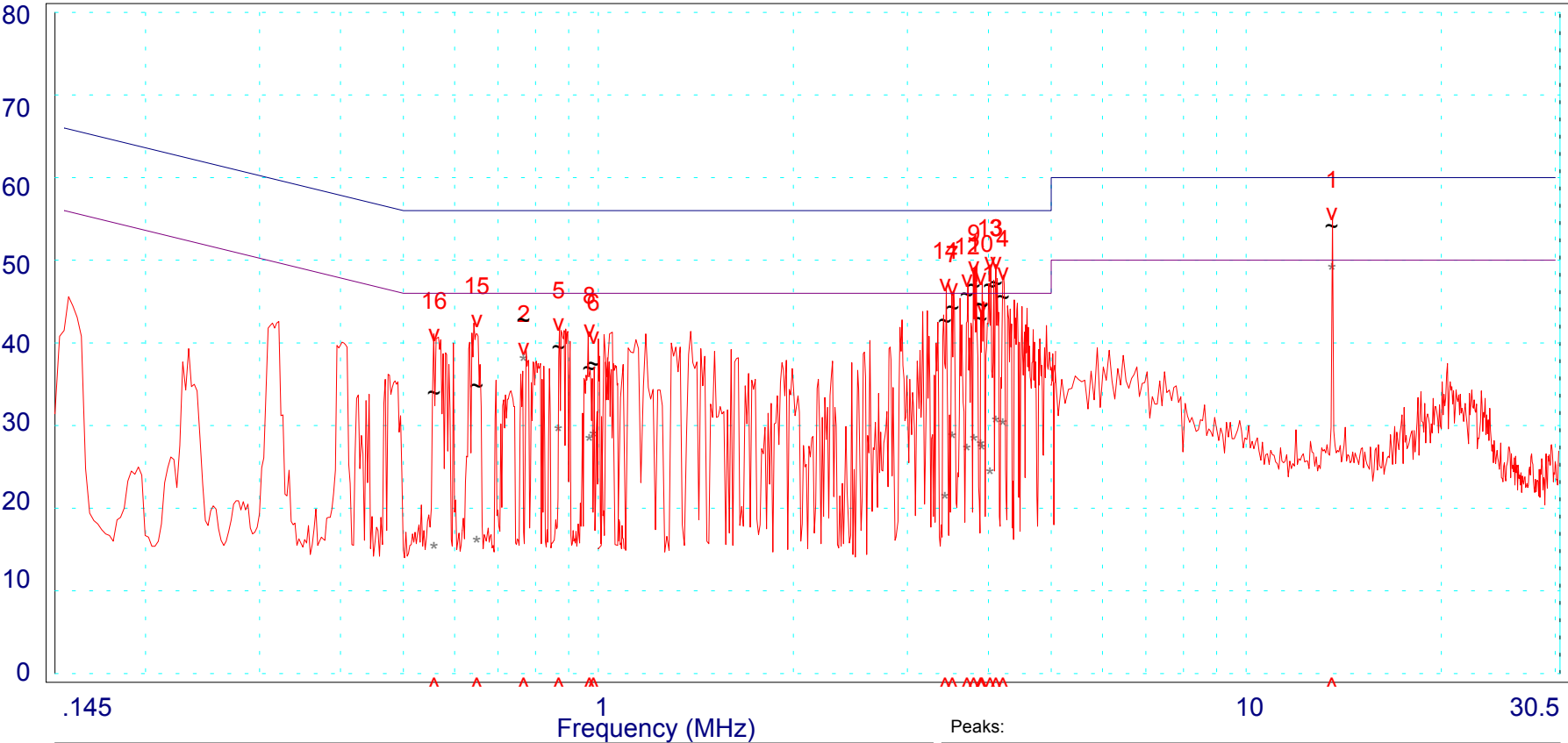
Peaks:								
No	Freq (MHz)	Peak (dBuV)	Qp Val (dBuV)	FCCN_BQPdL1 (dB)	Av Val (dBuV)	FCCN_BAVdL2 (dBuV)	dL2 (dB)	
1	13.56	51.9	56.0	60.0	-4.0	50.4	50.0	.4
2	0.482	40.7	39.9	56.3	-16.4	37.2	46.3	-9.1
3	0.587	38.2	38.5	56.0	-17.5	36.0	46.0	-10.0
4	0.385	41.2	41.1	58.2	-17.1	38.1	48.2	-10.1
5	1.058	39.9	40.2	56.0	-15.8	34.7	46.0	-11.3
6	0.884	39.0	39.2	56.0	-16.8	33.9	46.0	-12.1
7	0.782	42.5	41.3	56.0	-14.7	32.3	46.0	-13.7
8	4.203	49.9	45.7	56.0	-10.3	31.2	46.0	-14.8
9	0.665	39.2	36.9	56.0	-19.1	30.7	46.0	-15.3
10	3.927	49.0	45.5	56.0	-10.5	30.6	46.0	-15.4
11	4.402	47.4	45.3	56.0	-10.7	29.2	46.0	-16.8
12	3.814	48.1	47.1	56.0	-8.9	28.8	46.0	-17.2
13	3.511	47.4	44.3	56.0	-11.7	28.1	46.0	-17.9
14	3.234	45.0	42.5	56.0	-13.5	26.7	46.0	-19.3
15	3.631	46.5	43.3	56.0	-12.7	25.6	46.0	-20.4
16	4.903	40.3	39.1	56.0	-16.9	24.5	46.0	-21.5

EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B
Conducted Emissions (dBuV)

Job No:T40115

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Test Date: 03-02-2004
GRAPH No. 2



ERG
3V PC Card Type II + Contactless Reader and 2 SAMS
Model No: MCR 500

Limits:
FCCN_BQP FCC CLASS B QP CONDUCTED LIMITS (CISPR)
FCCN_BAV FCC CLASS B AV CONDUCTED LIMITS (CISPR)

Legend:
— Neutral Line

Ver 5.5 Build 74

Source:
t:L0360404 c1:C0030904 c2: p:NONE a:L0030704
Site ID: Syd Room#2,16/6 Gladstone Rd. Castle Hill, NSW
Test Officer:Kumar Thambiah

Melbourne- 57 Assembly Drv Tullamarine, 3043, Vic, Australia Ph+(613) 9335 3333 Fax+(613) 9338 9260
Sydney---- 16,6 Gladstone Rd Castle Hill, 2154, NSW, Australia Ph+(612) 9899 4599 Fax+(612) 9899 4019

Peaks:								
No	Freq (MHz)	Peak (dBuV)	Qp Val (dBuV)	FCCN_BQPdL1 (dB)	Av Val (dBuV)	FCCN_BAVdL2 (dBuV)	dL2 (dB)	
1	13.56	55.4	53.7	60.0	-6.3	48.2	50.0	-1.8
2	0.767	39.1	42.3	56.0	-13.7	37.1	46.0	-8.9
3	4.110	49.5	46.8	56.0	-9.2	29.7	46.0	-16.3
4	4.213	48.2	45.1	56.0	-10.9	29.4	46.0	-16.6
5	0.868	42.0	39.1	56.0	-16.9	28.7	46.0	-17.3
6	0.983	40.5	37.0	56.0	-19.0	28.0	46.0	-18.0
7	3.520	46.3	43.8	56.0	-12.2	27.8	46.0	-18.2
8	0.969	41.3	36.5	56.0	-19.5	27.5	46.0	-18.5
9	3.799	48.9	46.5	56.0	-9.5	27.5	46.0	-18.5
10	3.893	47.6	42.5	56.0	-13.5	26.9	46.0	-19.1
11	3.910	44.0	44.1	56.0	-11.9	26.4	46.0	-19.6
12	3.709	47.3	45.4	56.0	-10.6	26.3	46.0	-19.7
13	4.024	49.5	46.5	56.0	-9.5	23.5	46.0	-22.5
14	3.429	46.8	42.2	56.0	-13.8	20.5	46.0	-25.5
15	0.649	42.5	34.4	56.0	-21.6	15.2	46.0	-30.8
16	0.558	40.7	33.5	56.0	-22.5	14.4	46.0	-31.6

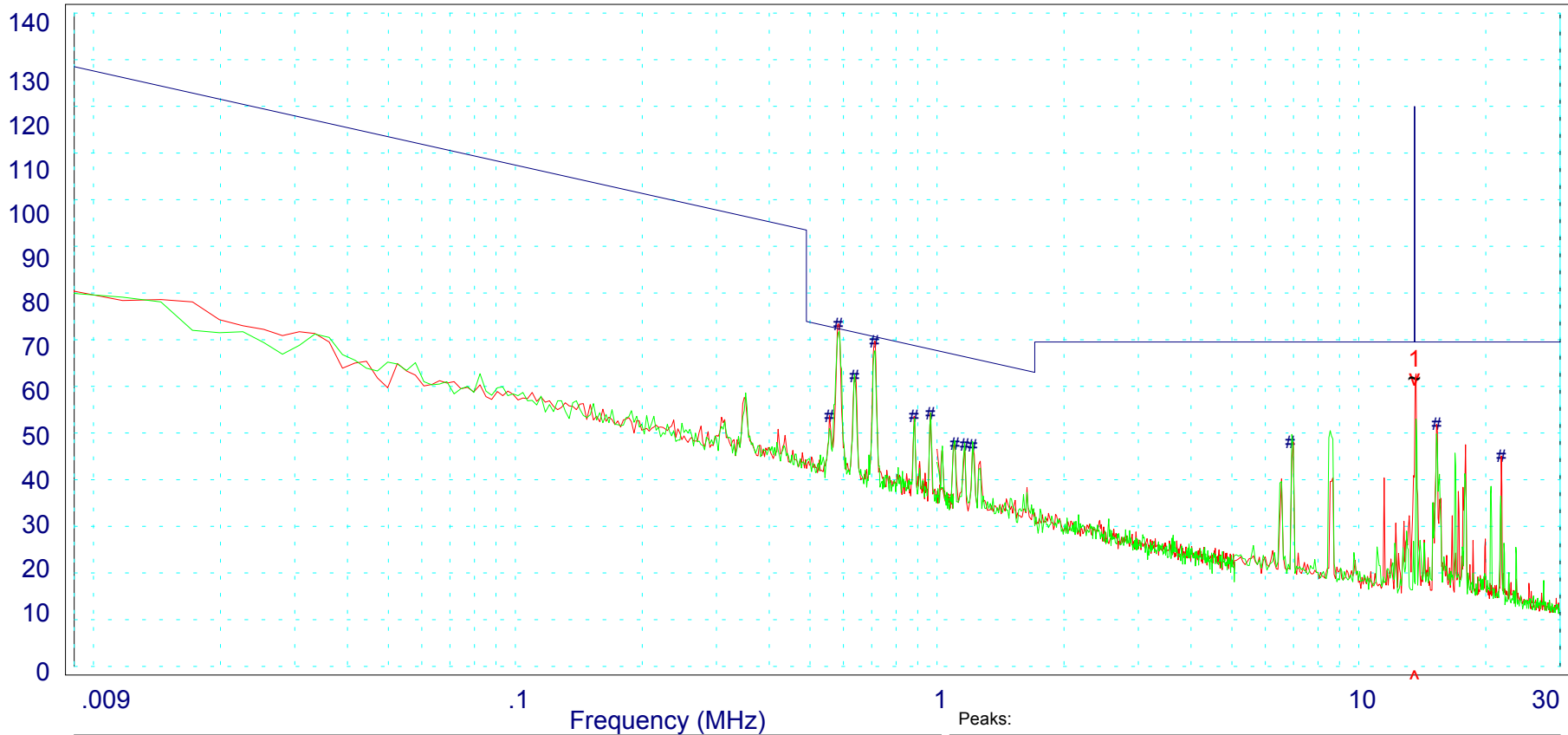
EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B
Radiated Emissions (dBuV)
= Ambient

Job No:T40115

Test Date: 21-01-04

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GRAPH No. 3



ERG
3V PC Card Type II + Contactless Reader and 2 SAMS
Model No: MCR500

Limits:
FCC_loop_3mFCC Pt15 3 METRE LIMITS FOR LOOP ANTENNA

Legend:
— Ambients
— Emissions

Source:
T40115r2 17 18 19
T40115r2 13 14 15

Ver 5.5 Build 70
Colo Radiated Test Setup Active Loop
t:A0081204E c1:C0200904 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer: Bruce Holdsworth

Melbourne- 57 Assembly Drv Tullamarine, 3043, Vic, Australia Ph+(613) 9335 3333 Fax+(613) 9338 9260
Sydney---- 16,6 Gladstone Rd Castle Hill, 2154, NSW, Australia Ph+(612) 9899 4599 Fax+(612) 9899 4019

Peaks:

No	Freq (MHz)	Peak (dBuV)	Qp Val	FCC_loop_3dL1 (dBuV)	3dL1 (dB)
1	13.56	62.7	62.5	120.0	-57.5

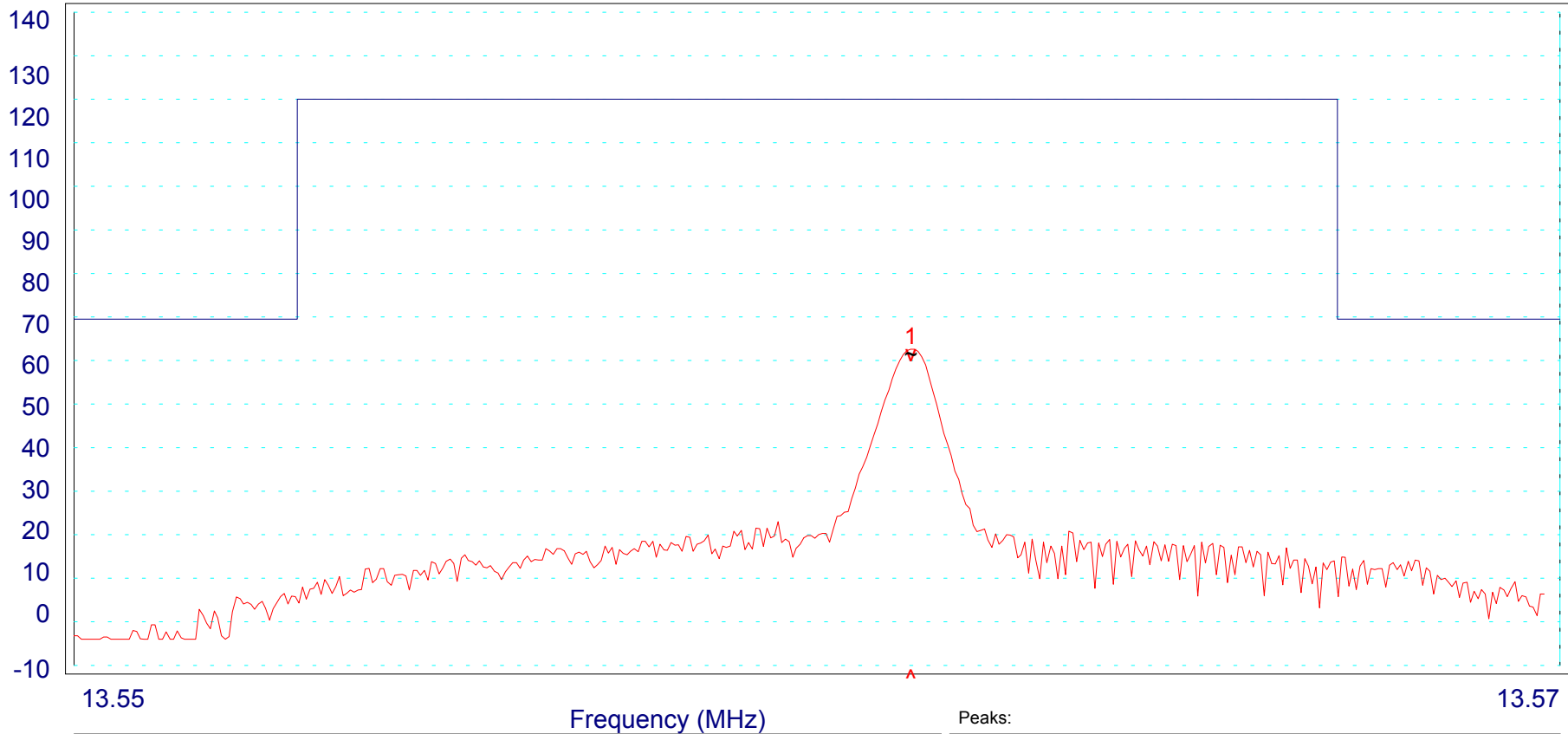
EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B
Radiated Emissions (dBuV)
= Ambient

Job No:T40115

Test Date: 21-01-04

C:\reports\PCF\T40115_4.PCF
GRAPH No. 4



ERG
3V PC Card Type II + Contactless Reader and 2 SAMS
Model No: MCR500

Limits:
FCC_loop_3mFCC Pt15 3 METRE LIMITS FOR LOOP ANTENNA

Legend:
Carrier

Ver 5.5 Build 70
Colo Radiated Test Setup Active Loop
t:A0081204E c1:C0200904 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer: Bruce Holdsworth

Melbourne- 57 Assembly Drv Tullamarine, 3043, Vic, Australia Ph+(613) 9335 3333 Fax+(613) 9338 9260
Sydney---- 16,6 Gladstone Rd Castle Hill, 2154, NSW, Australia Ph+(612) 9899 4599 Fax+(612) 9899 4019

Peaks:

No	Freq (MHz)	Peak (dBuV)	Qp Val	FCC_loop_3m (dBuV)	3dL1 (dB)
1	13.56	62.6	62.4	120.0	-57.6

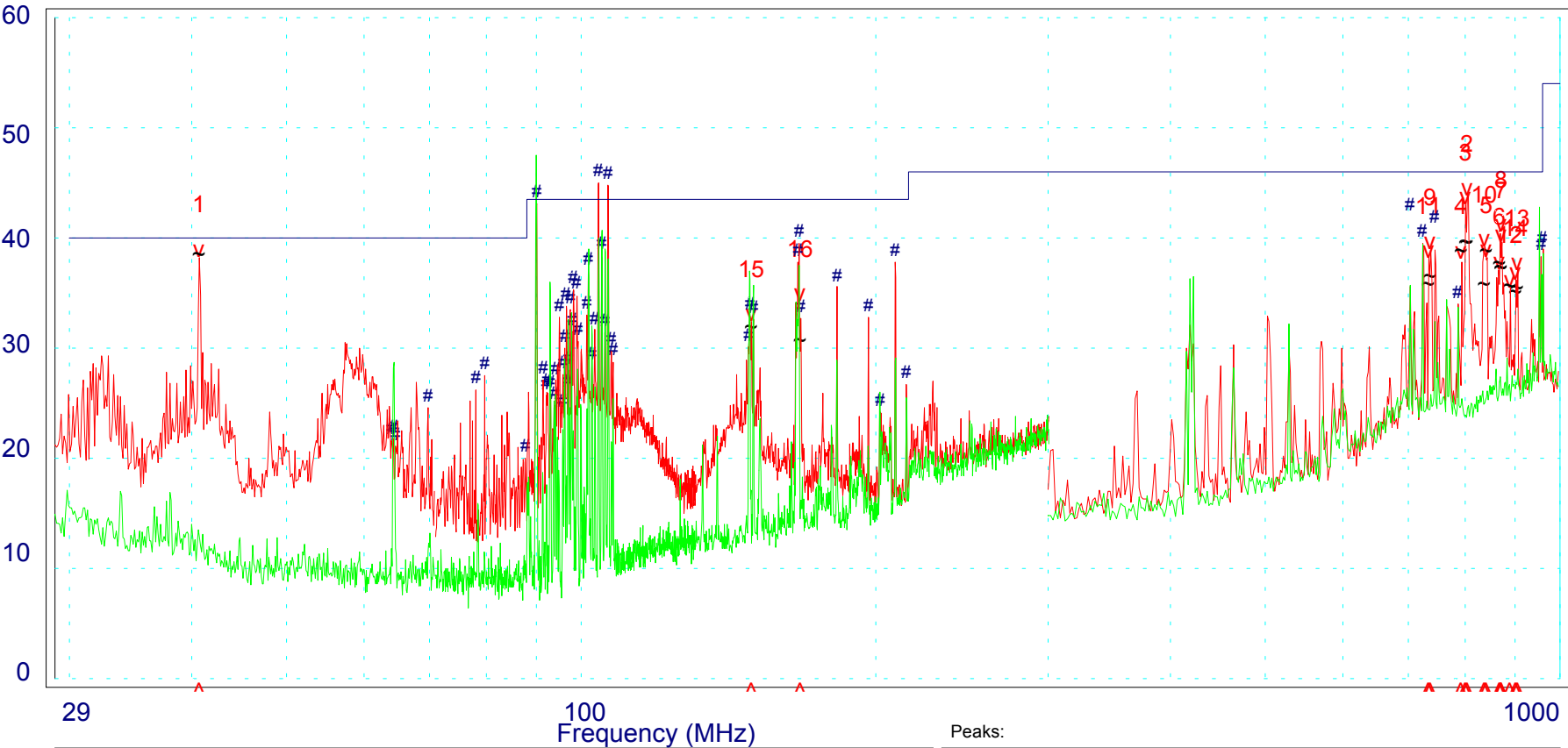
EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T40115

Test Date: 21-01-04

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GRAPH No. 5



ERG
3V PC Card Type II + Contactless Reader and 2 SAMS
Model No: MCR500

Limits:
FCC-B3 FCC CLASS B RAD 3M LIMITS

Legend:
Vertical: Green Vertical Ambients
 Red Vertical Emissions

Source:
Vamb1201 1 2 3 4 5 11
T40115r2 1 2 3 4 5 11

Ver 5.5 Build 70
Colo Radiated Test Setup
t:A0690304 c1:C0200904 c2:NONE p:A0961004 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer: Bruce Holdsworth

Melbourne- 57 Assembly Drv Tullamarine, 3043, Vic, Australia Ph+(613) 9335 3333 Fax+(613) 9338 9260
Sydney---- 16,6 Gladstone Rd Castle Hill, 2154, NSW, Australia Ph+(612) 9899 4599 Fax+(612) 9899 4019

Peaks:					
No	Freq (MHz)	Peak (dBuV/m)	Qp Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	40.68	38.2	37.7	40.0	-2.3
2	803.51	43.8	38.8	46.0	-7.2
3	800.25	43.0	38.8	46.0	-7.2
4	792.18	38.1	38.0	46.0	-8.0
5	840.20	38.2	38.0	46.0	-8.0
6	866.94	37.1	36.9	46.0	-9.1
7	870.46	39.5	36.5	46.0	-9.5
8	870.45	40.5	36.5	46.0	-9.5
9	736.55	38.9	35.7	46.0	-10.3
10	836.78	39.1	35.0	46.0	-11.0
11	733.60	38.1	35.0	46.0	-11.0
12	888.20	35.4	34.8	46.0	-11.2
13	903.87	37.0	34.7	46.0	-11.3
14	900.37	36.1	34.3	46.0	-11.7
15	149.17	32.4	31.1	43.5	-12.4
16	167.30	34.2	29.9	43.5	-13.6

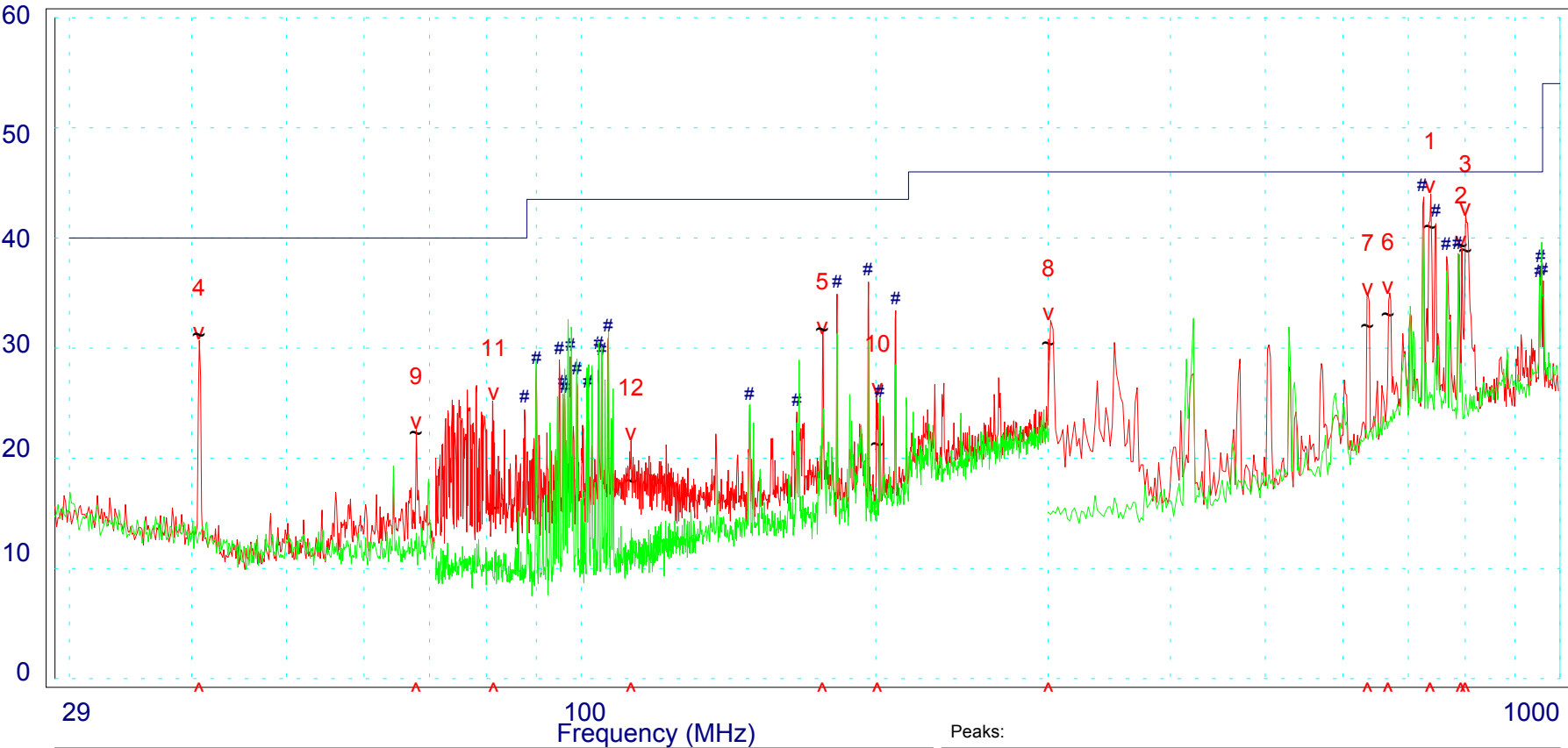
EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T40115

Test Date: 21-01-04

C:\reports\PCF\T40115_6.PCF
GRAPH No. 6



ERG
3V PC Card Type II + Contactless Reader and 2 SAMS
Model No: MCR500

Limits:
FCC-B3 FCC CLASS B RAD 3M LIMITS

Legend:
— Horizontal Ambients
— Horizontal Emissions

Ver 5.5 Build 70
Colo Radiated Test Setup
t:A0690304 c1:C0200904 c2:NONE p:A0961004 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer: Bruce Holdsworth

Source:
V Amb 1201 6 7 8 9 10 12
T 40115r2 6 7 8 9 10 12

Melbourne- 57 Assembly Drv Tullamarine, 3043, Vic, Australia Ph+(613) 9335 3333 Fax+(613) 9338 9260
Sydney---- 16,6 Gladstone Rd Castle Hill, 2154, NSW, Australia Ph+(612) 9899 4599 Fax+(612) 9899 4019

Peaks:					
No	Freq (MHz)	Peak (dBuV/m)	Qp Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	736.47	44.0	40.2	46.0	-5.8
2	792.17	39.0	38.5	46.0	-7.5
3	800.22	41.9	38.0	46.0	-8.0
4	40.68	30.7	30.4	40.0	-9.6
5	176.30	31.2	30.9	43.5	-12.6
6	666.99	34.8	32.2	46.0	-13.8
7	635.94	34.7	31.2	46.0	-14.8
8	300.12	32.5	29.6	46.0	-16.4
9	67.80	22.6	21.5	40.0	-18.5
10	200.62	25.6	20.4	43.5	-23.1
11	81.37	25.2	14.7	40.0	-25.3
12	112.38	21.6	17.1	43.5	-26.4