

**EMC Technologies Report Number: M081041\_Cert\_TDMA\_ETHERMUX**

**APPENDIX M**

**PLOTS OF EMI MEASUREMENT**

# EMC Technologies Pty. Ltd. - Global Product Certification

Radiated Emissions (dBuV/m)

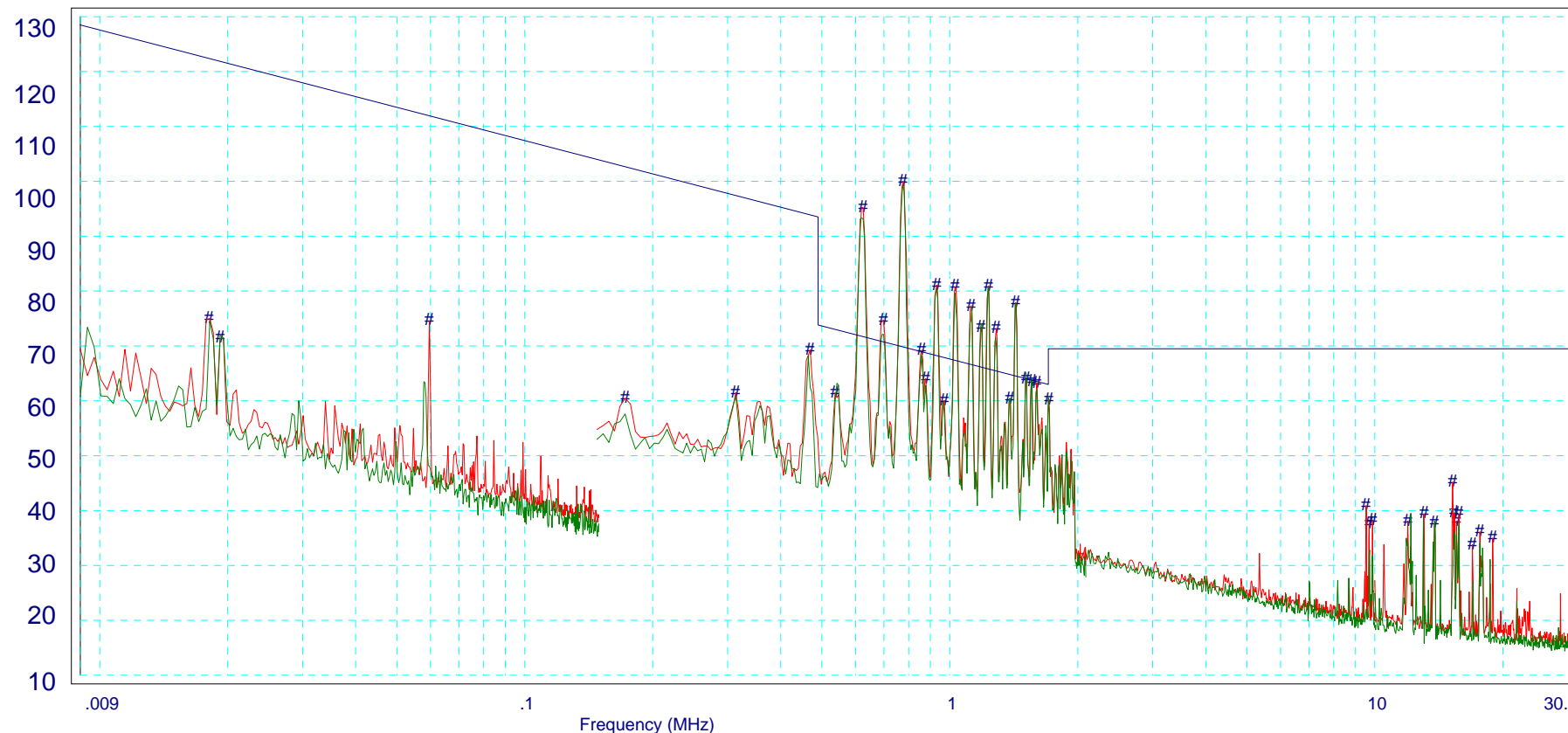
# = Ambient

Job No:m081041

p:\PCF\m081041\_1.PCF

Test Date: 09/12/2008

GRAPH No. 1



EM Solutions  
Ethermux

9 kHz to 30 MHz

Limits:  
FCC15209 FCC PART 15.209 3mtr LMTS

Legend:

— Parallel

Ver 5.5 Build 154  
radiated emissions site 1 lerderg  
t:A3100708E c1:C1311208 c2:C2601208 p:NONE a:NONE  
Site ID: OATS1,Lerderg Gorge Rd, Bacchus Marsh, VIC  
Test Officer:Chieu Huynh

Source:  
m081041r31 ,32 ,33 ,34  
m081041r19 ,20 ,21 ,22

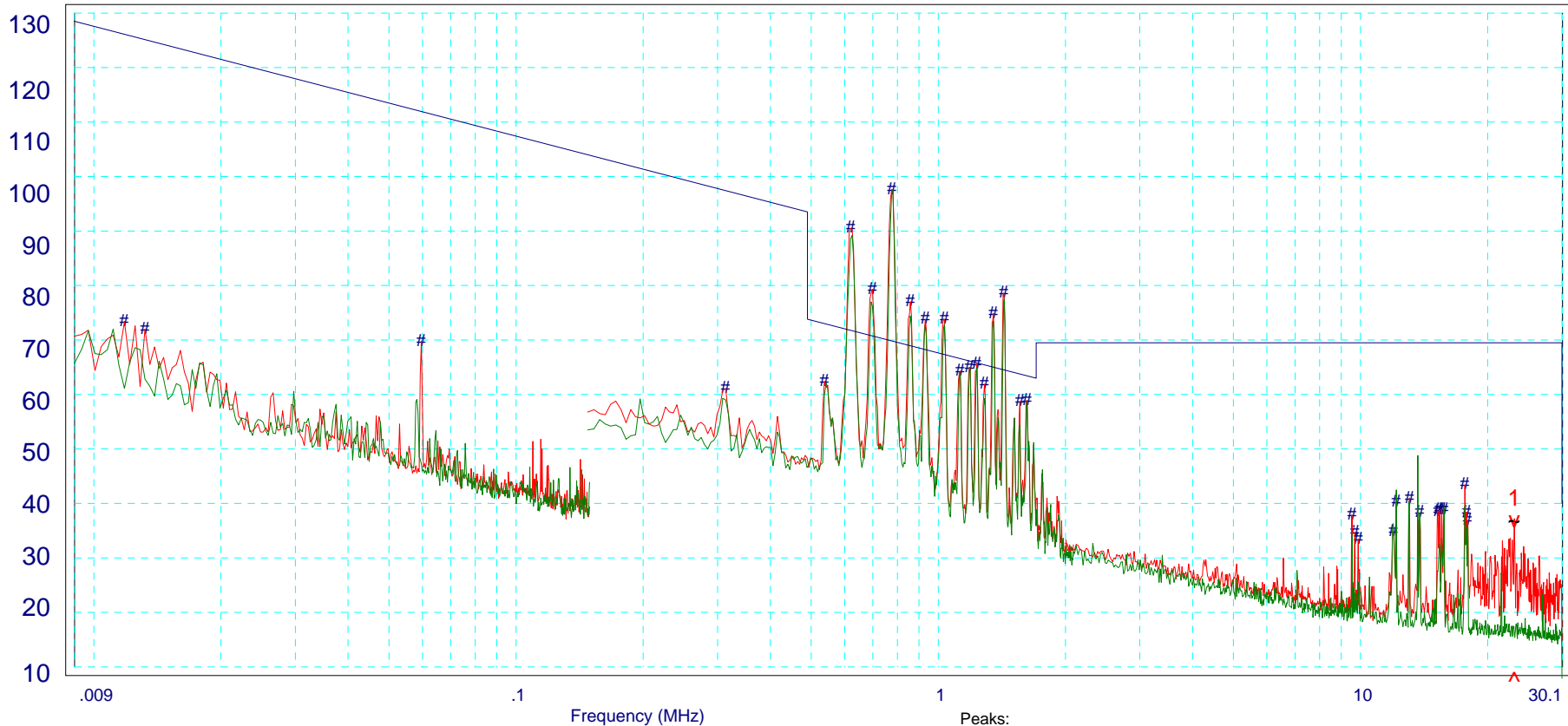
EMC Technologies (Melbourne) 176 Harrick Rd, Keilor Park, 3042, Vic, Australia  
Phone+(613) 9365 1000 Fax+(613) 9331 7455

EMC Technologies Pty. Ltd. - Global Product Certification

Radiated Emissions (dBUV/m)  
# = Ambient

Job No:m081041      p:\PCF\m081041\_2.PCF  
Test Date: 09/12/2008

GRAPH No. 2



EM Solutions  
Ethernux  
  
9 kHz to 30 MHz

Limits: FCC15209      FCC PART 15.209 3mtr LMTS  
  
Legend:  
— Perpendicular  
  
Source:  
m081041:27,28,29,30  
m081041:23,24,25,26

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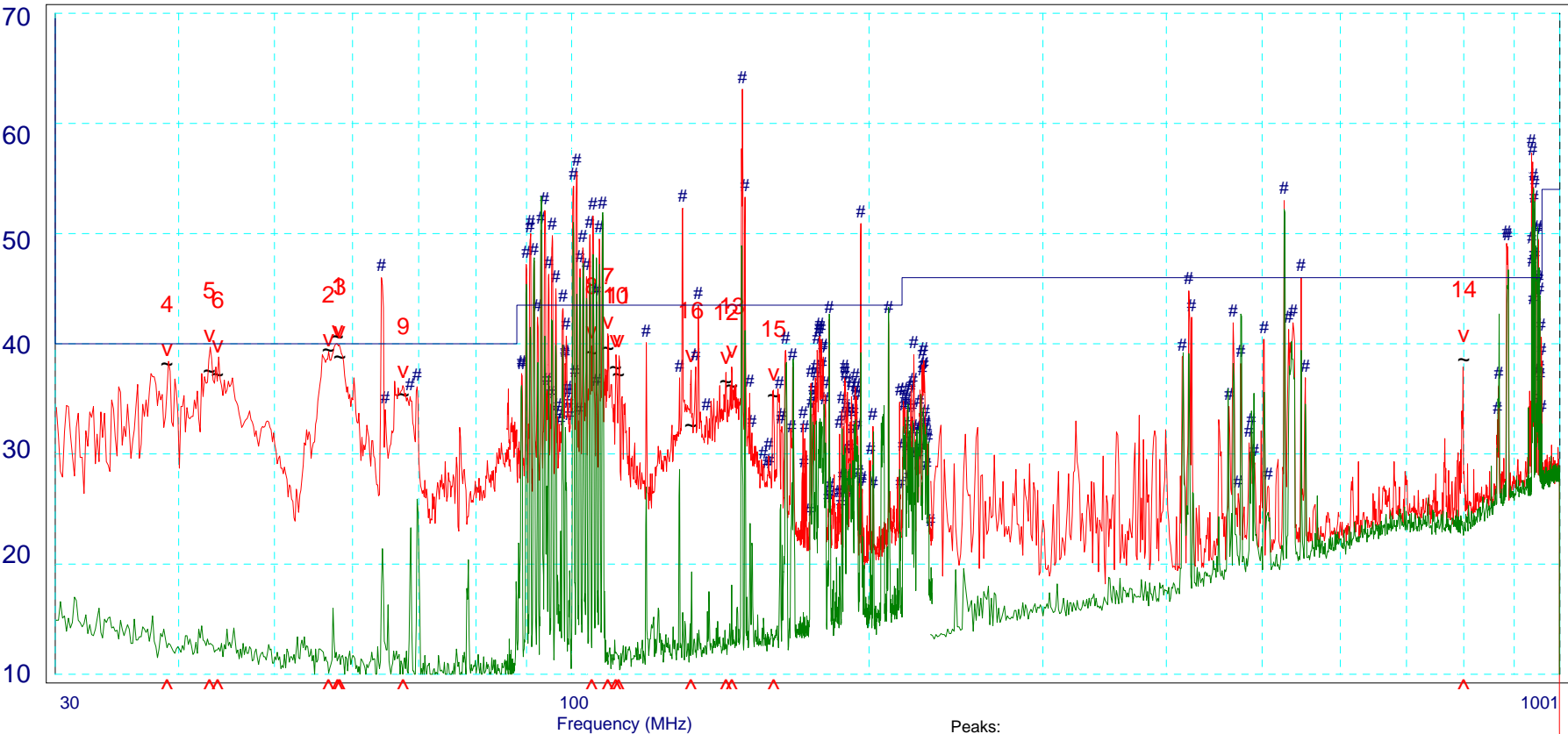
Peaks:					
No	Freq (MHz)	Peak (dBUV/m)	QP Val	FCC15209 (dBUV/m)	dL1 (dB)
1	23.13	37.5	37.4	69.5	-32.1

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Radiated Emissions (dBuV/m)  
# = Ambient

Job No:m081041      p:\PCF\m081041\_3.PCF  
Test Date: 09/12/2008

GRAPH No. 3



**EM Solutions**  
**Ethermux**

**30 MHz to 1000 MHz**

Limits:  
FCC15209      **FCC PART 15.209 3mtr LMTS**

Ver 5.5 Build 154  
radiated emissions site 1 lerderg  
t:A1360708\_10M c1:C1311208 c2:C2601208 p:NONE a:NONE  
Site ID: OATS1,Lerderg Gorge Rd, Bacchus Marsh, VIC  
Test Officer:Chieu Huynh

Legend:  
— Vertical Emissions

Source:  
m081041# 7 , 3 , 4 , 5 , 16 ,17 ,18

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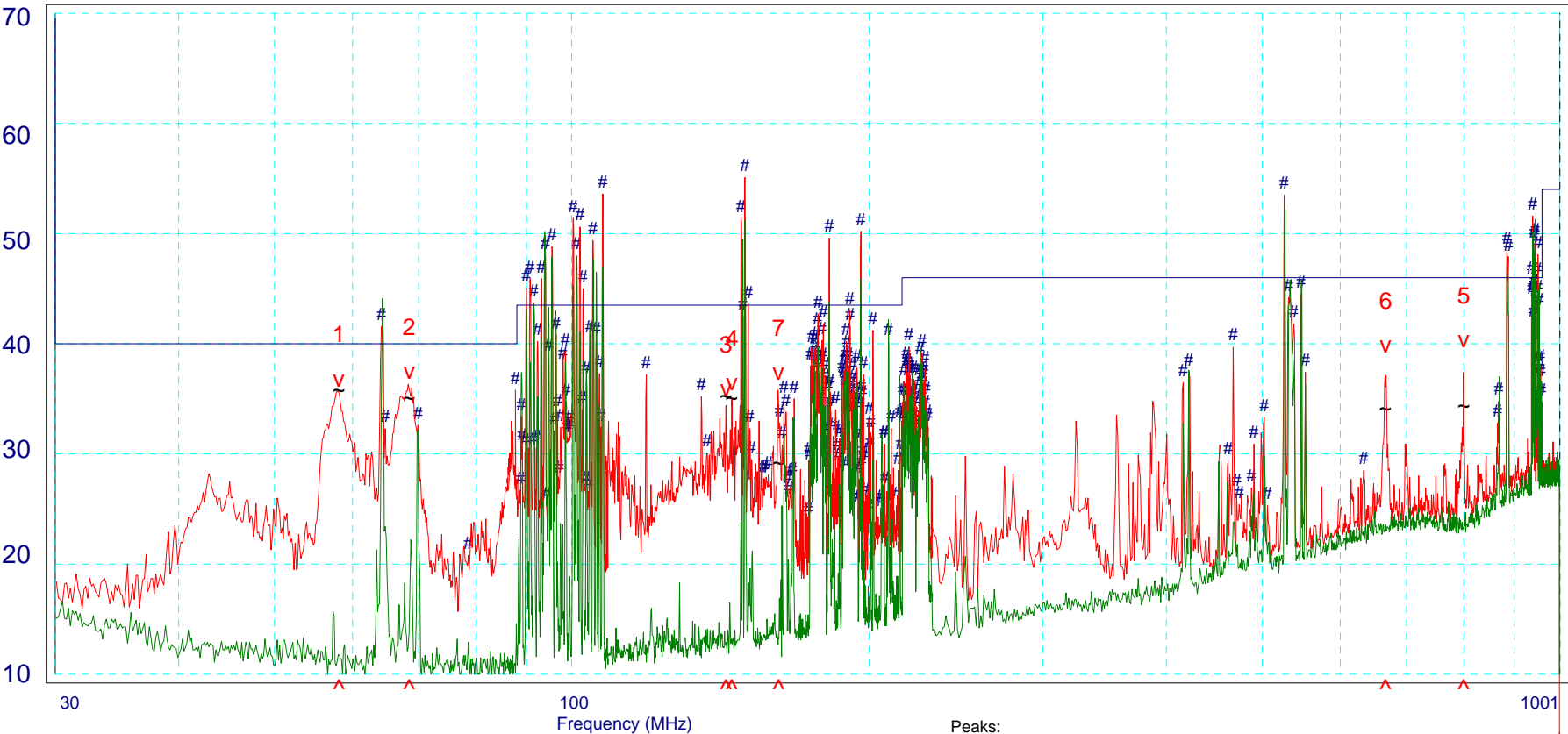
Peaks:					
No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC15209 (dBuV/m)	dL1 (dB)
1	57.96	40.4	40.0	40.0	.0
2	56.73	39.7	38.8	40.0	-1.2
3	58.25	40.4	38.2	40.0	-1.8
4	38.94	38.8	37.5	40.0	-2.5
5	42.98	40.1	36.9	40.0	-3.1
6	43.82	39.1	36.6	40.0	-3.4
7	108.83	41.3	38.9	43.5	-4.6
8	104.76	40.4	38.6	43.5	-4.9
9	67.52	36.8	34.8	40.0	-5.2
10	110.80	39.6	37.2	43.5	-6.3
11	111.59	39.6	36.6	43.5	-6.9
12	143.29	38.1	36.0	43.5	-7.5
13	145.27	38.6	35.5	43.5	-8.0
14	800.01	40.1	37.9	46.0	-8.1
15	160.11	36.6	34.7	43.5	-8.8
16	132.07	38.2	32.0	43.5	-11.5

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Radiated Emissions (dBuV/m)  
# = Ambient

Job No:m081041      p:\PCF\m081041\_4.PCF  
Test Date: 09/12/2008

GRAPH No. 4



**EM Solutions**  
**Ethermux**

**30 MHz to 1000 MHz**

Limits:  
FCC15209      FCC PART 15.209 3mtr LMTS

Ver 5.5 Build 154  
radiated emissions site 1 lerderderg  
t:A1360708\_10M c1:C1311208 c2:C2601208 p:NONE a:NONE  
Site ID: OATS1,Lerderderg Gorge Rd, Bacchus Marsh, VIC  
Test Officer:Chieu Huynh

Source:  
m081041# , 9 , 10 , 11 , 12 , 13 , 14 , 15

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Phone+(613) 9365 1000 Fax+(613) 9331 7455

Peaks:					
No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC15209 (dBuV/m)	dL1 (dB)
1	58.12	36.0	35.1	40.0	-4.9
2	68.47	36.7	34.4	40.0	-5.6
3	143.31	35.1	34.6	43.5	-8.9
4	145.28	35.7	34.4	43.5	-9.1
5	800.09	39.6	33.7	46.0	-12.3
6	666.74	39.1	33.4	46.0	-12.6
7	161.97	36.6	28.5	43.5	-15.0

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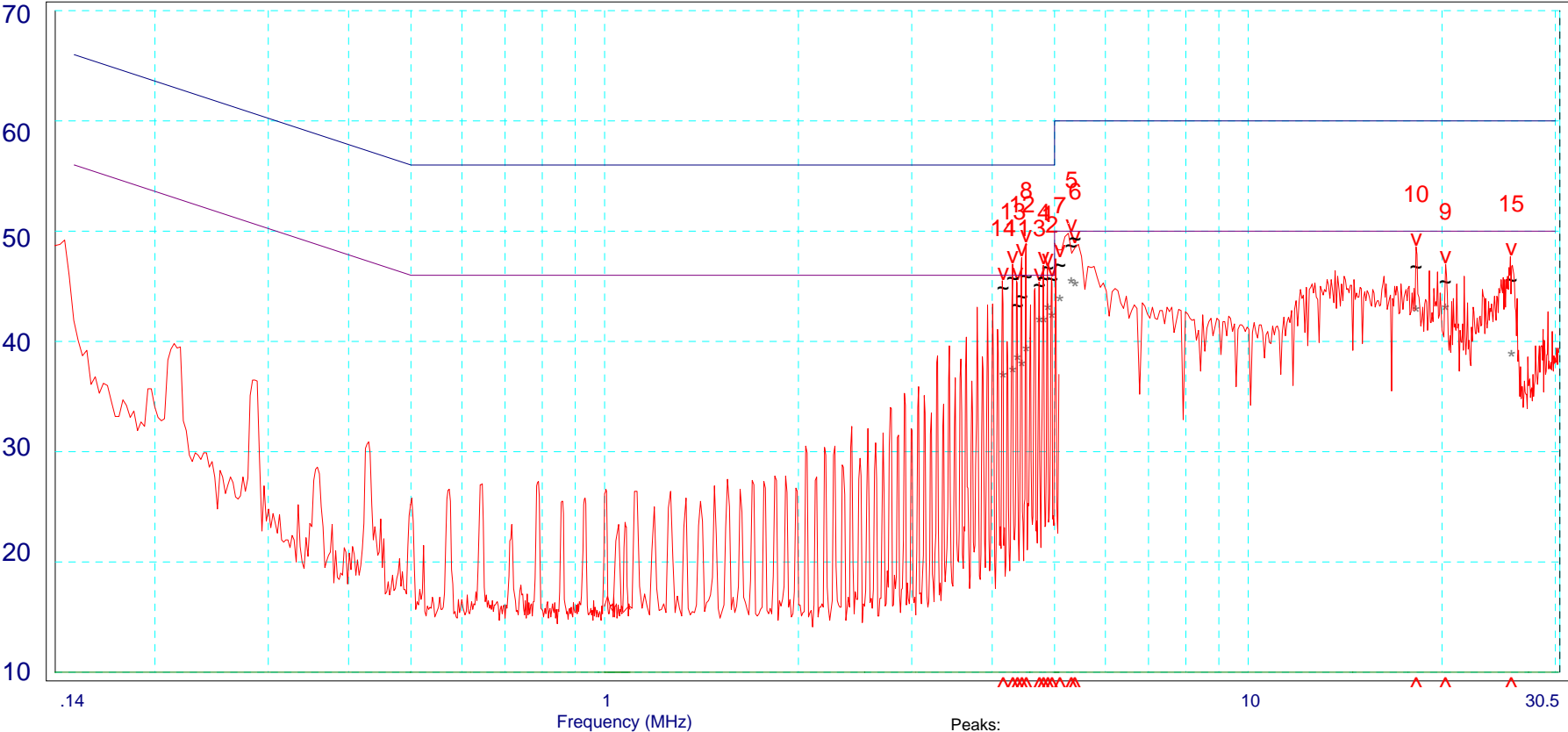
Conducted Emissions (dBuV)

Job No:m081041

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Test Date: 19/12/2008

GRAPH No. 5



EM Solutions  
Ethernux

Active Line

Limits:  
FCC\_BQPN FCC PART 15 CLASS B CONDUCTED QP LIMITS (2002)  
FCC\_BAVN FCC PART 15 CLASS B CONDUCTED AVERAGE LIMIT (2002)

Legend:  
Active Line

Ver 5.5 Build 154  
Room 2, conducted  
t:L0220809 c1:C1570309 c2:C1511208 p:NONE a:L0170809  
Site ID: Room#2,176 Harrick Rd, Keilor Park,Vic  
Test Officer:Chieu Huynh

Source:  
M081041 , 1 , 2

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Phone+(613) 9365 1000 Fax+(613) 9331 7455

Peaks:								
No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCC_BQPN (dBuV)	dL1 (dB)	Av Val (dBuV)	FCC_BAVN (dBuV)	dL2 (dB)
1	4.884	46.7	46.0	56.0	-10.0	41.8	46.0	-4.2
2	4.956	45.8	45.0	56.0	-11.0	41.1	46.0	-4.9
3	4.739	45.4	44.5	56.0	-11.5	40.7	46.0	-5.3
4	4.812	46.9	45.1	56.0	-10.9	40.7	46.0	-5.3
5	5.313	49.8	48.0	60.0	-12.0	44.2	50.0	-5.8
6	5.383	48.8	48.7	60.0	-11.3	44.0	50.0	-6.0
7	5.099	47.5	46.3	60.0	-13.7	42.6	50.0	-7.4
8	4.521	48.9	45.3	56.0	-10.7	38.1	46.0	-7.9
9	20.26	47.0	44.7	60.0	-15.3	41.8	50.0	-8.2
10	18.24	48.6	46.1	60.0	-13.9	41.7	50.0	-8.3
11	4.380	45.5	42.6	56.0	-13.4	37.3	46.0	-8.7
12	4.450	47.6	43.4	56.0	-12.6	36.7	46.0	-9.3
13	4.308	47.0	45.1	56.0	-10.9	36.2	46.0	-9.8
14	4.162	45.5	44.2	56.0	-11.8	35.7	46.0	-10.3
15	25.64	47.7	45.0	60.0	-15.0	37.6	50.0	-12.4

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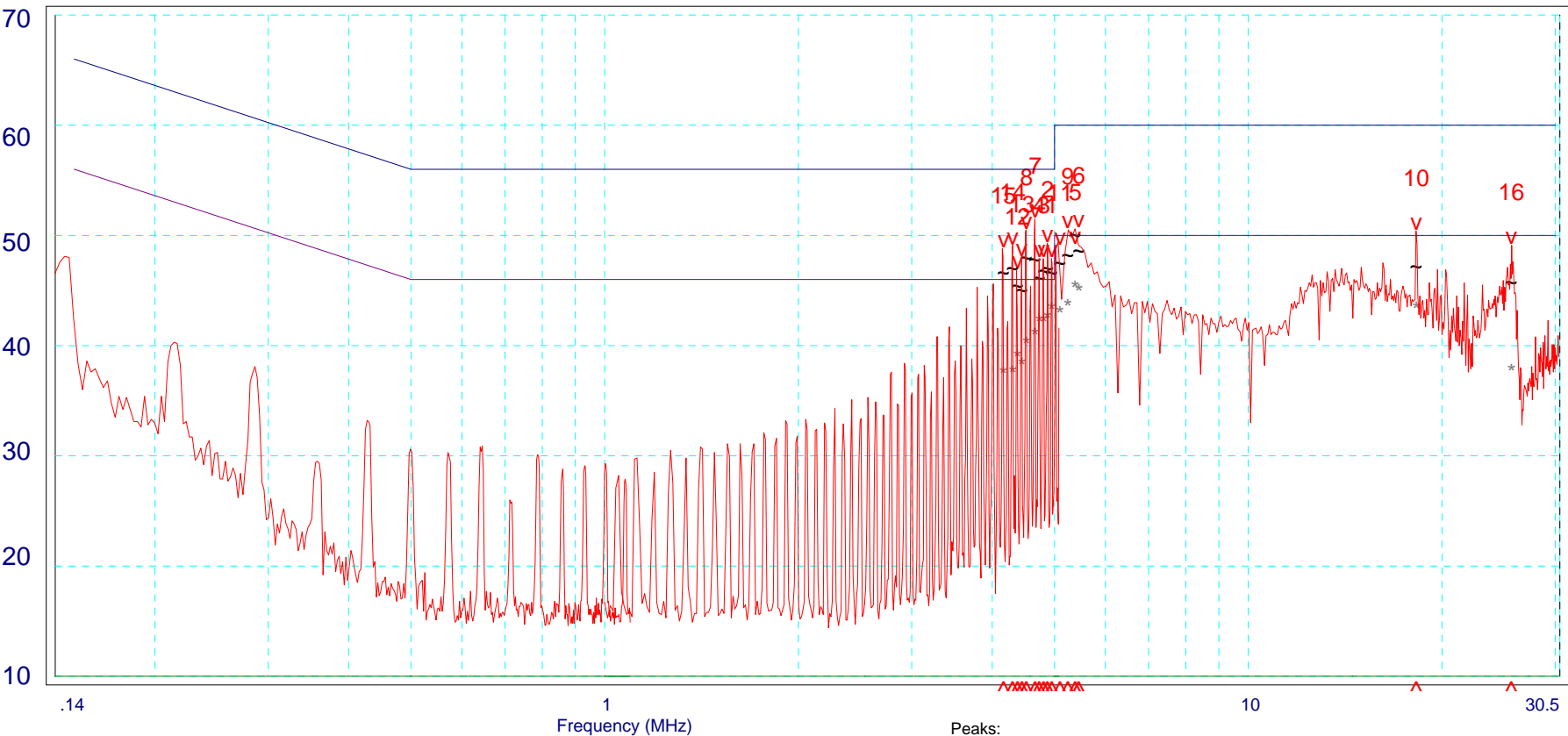
Conducted Emissions (dBuV)

Job No:m081041

p:\PCF\m081041\_6.PCF

Test Date: 19/12/2008

GRAPH No. 6



**EM Solutions**  
**Ethermux**

**Neutral Line**

Limits:  
FCC\_BQPN FCC PART 15 CLASS B CONDUCTED QP LIMITS (2002)  
FCC\_BAVN FCC PART 15 CLASS B CONDUCTED AVERAGE LIMIT (2002)

Legend:  
— Neutral Line

Ver 5.5 Build 154  
Room 2, conducted  
t:L0220809 c1:C1570309 c2:C1511208 p:NONE a:L0170809  
Site ID: Room#2,176 Harrick Rd, Keilor Park,Vic  
Test Officer:Chieu Huynh

Source:  
M081041 , 5 , 6

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Peaks:								
No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCC_BQPN (dBuV)	dL1 (dB)	Av Val (dBuV)	FCC_BAVN (dBuV)	dL2 (dB)
1	4.952	47.9	46.0	56.0	-10.0	42.3	46.0	-3.7
2	4.879	49.3	46.3	56.0	-9.7	41.5	46.0	-4.5
3	4.811	47.9	46.2	56.0	-9.8	41.2	46.0	-4.8
4	4.737	47.9	45.5	56.0	-10.5	41.2	46.0	-4.8
5	5.384	49.1	49.4	60.0	-10.6	44.3	50.0	-5.7
6	5.456	50.6	47.9	60.0	-12.1	44.0	50.0	-6.0
7	4.666	51.5	47.1	56.0	-8.9	40.0	46.0	-6.0
8	4.524	50.5	47.3	56.0	-8.7	39.2	46.0	-6.8
9	5.244	50.5	47.5	60.0	-12.5	42.6	50.0	-7.4
10	18.25	50.4	46.5	60.0	-13.5	42.4	50.0	-7.6
11	5.101	49.0	46.8	60.0	-13.2	42.0	50.0	-8.0
12	4.380	46.9	44.8	56.0	-11.2	38.0	46.0	-8.0
13	4.452	48.0	44.3	56.0	-11.7	37.3	46.0	-8.7
14	4.306	49.1	46.4	56.0	-9.6	36.6	46.0	-9.4
15	4.165	48.8	45.9	56.0	-10.1	36.5	46.0	-9.5
16	25.64	49.1	45.1	60.0	-14.9	36.7	50.0	-13.3