

**APPENDIX I
OF
TEST REPORT T110542_F**

GRAPHS OF EMI MEASUREMENT

FCC ID: TVN-STRP
Manufacturer: Magellan Technology Pty Limited
Test Samples: Tunnel Readers
Model Number: MSTRP-4040, MSTRP-5050 and MSTRP-6464
Serial Numbers: 9000182 and 9000790

Date: 16th September 2011

APPENDIX I

GRAPHS OF EMI MEASUREMENT

CONDUCTED EMI

Graph 1:	MSTRP with Antenna 64/64	Active Line	0.145 to 30.5MHz
Graph 2:	MSTRP with Antenna 64/64	Neutral Line	0.145 to 30.5MHz
Graph 3:	MSTRP with Antenna 50/50	Active Line	0.145 to 30.5MHz
Graph 4:	MSTRP with Antenna 50/50	Neutral Line	0.145 to 30.5MHz
Graph 5:	MSTRP with Antenna 40/40	Active Line	0.145 to 30.5MHz
Graph 6:	MSTRP with Antenna 40/40	Neutral Line	0.145 to 30.5MHz

Antenna Terminated

Graph 7:	MSTRP with Antenna 50/50	Active Line	0.145 to 30.5MHz
Graph 8:	MSTRP with Antenna 50/50	Neutral Line	0.145 to 30.5MHz

RADIATED EMI

Graph 9:	MSTRP with Antenna 64/64	Carrier	13.11 to 14.01MHz
Graph 10:	MSTRP with Antenna 64/64	Loop Antenna	9 kHz to 30 MHz
Graph 11:	MSTRP with Antenna 64/64	Loop Antenna	9 kHz to 30 MHz
Graph 12:	MSTRP with Antenna 64/64	Vertical Polarisation	30 to 1000MHz
Graph 13:	MSTRP with Antenna 64/64	Horizontal Polarisation	30 to 1000MHz
Graph 14:	MSTRP with Antenna 50/50	Carrier	13.11 to 14.01MHz
Graph 15:	MSTRP with Antenna 50/50	Loop Antenna	9 kHz to 30 MHz
Graph 16:	MSTRP with Antenna 50/50	Loop Antenna	9 kHz to 30 MHz
Graph 17:	MSTRP with Antenna 50/50	Vertical Polarisation	30 to 1000MHz
Graph 18:	MSTRP with Antenna 50/50	Horizontal Polarisation	30 to 1000MHz
Graph 19:	MSTRP with Antenna 40/40	Carrier	13.11 to 14.01MHz
Graph 20:	MSTRP with Antenna 40/40	Loop Antenna	9 kHz to 30 MHz
Graph 21:	MSTRP with Antenna 40/40	Loop Antenna	9 kHz to 30 MHz
Graph 22:	MSTRP with Antenna 40/40	Vertical Polarisation	30 to 1000MHz
Graph 23:	MSTRP with Antenna 40/40	Horizontal Polarisation	30 to 1000MHz

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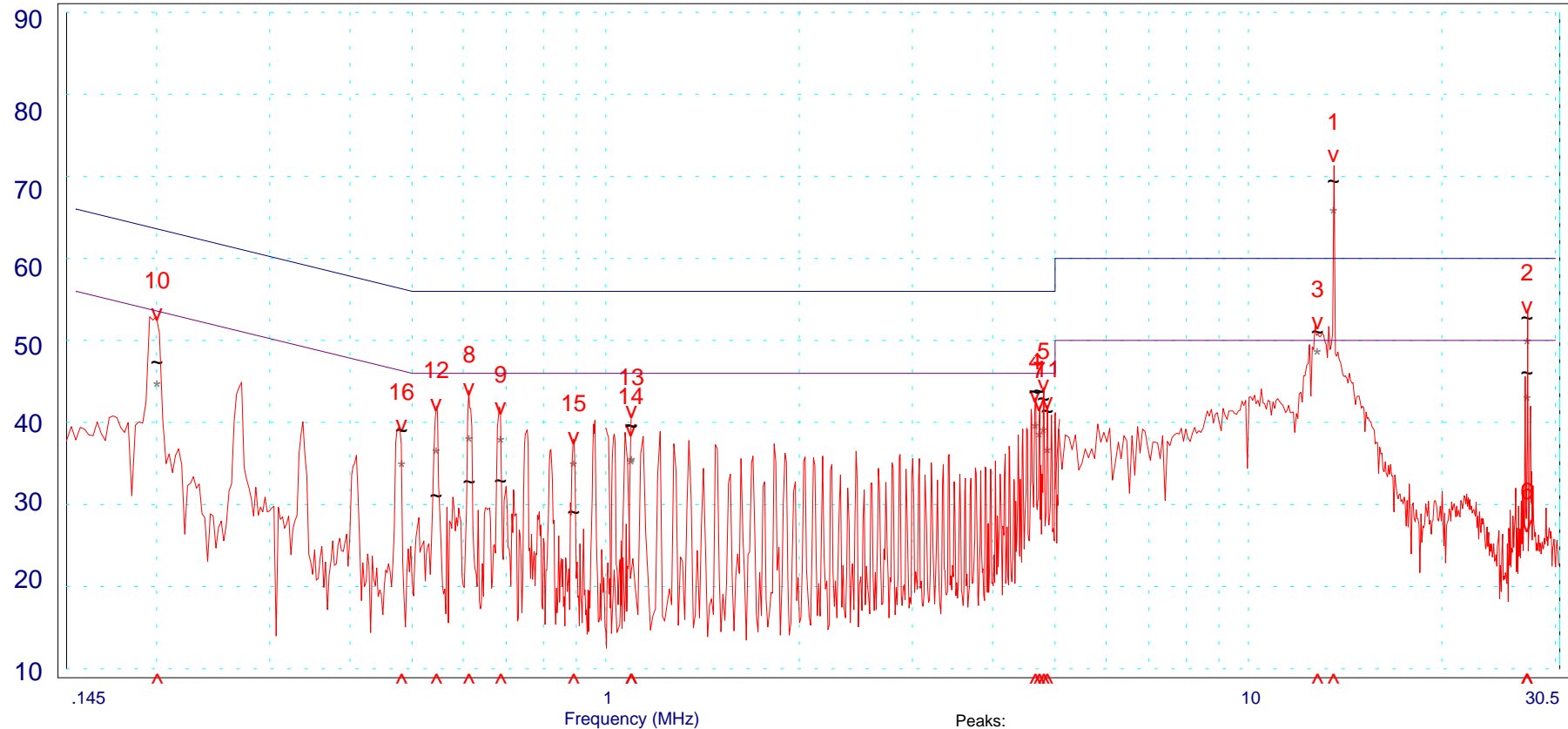
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 1



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 Part No: 075-70-002

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 160
 sydney conducted setup lab2
 t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
 Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
 Test Officer:Kumar Thambiah

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
 Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.56	72.3	69.2	60.0	9.2	64.8	50.0	14.8
2	27.12	53.8	52.6	60.0	-7.4	48.9	50.0	-1.1
3	12.80	51.9	50.8	60.0	-9.2	47.6	50.0	-2.4
4	4.658	43.0	43.5	56.0	-12.5	38.5	46.0	-7.5
5	4.799	44.3	42.7	56.0	-13.3	38.0	46.0	-8.0
6	27.12	27.2	45.9	60.0	-14.1	41.9	50.0	-8.1
7	4.728	42.0	43.6	56.0	-12.4	37.5	46.0	-8.5
8	0.613	43.9	32.6	56.0	-23.4	37.0	46.0	-9.0
9	0.687	41.5	32.8	56.0	-23.2	36.8	46.0	-9.2
10	0.200	52.9	47.2	63.6	-16.4	43.7	53.6	-9.9
11	4.865	42.1	41.2	56.0	-14.8	35.6	46.0	-10.4
12	0.545	42.0	30.9	56.0	-25.1	35.5	46.0	-10.5
13	1.097	41.1	39.4	56.0	-16.6	34.4	46.0	-11.6
14	1.095	38.8	39.5	56.0	-16.5	34.2	46.0	-11.8
15	0.891	37.9	28.8	56.0	-27.2	33.9	46.0	-12.1
16	0.481	39.4	38.9	56.3	-17.4	33.9	46.3	-12.4

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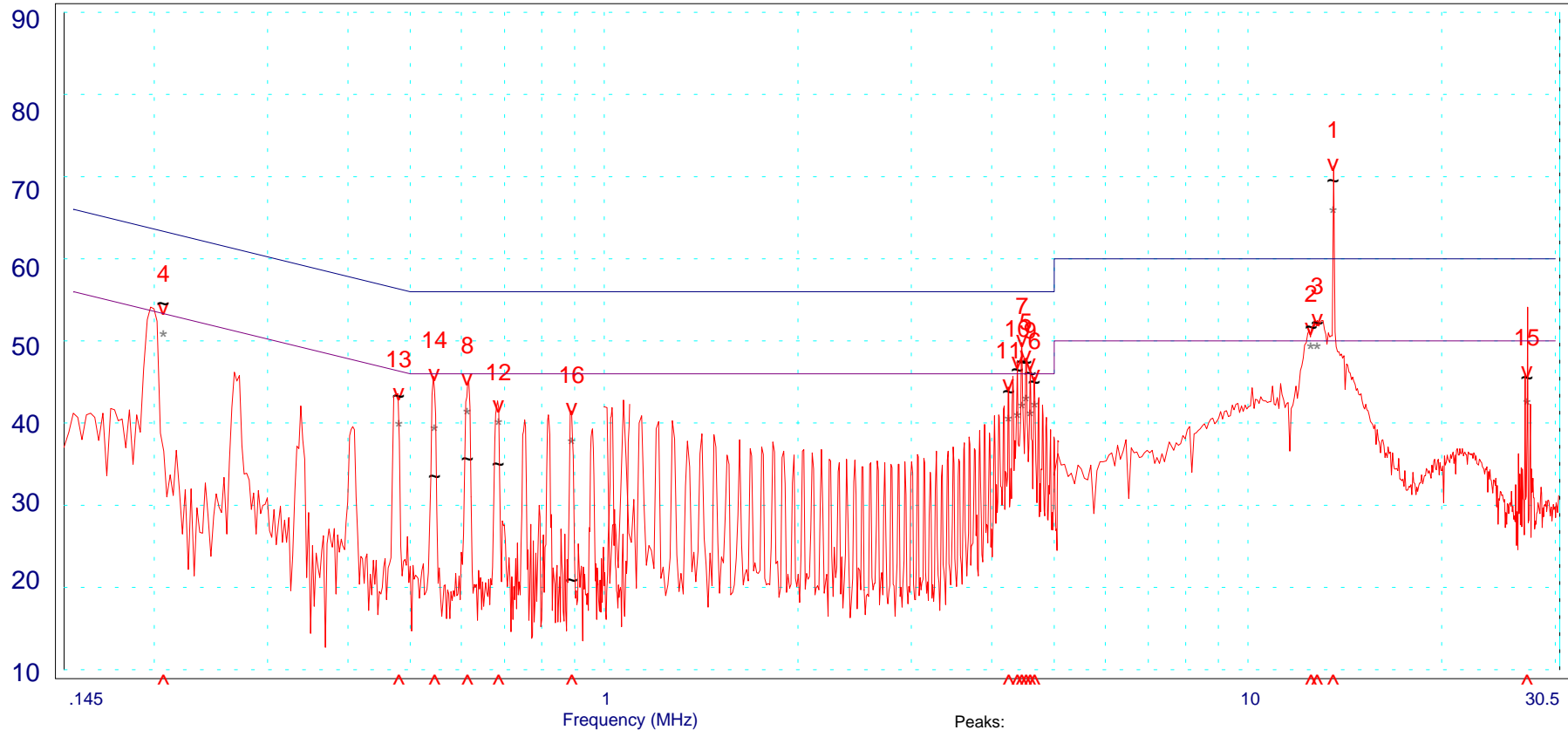
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 2



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 Part No: 075-70-002

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 160
 sydney_conducted_setup_lab2
 t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
 Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
 Test Officer:Kumar Thambiah

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
 Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.56	71.3	69.3	60.0	9.3	64.9	50.0	14.9
2	12.53	51.3	51.6	60.0	-8.4	48.3	50.0	-1.7
3	12.81	52.3	52.0	60.0	-8.0	48.3	50.0	-1.7
4	0.207	53.7	54.3	63.3	-9.0	49.8	53.3	-3.5
5	4.520	47.9	47.3	56.0	-8.7	41.9	46.0	-4.1
6	4.659	45.6	44.8	56.0	-11.2	41.2	46.0	-4.8
7	4.455	49.8	47.3	56.0	-8.7	41.1	46.0	-4.9
8	0.613	45.1	35.5	56.0	-20.5	40.4	46.0	-5.6
9	4.589	46.9	45.9	56.0	-10.1	40.1	46.0	-5.9
10	4.385	47.1	46.3	56.0	-9.7	39.9	46.0	-6.1
11	4.249	44.4	43.7	56.0	-12.3	39.5	46.0	-6.5
12	0.685	41.8	34.8	56.0	-21.2	39.1	46.0	-6.9
13	0.480	43.4	43.2	56.3	-13.1	38.9	46.3	-7.4
14	0.545	45.7	33.3	56.0	-22.7	38.3	46.0	-7.7
15	27.12	46.0	45.4	60.0	-14.6	41.5	50.0	-8.5
16	0.890	41.5	20.8	56.0	-35.2	36.7	46.0	-9.3

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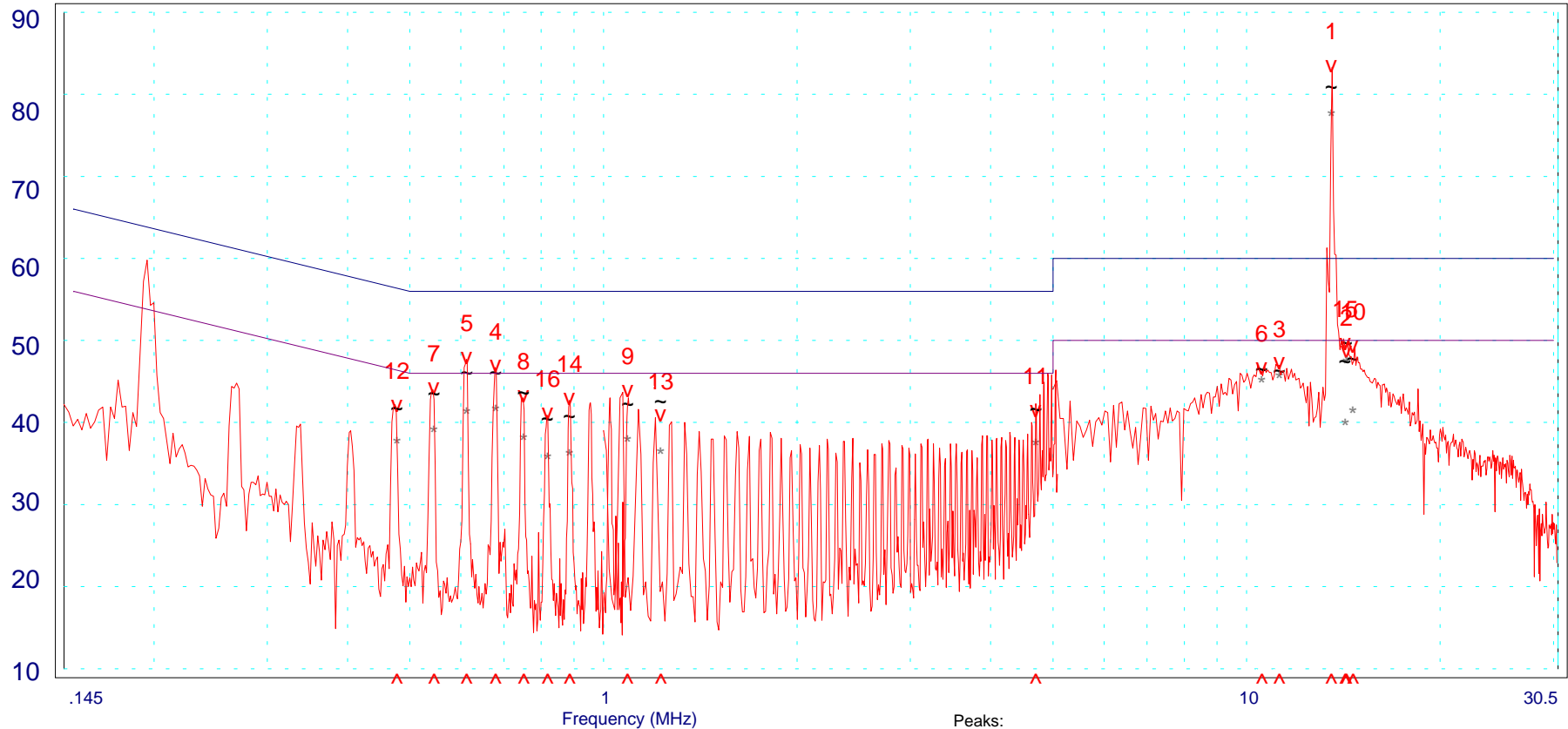
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 3



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 Part No: 049-70-000

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 160
sydney conducted setup lab2
t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.55	83.3	80.7	60.0	20.7	76.6	50.0	26.6
2	14.30	48.4	49.5	60.0	-10.5	46.5	50.0	-3.5
3	11.24	47.0	46.1	60.0	-13.9	44.7	50.0	-5.3
4	0.680	46.7	45.9	56.0	-10.1	40.7	46.0	-5.3
5	0.613	47.7	45.9	56.0	-10.1	40.4	46.0	-5.6
6	10.56	46.4	46.3	60.0	-13.7	44.2	50.0	-5.8
7	0.545	44.0	43.3	56.0	-12.7	38.1	46.0	-7.9
8	0.751	43.0	43.4	56.0	-12.6	37.2	46.0	-8.8
9	1.090	43.7	42.0	56.0	-14.0	37.0	46.0	-9.0
10	14.64	49.1	47.5	60.0	-12.5	40.5	50.0	-9.5
11	4.703	41.2	41.5	56.0	-14.5	36.5	46.0	-9.5
12	0.477	41.9	41.5	56.4	-14.9	36.7	46.4	-9.7
13	1.227	40.6	42.4	56.0	-13.6	35.5	46.0	-10.5
14	0.885	42.7	40.6	56.0	-15.4	35.3	46.0	-10.7
15	14.24	49.4	47.3	60.0	-12.7	39.0	50.0	-11.0
16	0.818	40.9	40.3	56.0	-15.7	34.8	46.0	-11.2

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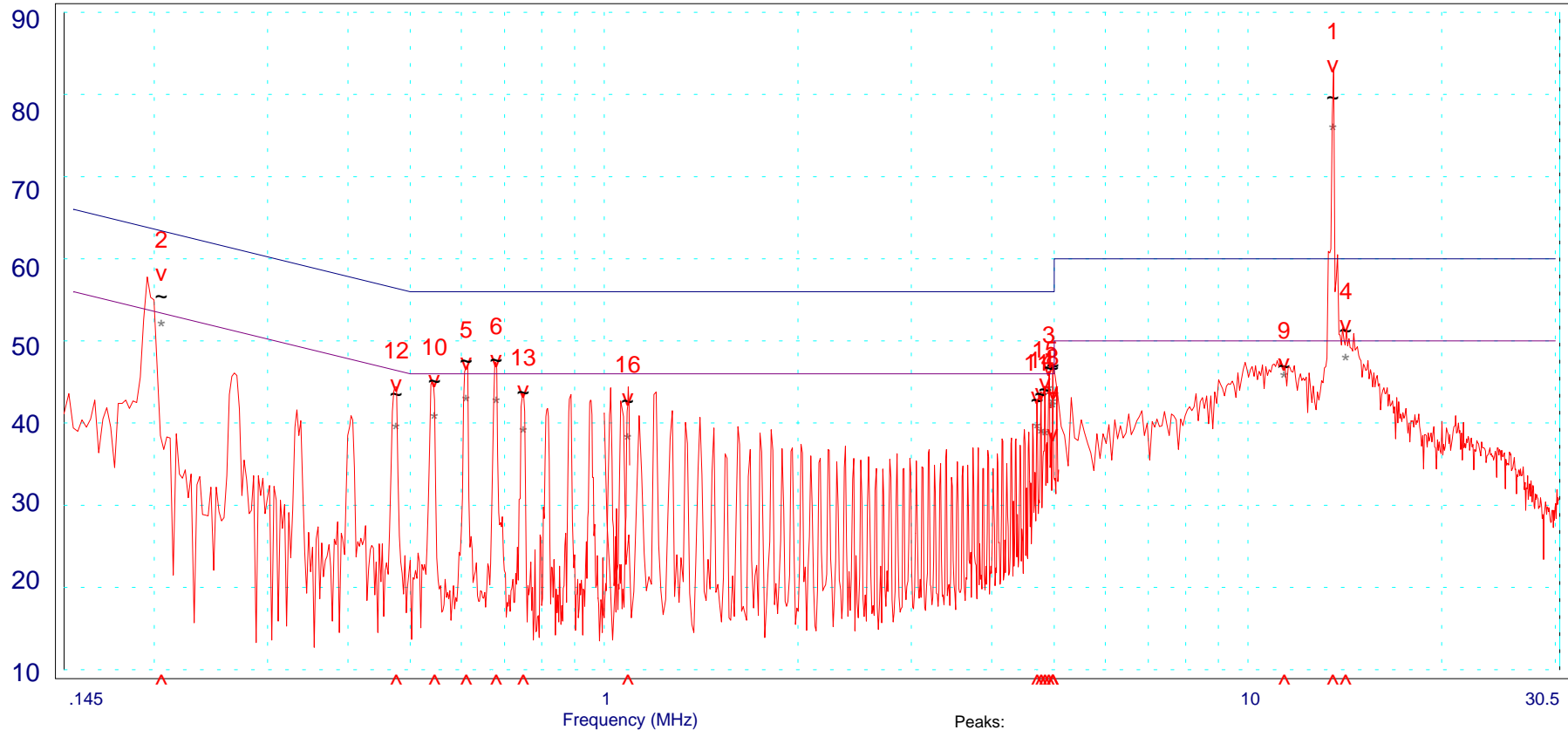
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 4



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 Part No: 049-70-000

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 160
 sydney_conducted_setup_lab2
 t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
 Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
 Test Officer:Kumar Thambiah

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
 Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.55	83.3	79.4	60.0	19.4	74.9	50.0	24.9
2	0.205	57.8	55.2	63.4	-8.2	51.1	53.4	-2.3
3	4.904	46.3	46.5	56.0	-9.5	43.2	46.0	-2.8
4	14.18	51.6	51.1	60.0	-8.9	46.9	50.0	-3.1
5	0.610	47.0	47.3	56.0	-8.7	41.9	46.0	-4.1
6	0.680	47.4	47.5	56.0	-8.5	41.7	46.0	-4.3
7	4.976	38.3	46.8	56.0	-9.2	41.6	46.0	-4.4
8	4.973	43.5	46.6	56.0	-9.4	41.2	46.0	-4.8
9	11.38	46.9	46.8	60.0	-13.2	44.8	50.0	-5.2
10	0.545	44.9	44.9	56.0	-11.1	39.8	46.0	-6.2
11	4.703	42.9	42.6	56.0	-13.4	38.7	46.0	-7.3
12	0.475	44.4	43.3	56.4	-13.1	38.5	46.4	-7.9
13	0.749	43.6	43.5	56.0	-12.5	38.1	46.0	-7.9
14	4.772	43.3	43.4	56.0	-12.6	38.0	46.0	-8.0
15	4.840	44.5	43.9	56.0	-12.1	37.8	46.0	-8.2
16	1.088	42.7	42.4	56.0	-13.6	37.3	46.0	-8.7

EMC Technologies Pty. Ltd. - Global Product Certification

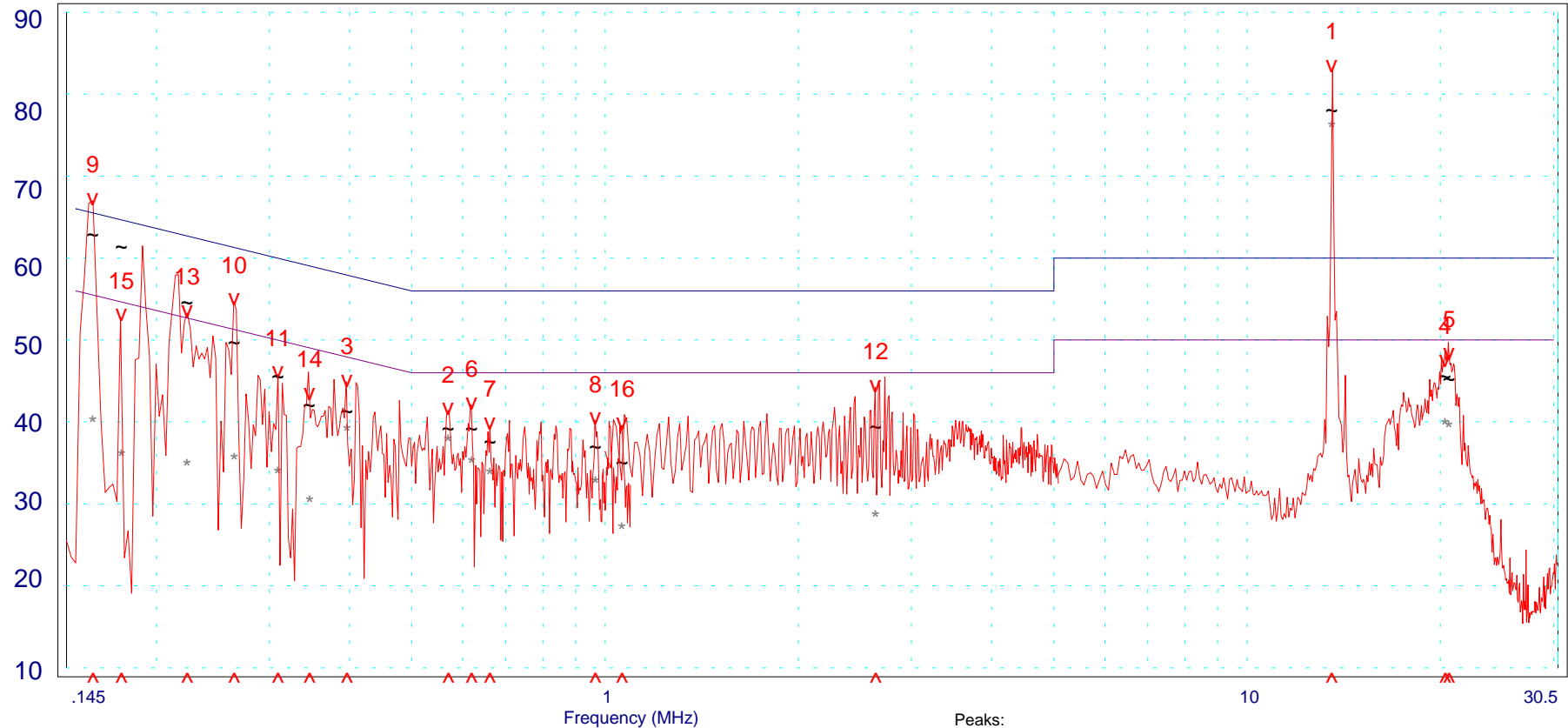
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 5



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 40/40 Part No: 077-70-000

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 160
sydney_conducted_setup_lab2
t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T110542 , 2 , 3

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.55	83.3	77.8	60.0	17.8	75.3	50.0	25.3
2	0.570	41.4	39.0	56.0	-17.0	37.0	46.0	-9.0
3	0.396	44.8	41.1	57.9	-16.8	38.2	47.9	-9.7
4	20.35	47.3	45.4	60.0	-14.6	39.0	50.0	-11.0
5	20.63	48.1	45.0	60.0	-15.0	38.7	50.0	-11.3
6	0.620	42.1	39.0	56.0	-17.0	34.3	46.0	-11.7
7	0.662	39.6	37.4	56.0	-18.6	32.9	46.0	-13.1
8	0.966	40.2	36.8	56.0	-19.2	31.9	46.0	-14.1
9	0.159	67.0	62.6	65.5	-2.9	39.3	55.5	-16.2
10	0.264	54.7	49.4	61.3	-11.9	34.7	51.3	-16.6
11	0.309	45.8	45.4	60.0	-14.6	33.0	50.0	-17.0
12	2.640	44.2	39.1	56.0	-16.9	27.7	46.0	-18.3
13	0.223	53.3	54.3	62.7	-8.4	34.0	52.7	-18.7
14	0.347	43.2	41.8	59.0	-17.2	29.5	49.0	-19.5
15	0.177	52.8	61.2	64.6	-3.4	35.1	54.6	-19.5
16	1.063	39.6	34.8	56.0	-21.2	26.2	46.0	-19.8

EMC Technologies Pty. Ltd. - Global Product Certification

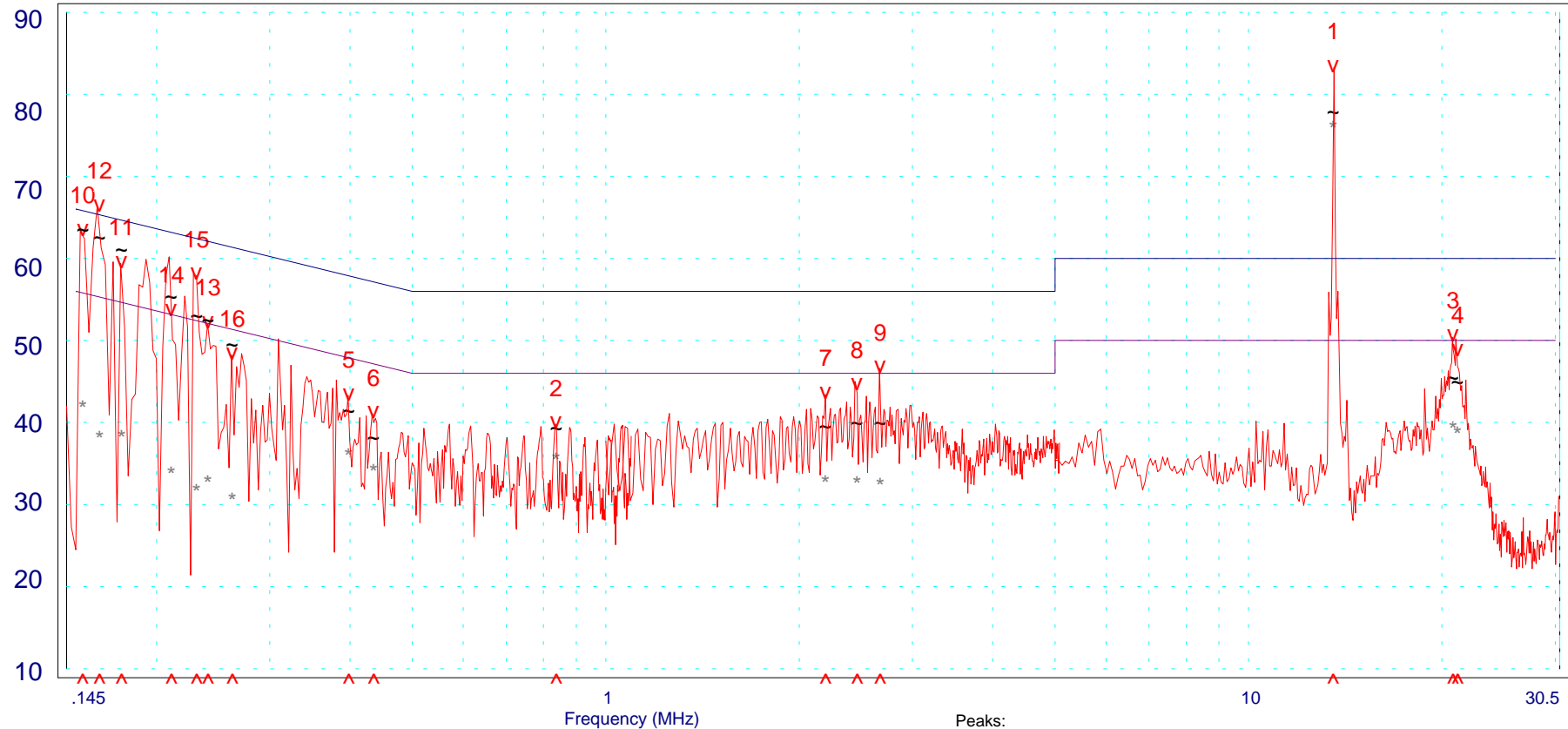
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 6



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 40/40 Part No: 077-70-000

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 160
 sydney conducted setup lab2
 t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
 Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
 Test Officer:Kumar Thambiah

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
 Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.55	83.3	77.6	60.0	17.6	75.3	50.0	25.3
2	0.837	39.8	39.1	56.0	-16.9	34.8	46.0	-11.2
3	20.81	50.4	45.2	60.0	-14.8	38.7	50.0	-11.3
4	21.14	48.6	44.7	60.0	-15.3	38.0	50.0	-12.0
5	0.398	43.2	41.2	57.9	-16.7	35.4	47.9	-12.5
6	0.435	41.1	38.0	57.2	-19.2	33.4	47.2	-13.8
7	2.197	43.4	39.2	56.0	-16.8	32.1	46.0	-13.9
8	2.460	44.5	39.7	56.0	-16.3	32.0	46.0	-14.0
9	2.673	46.6	39.7	56.0	-16.3	31.7	46.0	-14.3
10	0.154	63.3	63.3	65.8	-2.5	41.2	55.8	-14.6
11	0.177	59.4	60.9	64.6	-3.7	37.6	54.6	-17.0
12	0.163	66.3	62.3	65.3	-3.0	37.5	55.3	-17.8
13	0.241	52.0	52.2	62.1	-9.9	32.1	52.1	-20.0
14	0.211	53.5	55.1	63.2	-8.1	33.1	53.2	-20.1
15	0.231	57.9	52.7	62.4	-9.7	31.0	52.4	-21.4
16	0.263	48.2	49.3	61.4	-12.1	29.9	51.4	-21.5

EMC Technologies Pty. Ltd. - Global Product Certification

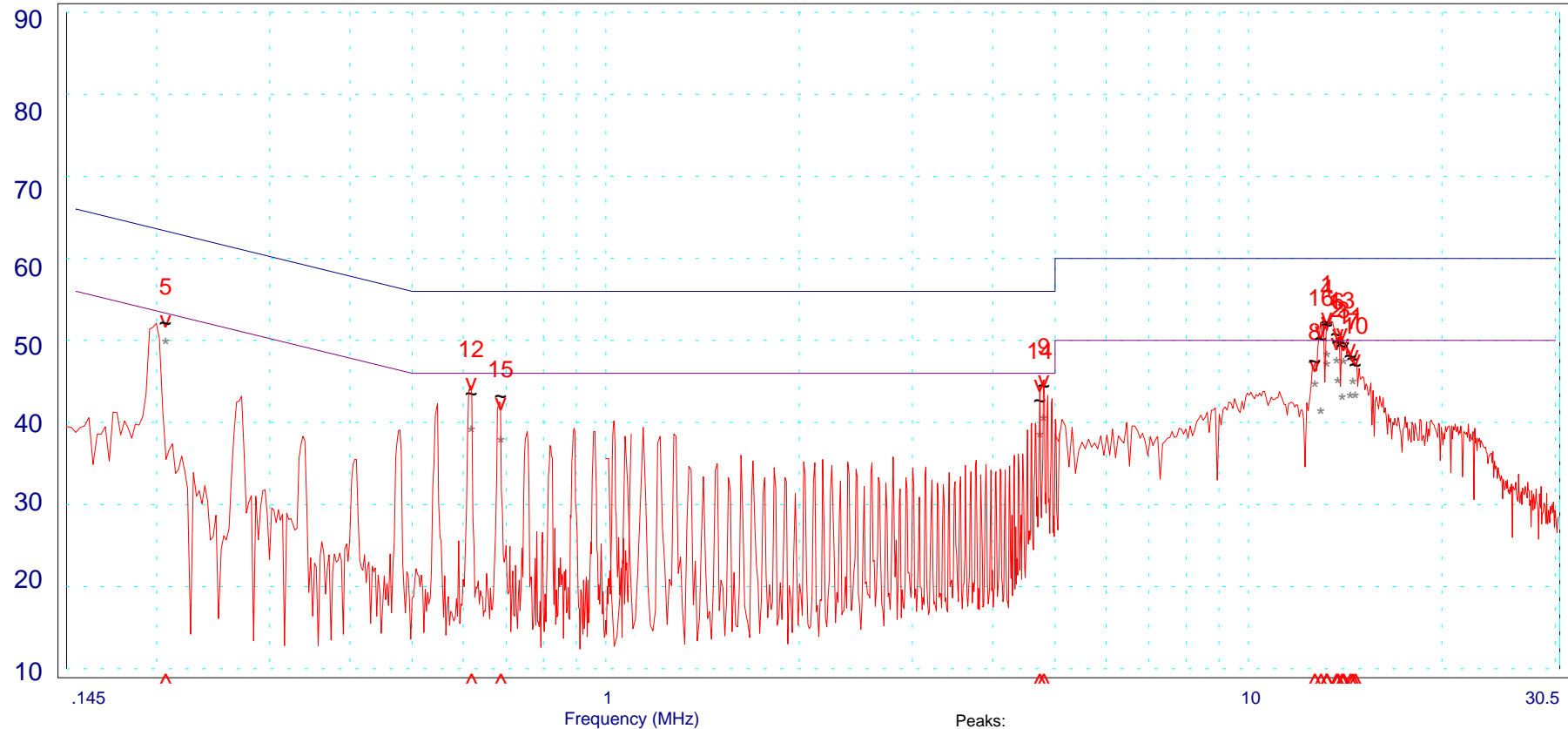
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

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Test Date: 26/05/2011

GRAPH No. 7



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 Part No: 049-70-000
Tested with Load

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 160
sydney conducted setup lab2
t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T110542Q9 ,20 ,21

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.24	52.4	52.0	60.0	-8.0	47.3	50.0	-2.7
2	13.71	49.4	50.6	60.0	-9.4	46.5	50.0	-3.5
3	14.06	49.3	49.5	60.0	-10.5	46.4	50.0	-3.6
4	13.24	51.9	51.7	60.0	-8.3	46.1	50.0	-3.9
5	0.207	52.1	51.9	63.3	-11.4	48.8	53.3	-4.5
6	13.78	50.4	49.6	60.0	-10.4	44.1	50.0	-5.9
7	14.54	47.9	47.6	60.0	-12.4	44.0	50.0	-6.0
8	12.68	46.7	47.3	60.0	-12.7	43.7	50.0	-6.3
9	4.801	44.8	44.3	56.0	-11.7	39.5	46.0	-6.5
10	14.67	47.4	46.8	60.0	-13.2	42.3	50.0	-7.7
11	14.40	48.6	47.9	60.0	-12.1	42.3	50.0	-7.7
12	0.618	44.5	43.3	56.0	-12.7	38.1	46.0	-7.9
13	13.99	50.5	49.2	60.0	-10.8	42.1	50.0	-7.9
14	4.735	44.3	42.5	56.0	-13.5	37.5	46.0	-8.5
15	0.687	42.1	43.0	56.0	-13.0	36.8	46.0	-9.2
16	12.96	50.7	50.0	60.0	-10.0	40.4	50.0	-9.6

EMC Technologies Pty. Ltd. - Global Product Certification

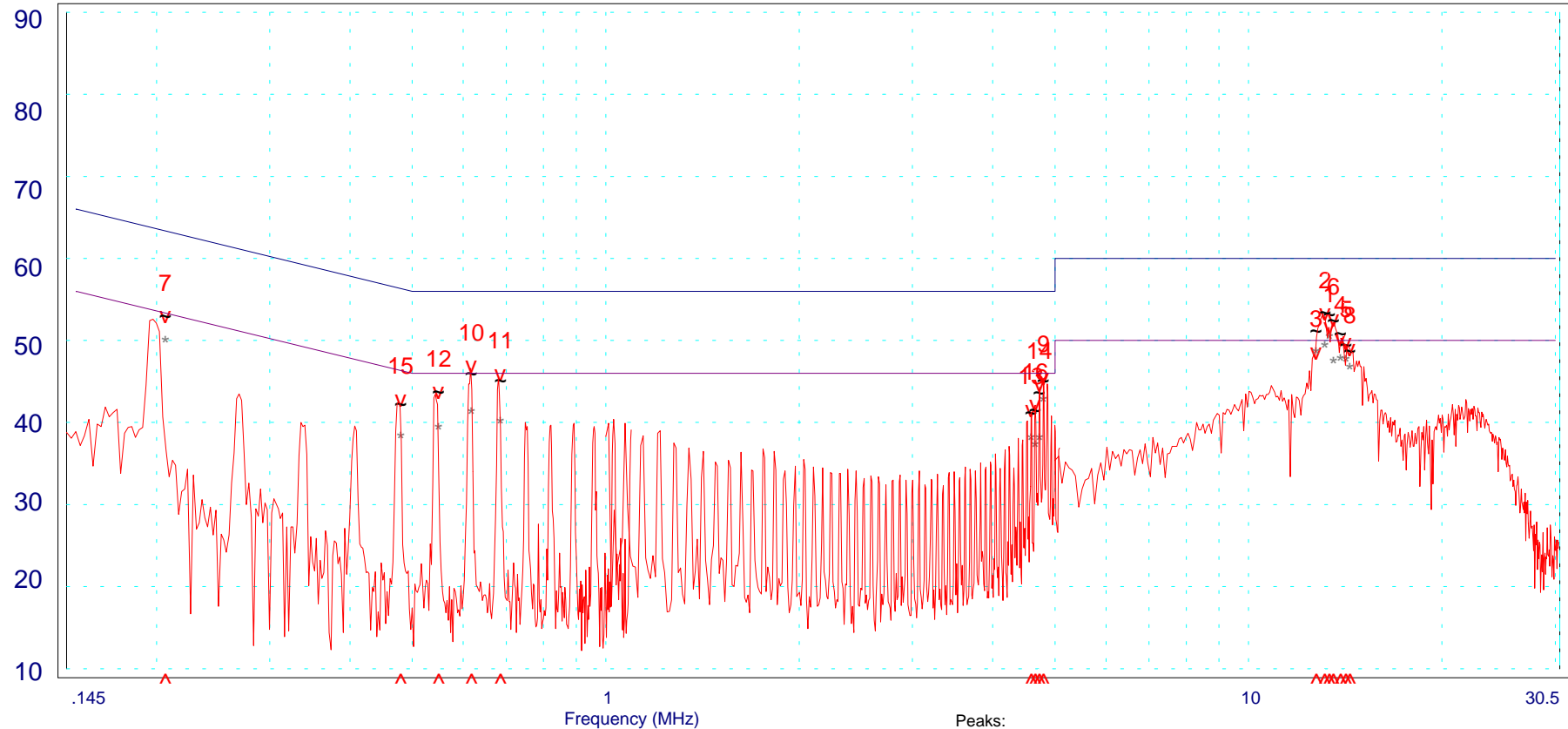
FCC Class B
Conducted Emissions (dBuV)

Job No:T110542

P:\PCF\T110542_8.PCF

Test Date: 26/05/2011

GRAPH No. 8



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 Part No: 049-70-000
Tested with Load

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 160
sydney_conducted_setup_lab2
t:L0110212 c1:C0020911 c2:NONE p:NONE a:L0030611
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T110542Q22 ,23 ,24

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV)	QP Val (dBuV)	FCCN_BQP (dBuV)	dL1 (dB)	Av Val (dBuV)	FCCN_BAV (dBuV)	dL2 (dB)
1	13.36	51.2	53.0	60.0	-7.0	49.5	50.0	-5
2	13.15	52.9	53.2	60.0	-6.8	48.4	50.0	-1.6
3	12.74	48.2	51.0	60.0	-9.0	47.7	50.0	-2.3
4	13.91	49.9	50.7	60.0	-9.3	46.8	50.0	-3.2
5	14.18	49.4	49.3	60.0	-10.7	46.7	50.0	-3.3
6	13.56	52.2	52.3	60.0	-7.7	46.5	50.0	-3.5
7	0.206	52.6	52.8	63.3	-10.5	49.1	53.3	-4.2
8	14.38	48.6	48.5	60.0	-11.5	45.8	50.0	-4.2
9	4.797	45.1	44.9	56.0	-11.1	41.8	46.0	-4.2
10	0.618	46.6	45.8	56.0	-10.2	40.4	46.0	-5.6
11	0.686	45.6	44.9	56.0	-11.1	39.2	46.0	-6.8
12	0.549	43.4	43.5	56.0	-12.5	38.4	46.0	-7.6
13	4.591	41.2	40.9	56.0	-15.1	37.2	46.0	-8.8
14	4.729	44.3	43.4	56.0	-12.6	37.2	46.0	-8.8
15	0.480	42.5	42.0	56.3	-14.3	37.4	46.3	-8.9
16	4.657	41.8	41.4	56.0	-14.6	36.3	46.0	-9.7

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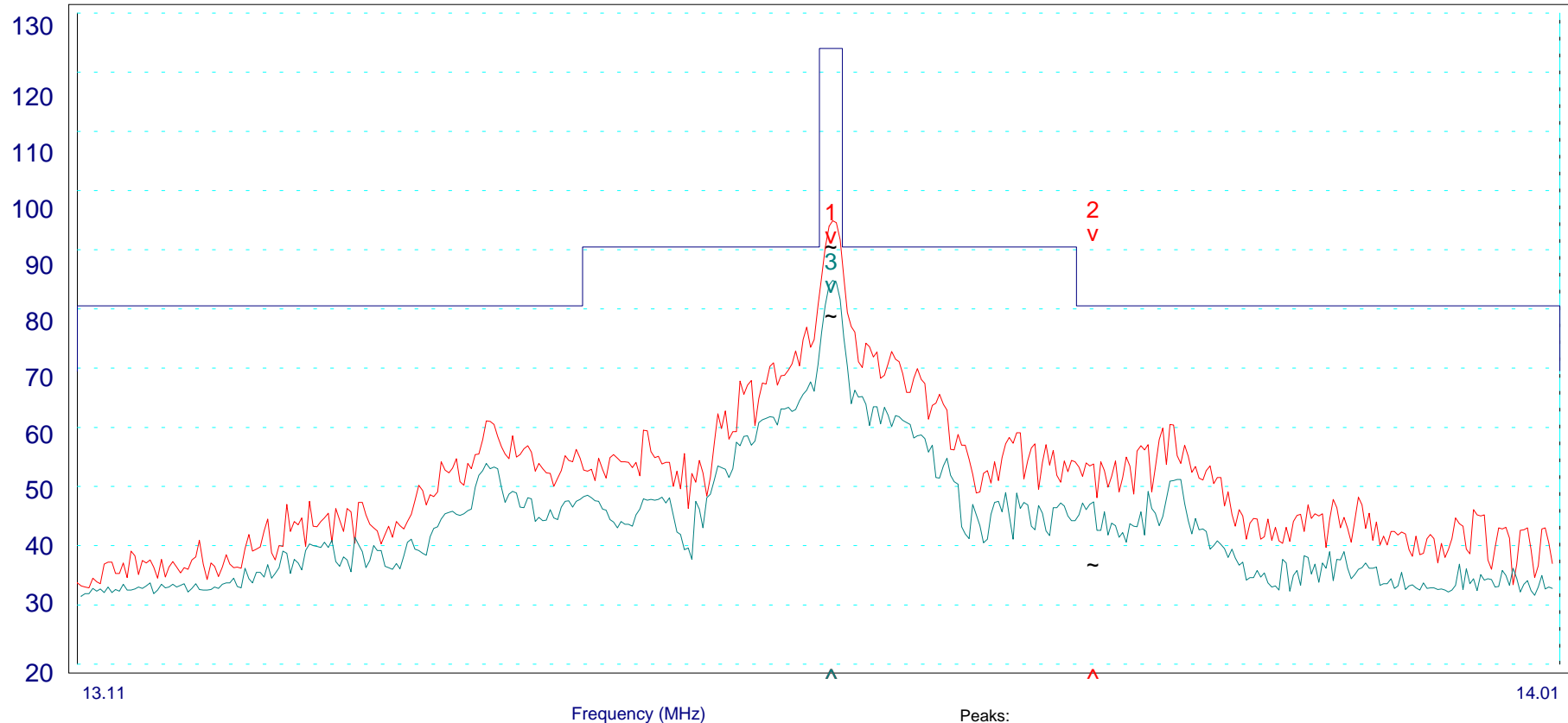
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 9



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 , S/N: None
Carrier Measurement

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mL1 (dBuV/m)	(dB)
1	13.56	92.6 *	91.0	124.0	-33.0
2	13.72	93.0	37.2	80.5	-43.3
3	13.56	84.2	79.3	124.0	-44.7

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits

Legend:
— Parallel to EUT
— Perpent. to EUT

Ver 5.5 Build 158
Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R16
T110542R52

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

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 10



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 , S/N: None

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mL1 (dBuV/m)	(dB)
1	16.76	37.2	28.8	69.5	-40.7

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits
Legend: — Emissions Parallel

Ver 5.5 Build 158
Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R36 ,38 ,39
T110542R43 ,44 ,45

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 11



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 , S/N: None

Limits:	Legend:
FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits	— Emissions Perpent
Ver 5.5 Build 158 Colo Radiated Test Setup Active Loop t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW Test Officer:Christian Kai	Source: T110542R10 ,41 ,42 T110542R19 ,50 ,51

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

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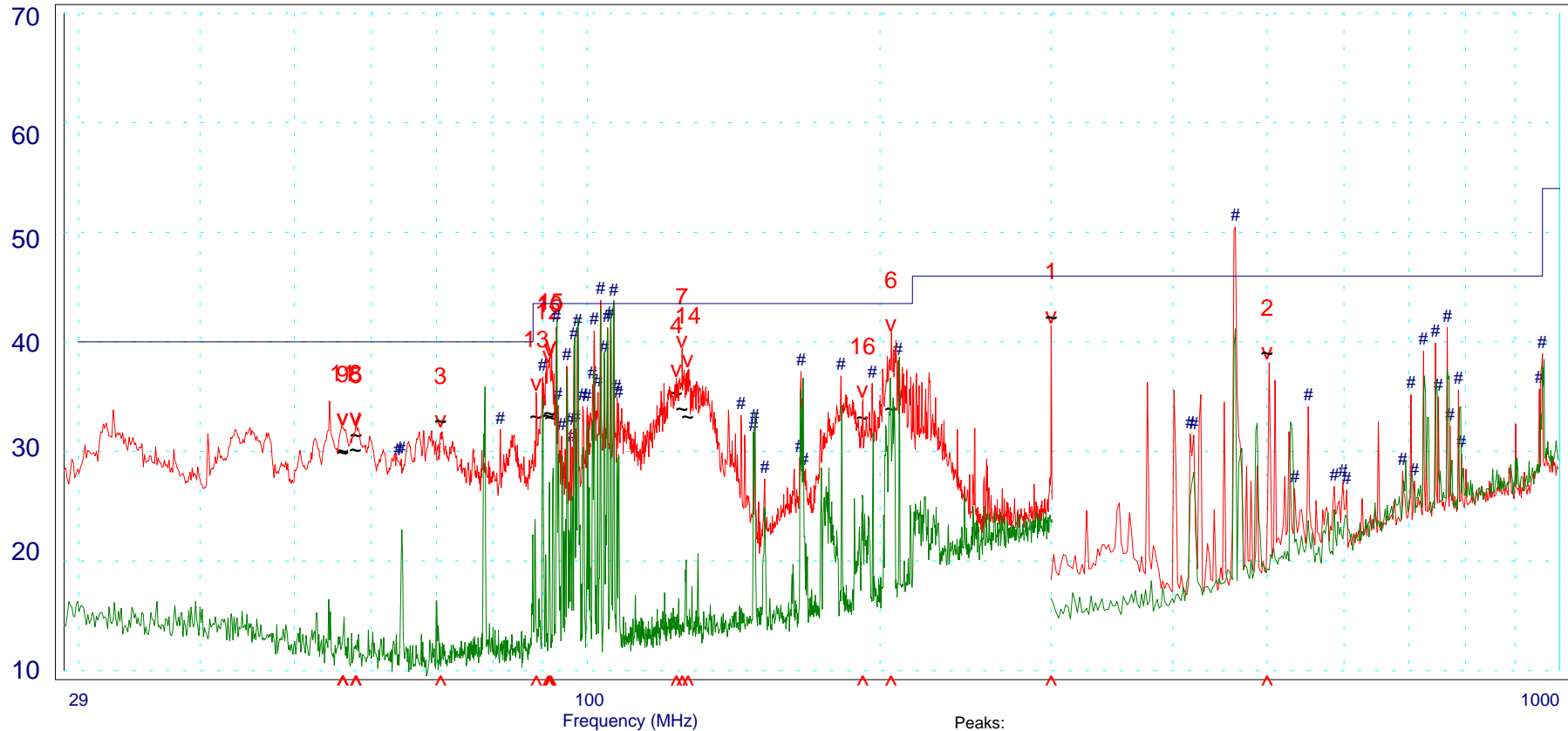
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 12



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 , S/N: None

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

Legend:
— Vertical Ambients (green)
— Vertical Emissions (red)

Ver 5.5 Build 158
Colo Radiated Test Setup
t:A0690113 c1:C0200312 c2:NONE p:A0960512 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	299.99	41.6	41.6	46.0	-4.4
2	500.02	38.3	38.3	46.0	-7.7
3	70.70	32.1	32.1	40.0	-7.9
4	123.51	36.7	34.6	43.5	-8.9
5	57.88	32.2	30.8	40.0	-9.2
6	205.31	40.8	33.2	43.5	-10.3
7	125.17	39.4	33.2	43.5	-10.3
8	57.82	32.3	29.5	40.0	-10.5
9	56.09	32.2	29.4	40.0	-10.6
10	91.50	38.6	32.8	43.5	-10.7
11	56.07	32.3	29.2	40.0	-10.8
12	91.20	38.0	32.6	43.5	-10.9
13	88.62	35.4	32.5	43.5	-11.0
14	126.96	37.6	32.5	43.5	-11.0
15	91.78	38.9	32.4	43.5	-11.1
16	192.00	34.8	32.4	43.5	-11.1

EMC Technologies Pty. Ltd. - Global Product Certification

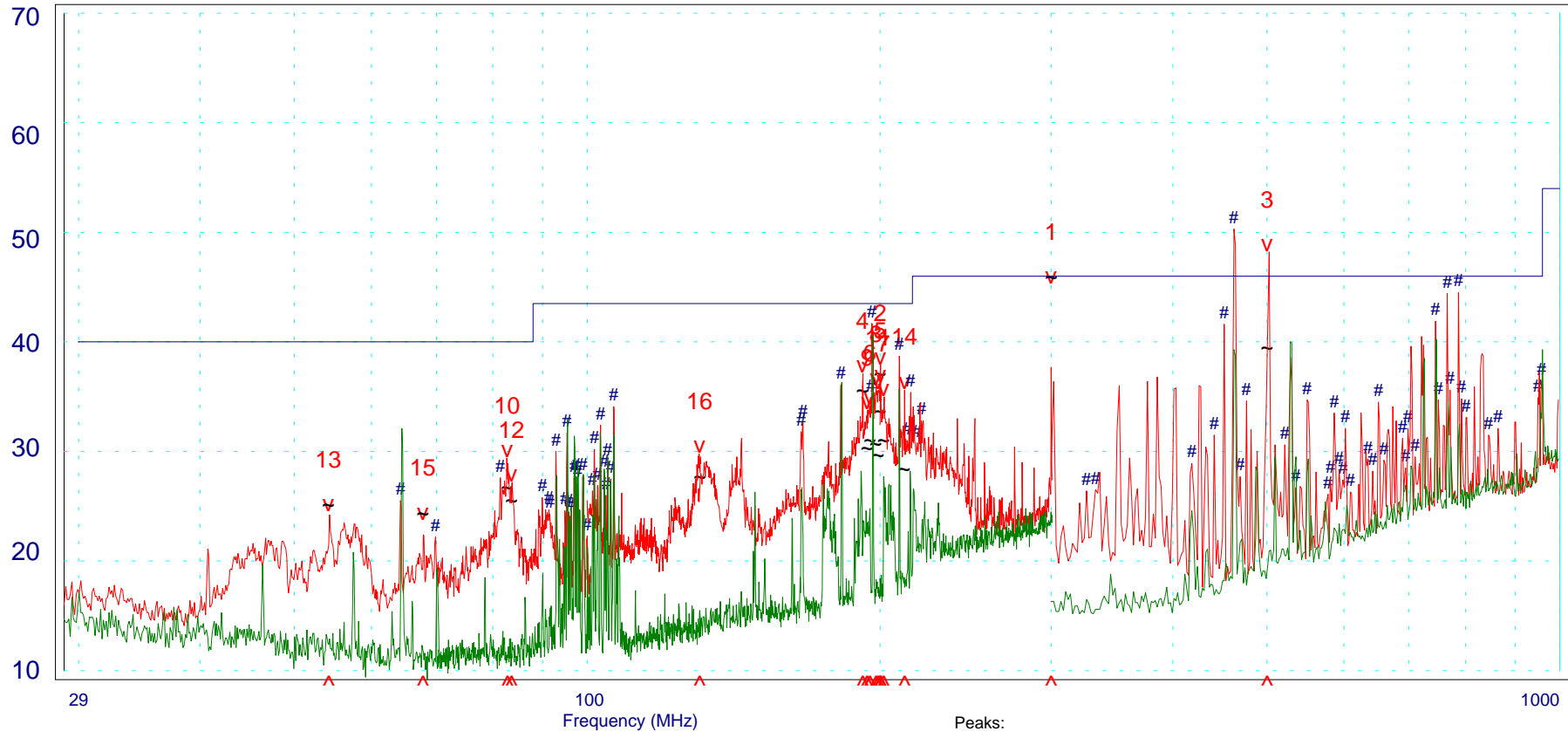
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 13



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 64/64 , S/N: None

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

Legend:
— Horizontal Ambients (green)
— Horizontal Emissions (red)

Ver 5.5 Build 158
Colo Radiated Test Setup
t:A0690113 c1:C0200312 c2:NONE p:A0960512 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	300.00	45.2	45.2	46.0	-8
2	200.17	37.8	36.4	43.5	-7.1
3	500.02	48.1	38.8	46.0	-7.2
4	191.98	37.1	34.9	43.5	-8.6
5	200.17	36.3	33.0	43.5	-10.5
6	195.36	34.2	30.4	43.5	-13.1
7	201.79	35.0	30.3	43.5	-13.2
8	198.14	35.9	30.0	43.5	-13.5
9	194.02	33.8	29.6	43.5	-13.9
10	82.78	29.4	26.1	40.0	-13.9
11	199.16	35.6	29.0	43.5	-14.5
12	83.63	27.2	24.9	40.0	-15.1
13	54.23	24.5	24.5	40.0	-15.5
14	212.02	35.6	27.7	43.5	-15.8
15	67.79	23.7	23.7	40.0	-16.3
16	130.56	29.8	27.0	43.5	-16.5

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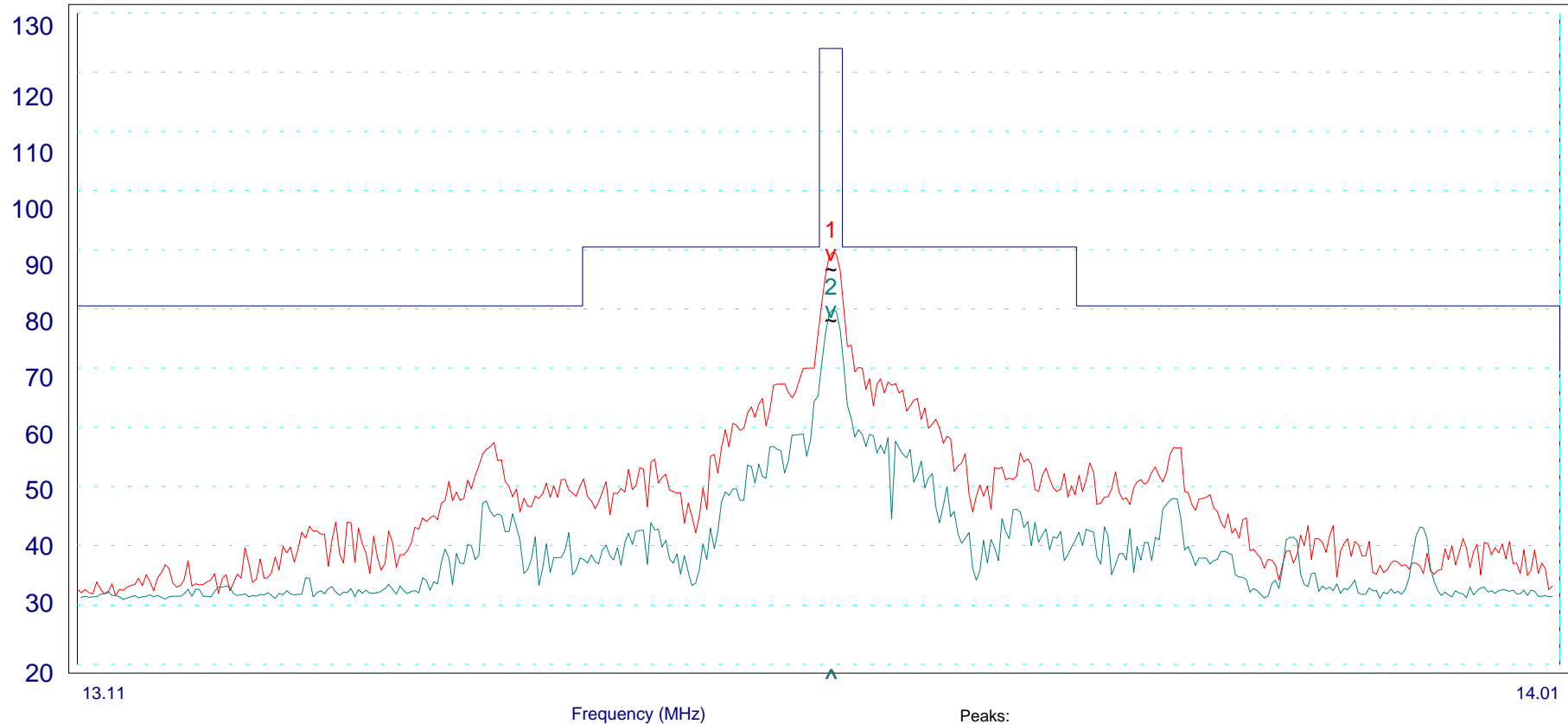
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 14



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 , S/N: None
Carrier Measurement

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mL1 (dBuV/m)	(dB)
1	13.56	89.6	87.1	124.0	-36.9
2	13.56	79.9	78.5	124.0	-45.5

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits
Legend: Parallel to EUT (red line), Perpent. to EUT (green line)
Ver 5.5 Build 158
Source: Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer: Christian Kai
T110542R1
T110542R7

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Phone +(612) 9624 2777 Fax+(612) 9838 4050

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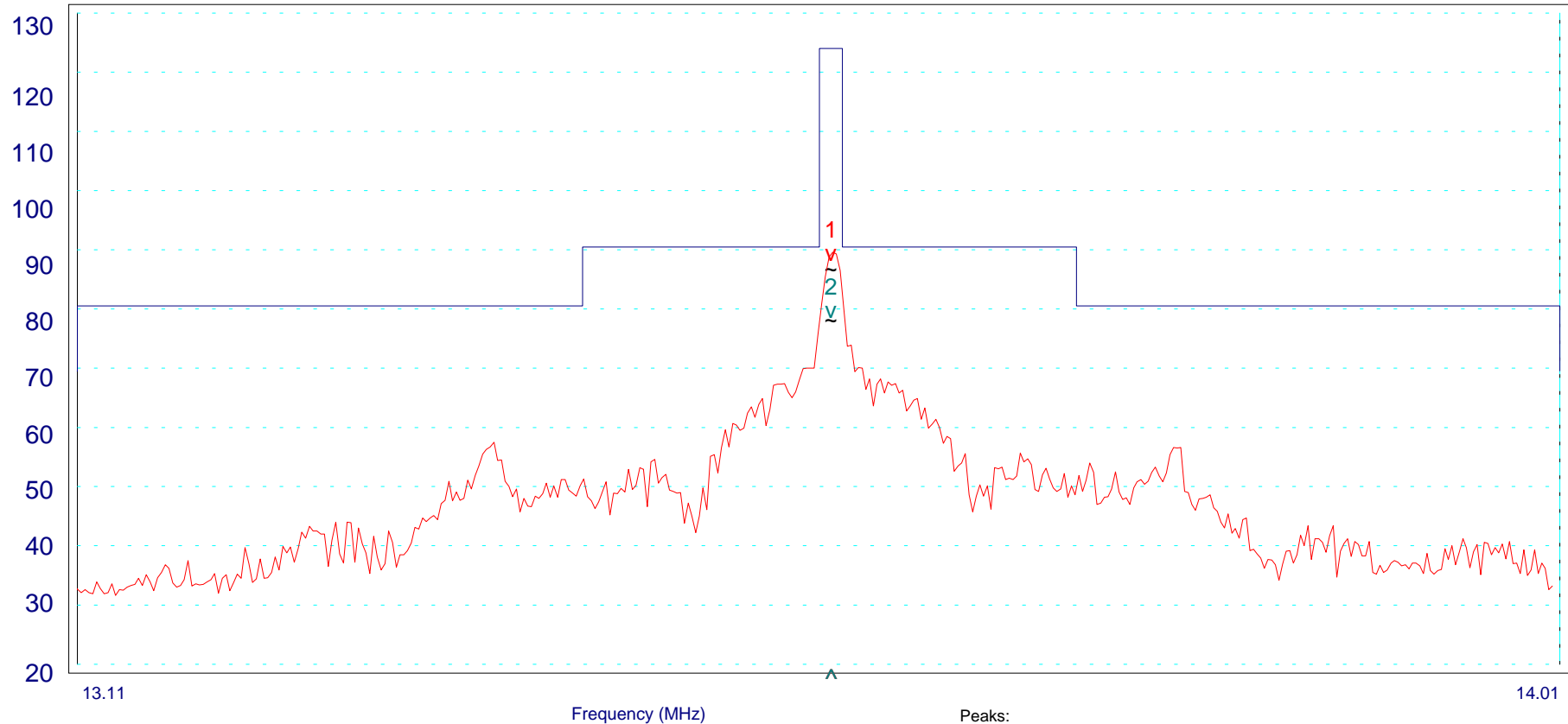
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 15



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 , S/N: None

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3m (dBuV/m)	FCC_loop_3mL1 (dB)
1	13.56	89.6	87.1	124.0	-36.9
2	13.56	79.9	78.5	124.0	-45.5

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits
Legend: Emissions Parallel

Ver 5.5 Build 158
Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R , ;
T110542R , ;

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Phone +(612) 9624 2777 Fax+(612) 9838 4050

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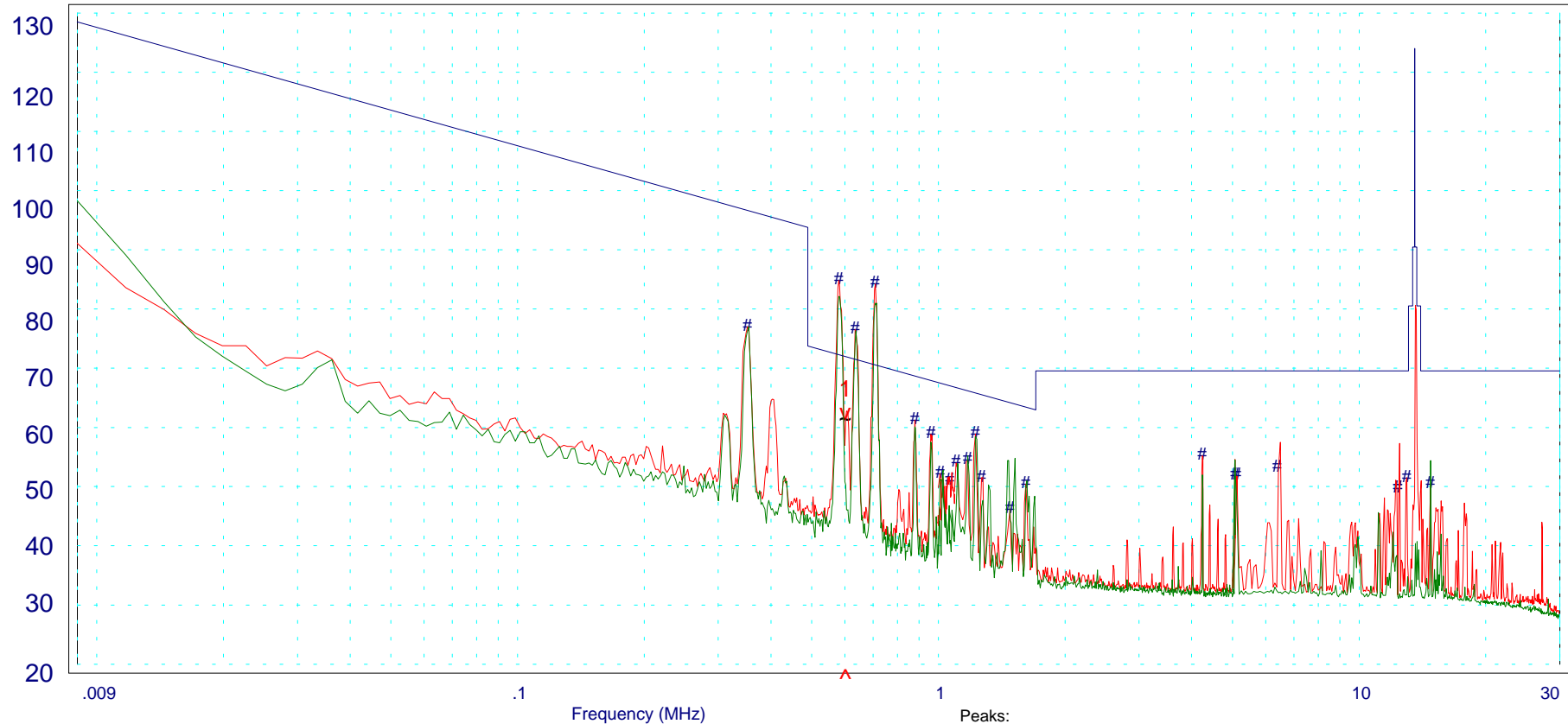
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 16



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 , S/N: None

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mdl1 (dBuV/m)	(dB)
1	0.601	62.8	61.8	72.0	-10.2

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits
Legend: — Emissions Perpent

Ver 5.5 Build 158
Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R10 ,41 ,42
T110542R14 ,85 ,86

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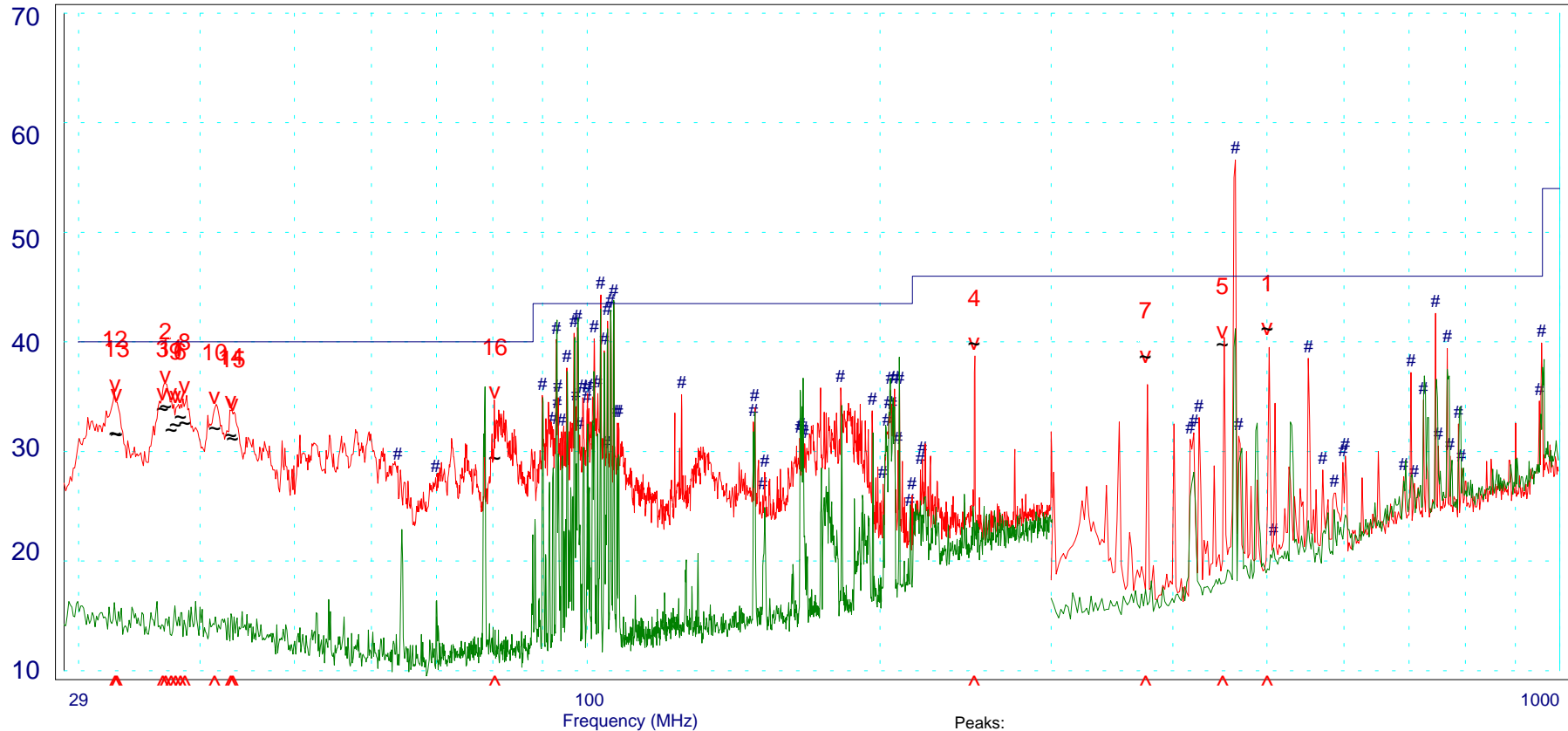
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 17



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 , S/N: None

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

Legend:
— Vertical Ambients (green)
— Vertical Emissions (red)

Ver 5.5 Build 158
Colo Radiated Test Setup
t:A0690113 c1:C0200312 c2:NONE p:A0960512 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq * (MHz)	Peak (dBuV/m)	QP Val *	FCC-B3 (dBuV/m)	dL1 (dB)
1	500.01	40.5	40.5	46.0	-5.5
2	36.86	36.2	33.4	40.0	-6.6
3	36.60	34.6	33.2	40.0	-6.8
4	249.98	39.2	39.2	46.0	-6.8
5	449.99	40.3	39.1	46.0	-6.9
6	38.19	34.3	32.5	40.0	-7.5
7	375.00	38.0	38.0	46.0	-8.0
8	38.57	35.2	32.0	40.0	-8.0
9	37.75	34.4	31.8	40.0	-8.2
10	41.41	34.2	31.5	40.0	-8.5
11	37.36	34.6	31.3	40.0	-8.7
12	32.70	35.4	31.0	40.0	-9.0
13	32.84	34.5	30.9	40.0	-9.1
14	43.02	33.8	30.8	40.0	-9.2
15	43.21	33.6	30.5	40.0	-9.5
16	80.36	34.7	28.7	40.0	-11.3

EMC Technologies Pty. Ltd. - Global Product Certification

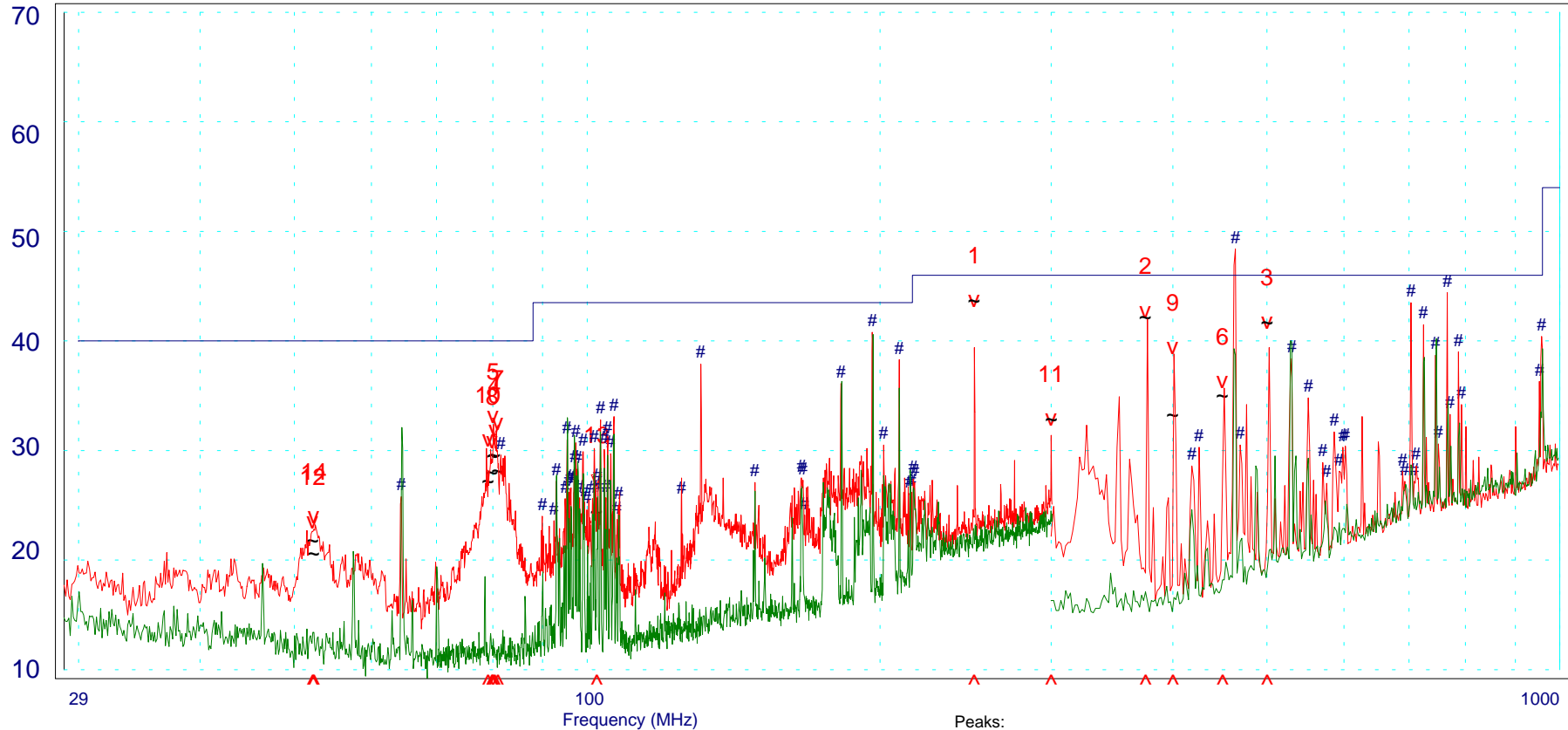
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 18



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 50/50 , S/N: None

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

Legend:
— Horizontal Ambients
— Horizontal Emissions

Ver 5.5 Build 158
Colo Radiated Test Setup
t:A0690113 c1:C0200312 c2:NONE p:A0960512 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R29,30,31,32,33,34
T110542R3,74,75,76,77,67

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	249.99	43.0	43.0	46.0	-3.0
2	374.98	42.0	41.5	46.0	-4.5
3	500.00	41.0	41.0	46.0	-5.0
4	80.29	31.2	28.9	40.0	-11.1
5	80.00	32.4	28.8	40.0	-11.2
6	450.01	35.6	34.3	46.0	-11.7
7	80.94	31.8	27.5	40.0	-12.5
8	79.84	30.1	27.3	40.0	-12.7
9	400.00	38.7	32.6	46.0	-13.4
10	79.08	30.2	26.6	40.0	-13.4
11	300.00	32.2	32.2	46.0	-13.8
12	52.23	22.8	21.1	40.0	-18.9
13	102.29	26.6	23.8	43.5	-19.7
14	52.37	23.3	19.9	40.0	-20.1

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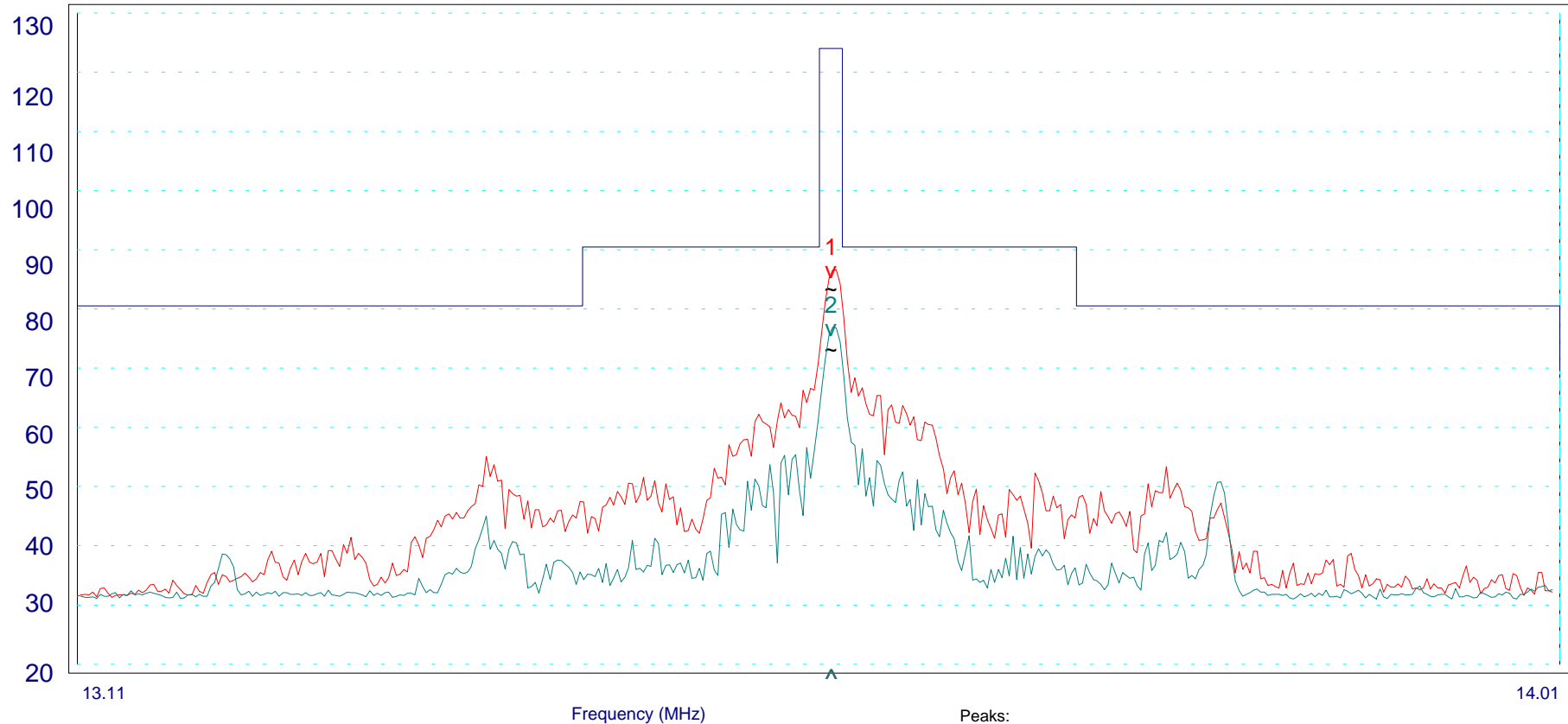
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 19



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 40/40 , S/N: None
Carrier Measurement

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mL1 (dBuV/m)	(dB)
1	13.56	86.7	83.9	124.0	-40.1
2	13.56	76.9	73.6	124.0	-50.4

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits

Legend:
— Parallel to EUT
— Perpent. to EUT

Ver 5.5 Build 158
Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542#1
T110542#7

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

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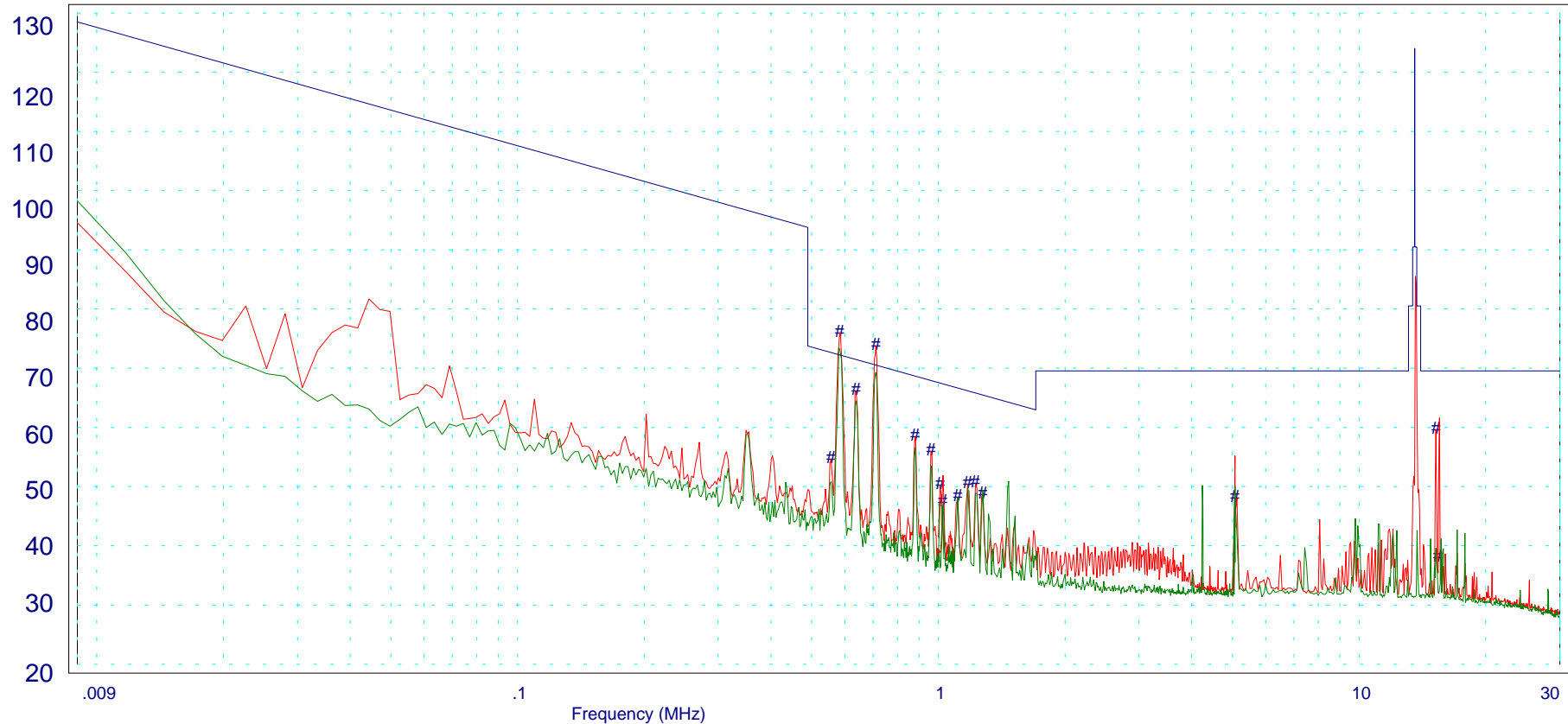
FCC Class B
 Radiated Emissions (dBuV/m)
 # = Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 20



Magellan Technology
 MSTRP Tunnel Reader
 Model: MSTRP with Antenna 40/40 , S/N: None

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits
 Legend: — Emissions Parallel

Ver 5.5 Build 158
 Colo Radiated Test Setup Active Loop
 t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
 Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
 Test Officer:Christian Kai

Source:
 T110542R86 ,38 ,39
 T110542R88 ,89 ,90

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
 Phone +(612) 9624 2777 Fax+(612) 9838 4050

EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T110542

C:\plotting\PCF\T110542_25.PCF

Test Date: 25-05-2011

GRAPH No. 21



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 40/40 , S/N: None

Limits: FCC_loop_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits
Legend: — Emissions Perpent

Ver 5.5 Build 158
Colo Radiated Test Setup Active Loop
t:A0080414E c1:C0200312 c2:NONE p:NONE a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R10 ,41 ,42
T110542R04 ,95 ,96

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Phone +(612) 9624 2777 Fax+(612) 9838 4050

EMC Technologies Pty. Ltd. - Global Product Certification

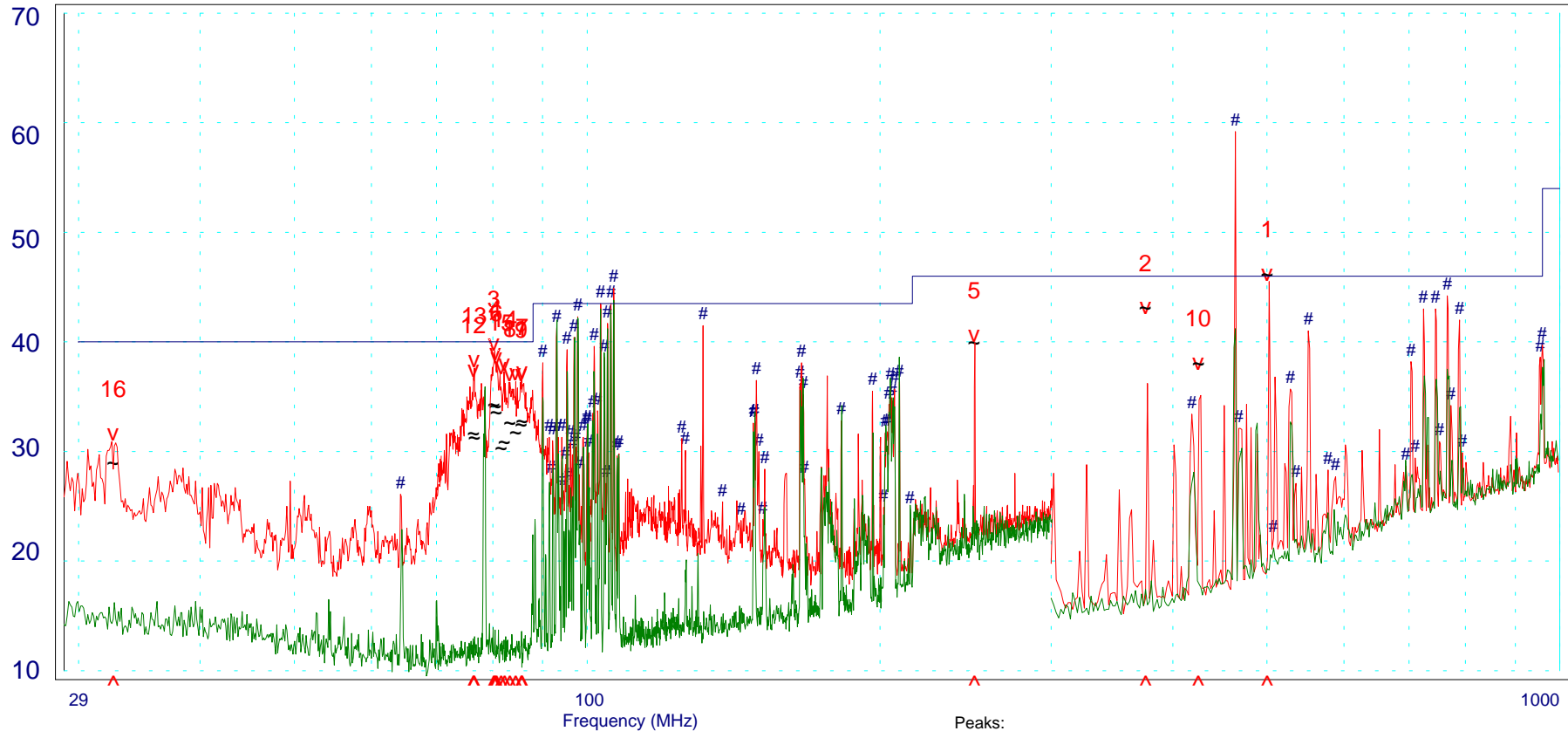
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 22



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 40/40 , S/N: None

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

Legend:
— Vertical Ambients (green)
— Vertical Emissions (red)

Ver 5.5 Build 158
Colo Radiated Test Setup
t:A0690113 c1:C0200312 c2:NONE p:A0960512 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

Source:
T110542R24 ,25 ,26 ,27 ,28 ,35
T110542R00,101,102,103,104,98

Peaks:

No	Freq *(MHz)	Peak (dBuV/m)	QP Val *	FCC-B3 *(dBuV/m)	dL1 (dB)
1	500.02	45.4	45.4	46.0	-6
2	375.00	42.4	42.4	46.0	-3.6
3	80.17	39.1	33.6	40.0	-6.4
4	80.43	38.2	33.4	40.0	-6.6
5	250.03	39.9	39.2	46.0	-6.8
6	80.68	37.9	32.9	40.0	-7.1
7	85.71	36.5	32.1	40.0	-7.9
8	83.25	36.3	32.0	40.0	-8.0
9	85.55	36.3	31.8	40.0	-8.2
10	424.99	37.4	37.4	46.0	-8.6
11	84.40	36.4	31.1	40.0	-8.9
12	76.40	36.7	31.0	40.0	-9.0
13	76.54	37.6	30.6	40.0	-9.4
14	82.24	37.3	30.2	40.0	-9.8
15	81.56	37.0	29.6	40.0	-10.4
16	32.56	30.9	28.3	40.0	-11.7

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

EMC Technologies Pty. Ltd. - Global Product Certification

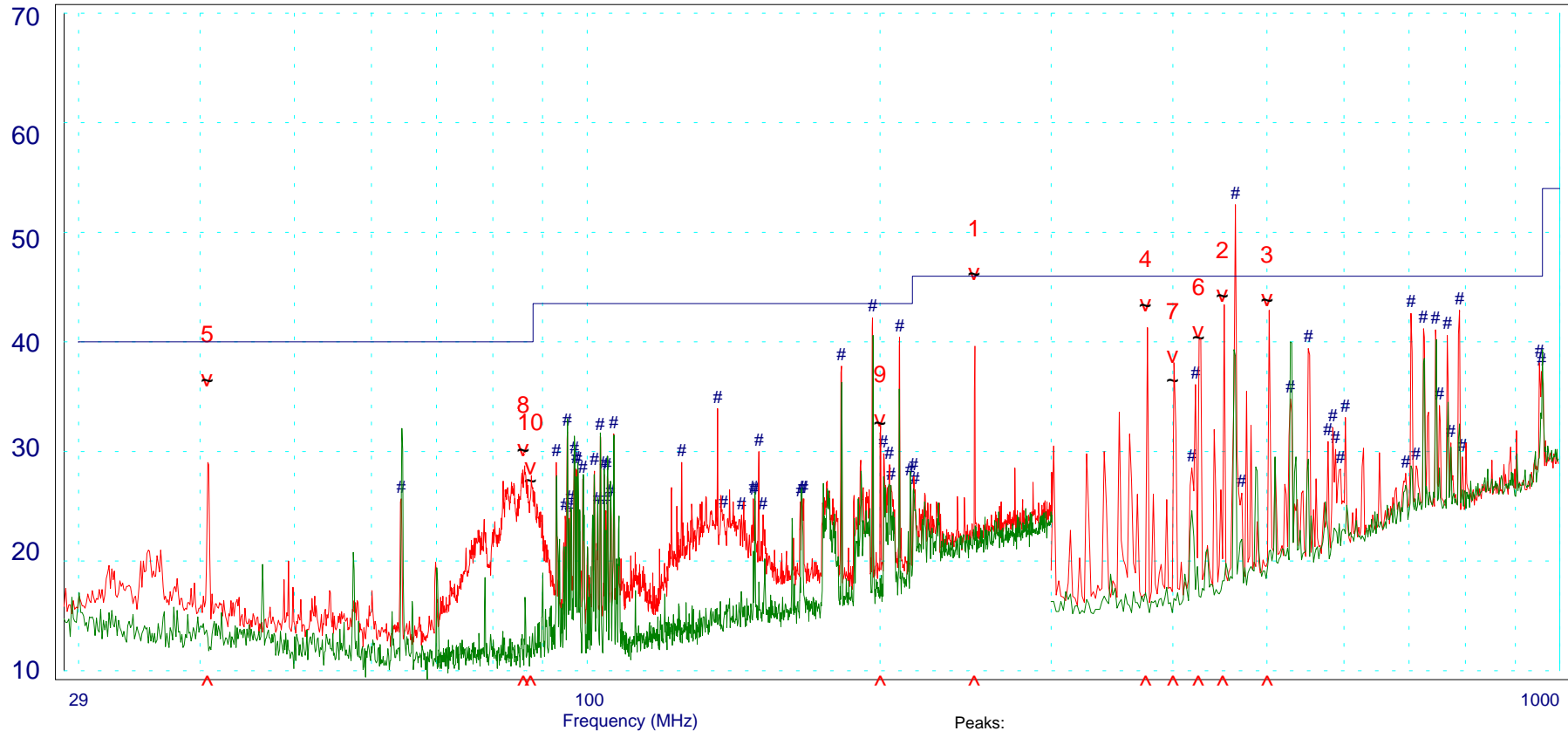
FCC Class B
Radiated Emissions (dBuV/m)
= Ambient

Job No:T110542

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Test Date: 25-05-2011

GRAPH No. 23



Magellan Technology
MSTRP Tunnel Reader
Model: MSTRP with Antenna 40/40 , S/N: None

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

Legend:
— Horizontal Ambients (green)
— Horizontal Emissions (red)

Ver 5.5 Build 158
Colo Radiated Test Setup
t:A0690113 c1:C0200312 c2:NONE p:A0960512 a:NONE
Site ID: OATS#1,1247 Upper Colo Rd. Colo, NSW
Test Officer:Christian Kai

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Peaks:

No	Freq *(MHz)	Peak (dBuV/m)	QP Val * *	FCC-B3 *(dBuV/m)	dL1 (dB)
1	250.00	45.6	45.6	46.0	-4
2	450.02	43.6	43.6	46.0	-2.4
3	500.00	43.2	43.2	46.0	-2.8
4	375.01	42.7	42.7	46.0	-3.3
5	40.68	35.9	35.9	40.0	-4.1
6	425.00	40.2	39.8	46.0	-6.2
7	400.01	38.0	35.9	46.0	-10.1
8	85.96	29.5	29.5	40.0	-10.5
9	200.01	32.2	32.0	43.5	-11.5
10	87.46	27.8	26.7	40.0	-13.3