



Global Product Certification  
EMC-EMF Safety Approvals

**EMC Technologies Pty Ltd**

ABN 82 057 105 549  
Unit 3/87 Station Road  
Seven Hills NSW 2147 Australia

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**[www.emctech.com.au](http://www.emctech.com.au)**

## APPENDIX I OF TEST REPORT T120110\_F

### GRAPHS OF EMI MEASUREMENT

**FCC ID:** TVN-MARS-24AT  
**Manufacturer:** Magellan Technology Pty Limited  
**Test Samples:** Multiple Antenna Reader System (MARS-24AT)  
**Model Number:** MARS-24AT  
**Serial Number:** Production Prototype

**Date:** 30<sup>th</sup> March 2012

**APPENDIX I****GRAPHS OF EMI MEASUREMENT****CONDUCTED EMI**

<b>Graph 1:</b>	MARS-24AT with Antenna 34-10-000 & 31-10-024	Active Line	0.145 to 30.5MHz
<b>Graph 2:</b>	MARS-24AT with Antenna 34-10-000 & 31-10-024	Neutral Line	0.145 to 30.5MHz

<b>Graph 3:</b>	MARS-24AT with Antenna 34-10-005	Active Line	0.145 to 30.5MHz
<b>Graph 4:</b>	MARS-24AT with Antenna 34-10-005	Neutral Line	0.145 to 30.5MHz

**Antenna Terminated**

<b>Graph 5:</b>	MARS-24AT with Antenna terminated	Active Line	0.145 to 30.5MHz
<b>Graph 6:</b>	MARS-24AT with Antenna terminated	Neutral Line	0.145 to 30.5MHz

**RADIATED EMI**

<b>Graph 7:</b>	MARS-24AT with Antenna 34-10-005	Carrier	13.11 to 14.02MHz
<b>Graph 8:</b>	MARS-24AT with Antenna 34-10-005	Loop Antenna	9 kHz to 30 MHz
<b>Graph 9:</b>	MARS-24AT with Antenna 34-10-005	Vertical Polarisation	30 to 1000MHz
<b>Graph 10:</b>	MARS-24AT with Antenna 34-10-005	Horizontal Polarisation	30 to 1000MHz

<b>Graph 11:</b>	MARS-24AT with Antenna 31-10-024 & 34-10-000	Carrier	13.11 to 14.02MHz
<b>Graph 12:</b>	MARS-24AT with Antenna 31-10-024 & 34-10-000	Loop Antenna	9 kHz to 30 MHz
<b>Graph 13:</b>	MARS-24AT with Antenna 31-10-024 & 34-10-000	Vertical Polarisation	30 to 1000MHz
<b>Graph 14:</b>	MARS-24AT with Antenna 31-10-024 & 34-10-000	Horizontal Polarisation	30 to 1000MHz

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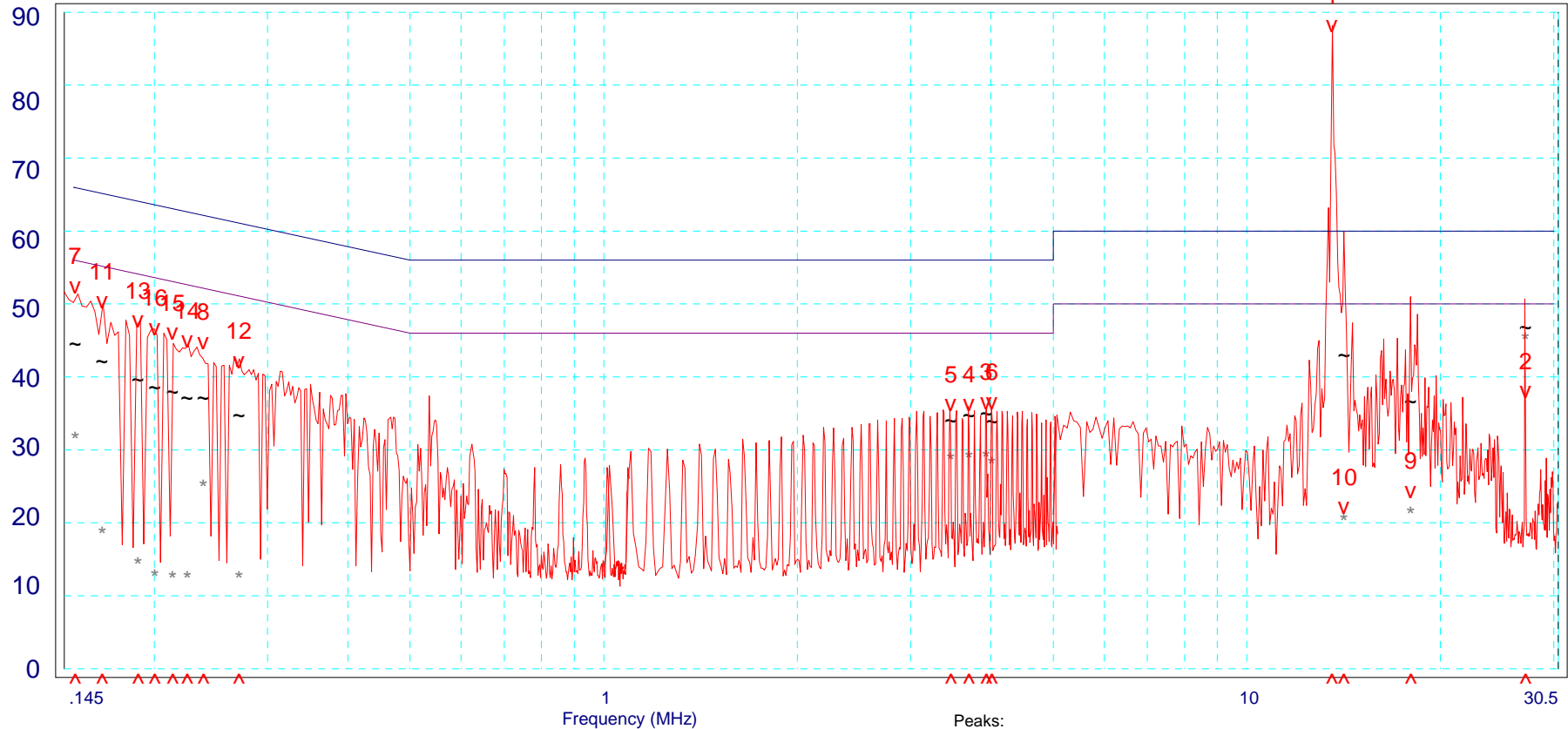
FCC Class B  
Conducted Emissions (dBuV)

Job No:T120110

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Test Date: 15-02-2012

GRAPH No. 1



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-000 & 31-10-024 Antenna  
Model: MARS-24AT Serial No: Production Prototype  
Mode: On Power Source: 110V 60Hz

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  
Generic file for any test.  
t:L0360214 c1:C0010612 c2:NONE p:NONE a:L0030612  
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW  
Test Officer: Joel Mulig

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	88.1	96.7	60.0	36.7	97.2	50.0	47.2
2	27.12	37.9	46.9	60.0	-13.1	44.7	50.0	-5.3
3	3.934	36.5	35.0	56.0	-21.0	28.5	46.0	-17.5
4	3.697	36.2	34.8	56.0	-21.2	28.4	46.0	-17.6
5	3.466	36.2	34.1	56.0	-21.9	28.2	46.0	-17.8
6	4.015	36.4	33.9	56.0	-22.1	27.6	46.0	-18.4
7	0.151	52.3	44.5	66.0	-21.5	31.1	56.0	-24.9
8	0.238	44.7	37.1	62.2	-25.1	24.5	52.2	-27.7
9	17.98	24.3	36.7	60.0	-23.3	20.8	50.0	-29.2
10	14.16	22.1	42.9	60.0	-17.1	19.8	50.0	-30.2
11	0.166	50.3	42.2	65.2	-23.0	18.1	55.2	-37.1
12	0.271	42.1	34.7	61.1	-26.4	11.9	51.1	-39.2
13	0.189	47.6	39.6	64.1	-24.5	13.9	54.1	-40.2
14	0.225	44.9	37.2	62.6	-25.4	11.9	52.6	-40.7
15	0.214	46.0	37.9	63.1	-25.2	11.9	53.1	-41.2
16	0.200	46.6	38.6	63.6	-25.0	12.2	53.6	-41.4

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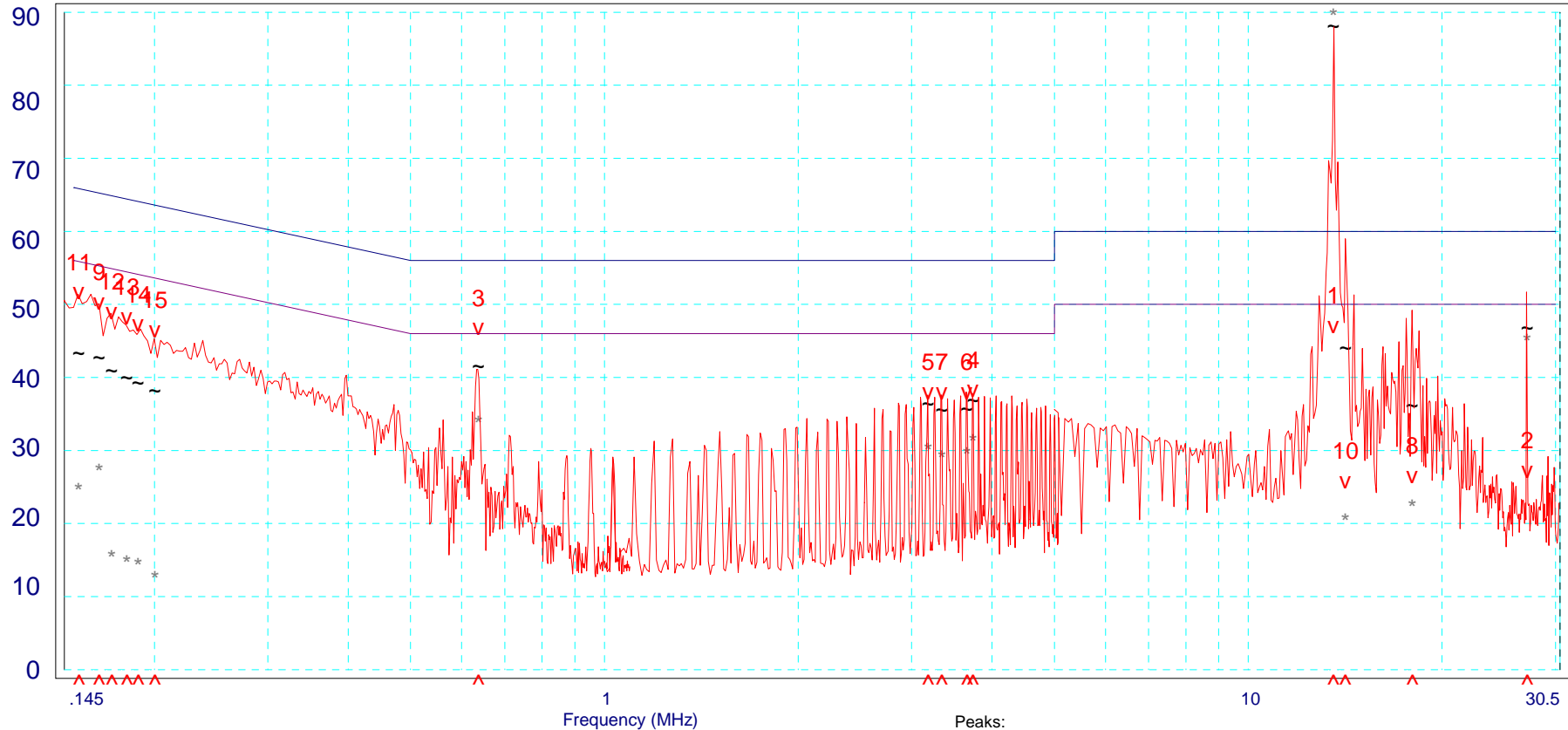
FCC Class B  
Conducted Emissions (dBuV)

Job No:T120110

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Test Date: 15-02-2012

GRAPH No. 2



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-000 & 31-10-024 Antenna  
Model: MARS-24AT Serial No: Production Prototype  
Mode: On Power Source: 110V 60Hz

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  
Generic file for any test.  
t:L0360214 c1:C0010612 c2:NONE p:NONE a:L0030612  
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW  
Test Officer: Joel Mulig

Source:  
T120110Q , 5 , 6

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	47.0	88.2	60.0	28.2	89.1	50.0	39.1
2	27.12	27.2	46.8	60.0	-13.2	44.5	50.0	-5.5
3	0.637	46.7	41.6	56.0	-14.4	33.4	46.0	-12.6
4	3.738	38.2	36.9	56.0	-19.1	30.8	46.0	-15.2
5	3.182	37.8	36.4	56.0	-19.6	29.6	46.0	-16.4
6	3.657	37.9	35.7	56.0	-20.3	29.0	46.0	-17.0
7	3.342	37.9	35.6	56.0	-20.4	28.5	46.0	-17.5
8	17.98	26.4	36.2	60.0	-23.8	21.9	50.0	-28.1
9	0.164	50.2	42.8	65.3	-22.5	26.8	55.3	-28.5
10	14.16	25.8	44.1	60.0	-15.9	19.9	50.0	-30.1
11	0.153	51.6	43.3	65.9	-22.6	24.1	55.9	-31.8
12	0.172	48.8	40.9	64.9	-24.0	14.9	54.9	-40.0
13	0.181	48.1	40.0	64.4	-24.4	14.2	54.4	-40.2
14	0.189	47.2	39.3	64.1	-24.8	13.8	54.1	-40.3
15	0.200	46.4	38.3	63.6	-25.3	12.1	53.6	-41.5

# EMC Technologies Pty. Ltd. - Global Product Certification

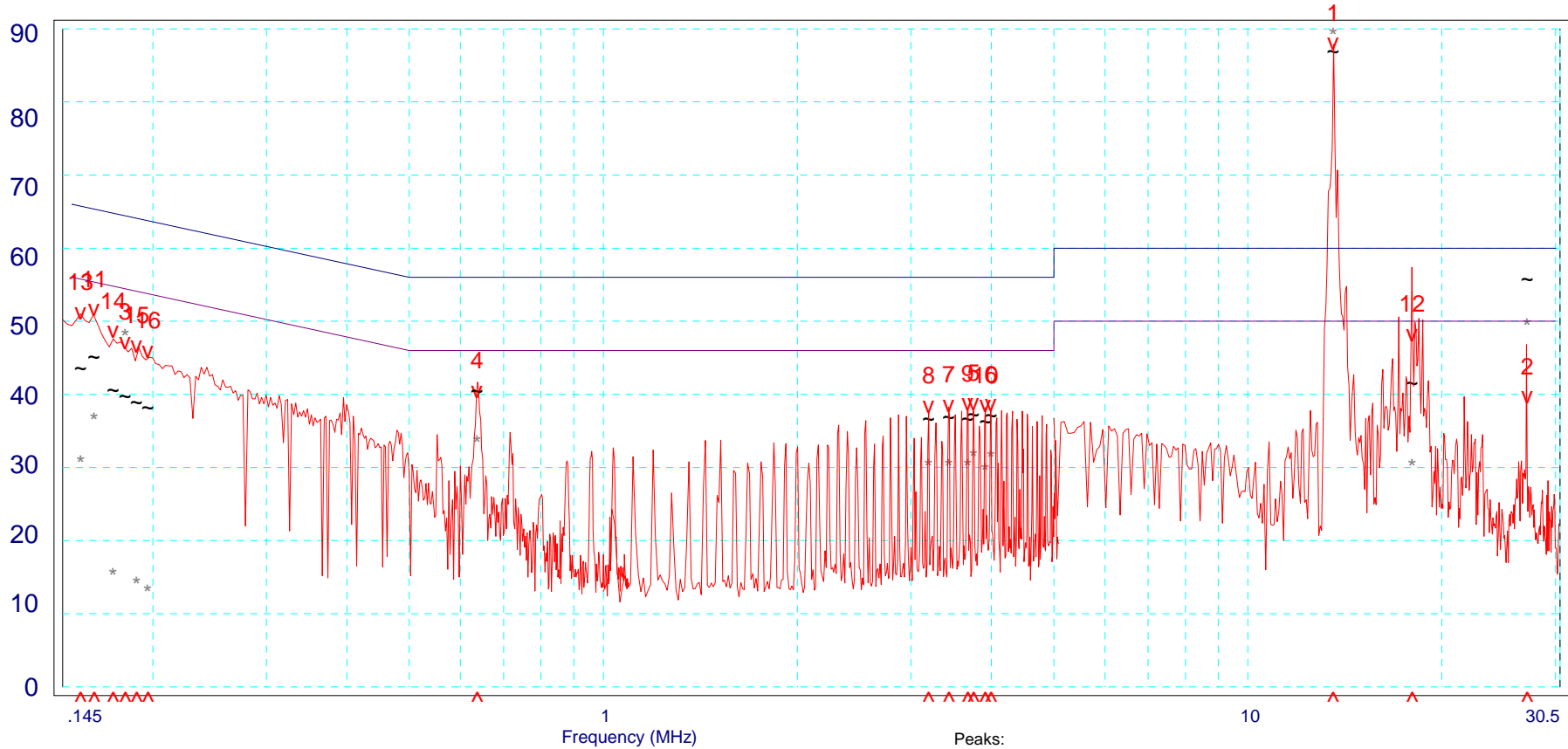
FCC Class B  
Conducted Emissions (dBuV)

Job No:T120110

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Test Date: 15-02-2012

GRAPH No. 3



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-005 Antenna  
Model: MARS-24AT Serial No: Production Prototype  
Mode: On Power Source: 110V 60Hz

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  
Generic file for any test.  
t:L0360214 c1:C0010612 c2:NONE p:NONE a:L0030612  
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW  
Test Officer: Joel Mulig

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	87.9	86.9	60.0	26.9	88.7	50.0	38.7
2	27.12	39.6	55.7	60.0	-4.3	49.0	50.0	-1.0
3	0.181	47.1	39.8	64.4	-24.6	47.5	54.4	-6.9
4	0.637	40.4	40.5	56.0	-15.5	33.0	46.0	-13.0
5	3.755	38.7	37.3	56.0	-18.7	31.1	46.0	-14.9
6	3.995	38.5	37.2	56.0	-18.8	30.9	46.0	-15.1
7	3.435	38.5	36.9	56.0	-19.1	29.8	46.0	-16.2
8	3.195	38.3	36.7	56.0	-19.3	29.8	46.0	-16.2
9	3.676	38.7	36.7	56.0	-19.3	29.8	46.0	-16.2
10	3.916	38.4	36.3	56.0	-19.7	29.2	46.0	-16.8
11	0.162	51.5	45.1	65.4	-20.3	36.1	55.4	-19.3
12	17.98	48.1	41.6	60.0	-18.4	29.7	50.0	-20.3
13	0.155	51.1	43.6	65.8	-22.2	30.2	55.8	-25.6
14	0.174	48.5	40.6	64.8	-24.2	14.8	54.8	-40.0
15	0.189	46.6	38.9	64.1	-25.2	13.6	54.1	-40.5
16	0.197	45.9	38.3	63.8	-25.5	12.6	53.8	-41.2

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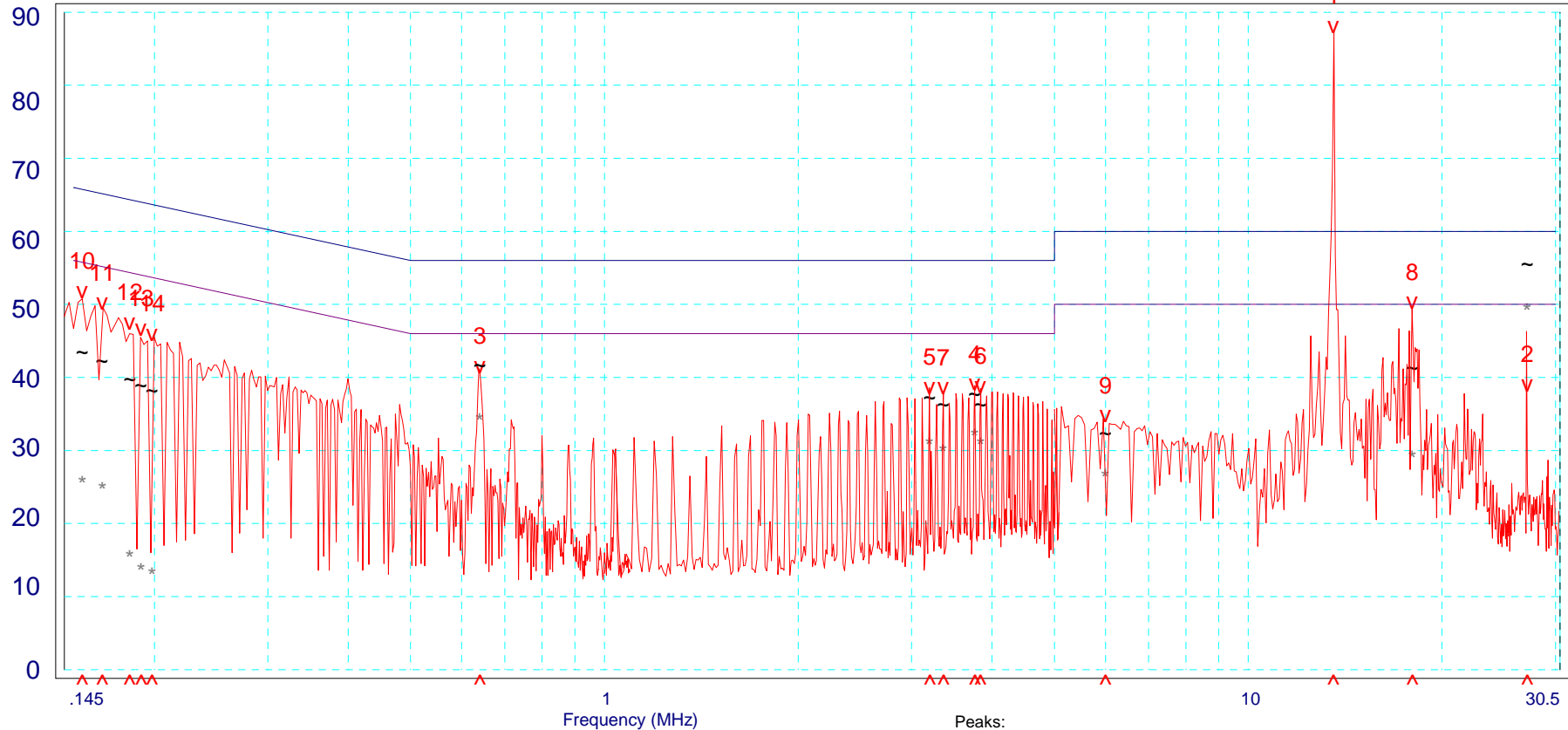
FCC Class B  
Conducted Emissions (dBuV)

Job No:T120110

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Test Date: 15-02-2012

GRAPH No. 4



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-005 Antenna  
Model: MARS-24AT Serial No: Production Prototype  
Mode: On Power Source: 110V 60Hz

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  
Generic file for any test.  
t:L0360214 c1:C0010612 c2:NONE p:NONE a:L0030612  
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW  
Test Officer: Joel Mulig

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	88.0	94.4	60.0	34.4	93.7	50.0	43.7
2	27.12	39.0	55.6	60.0	-4.4	48.8	50.0	-1.2
3	0.640	41.5	41.7	56.0	-14.3	33.7	46.0	-12.3
4	3.760	39.0	37.7	56.0	-18.3	31.6	46.0	-14.4
5	3.200	38.6	37.2	56.0	-18.8	30.3	46.0	-15.7
6	3.840	38.7	36.3	56.0	-19.7	30.3	46.0	-15.7
7	3.360	38.5	36.4	56.0	-19.6	29.4	46.0	-16.6
8	17.98	50.2	41.3	60.0	-18.7	28.6	50.0	-21.4
9	6.000	34.7	32.4	60.0	-27.6	25.9	50.0	-24.1
10	0.155	51.8	43.5	65.8	-22.3	25.1	55.8	-30.7
11	0.166	50.1	42.2	65.2	-23.0	24.2	55.2	-31.0
12	0.183	47.4	39.8	64.3	-24.5	14.9	54.3	-39.4
13	0.191	46.6	38.9	64.0	-25.1	13.1	54.0	-40.9
14	0.198	45.9	38.3	63.7	-25.4	12.5	53.7	-41.2

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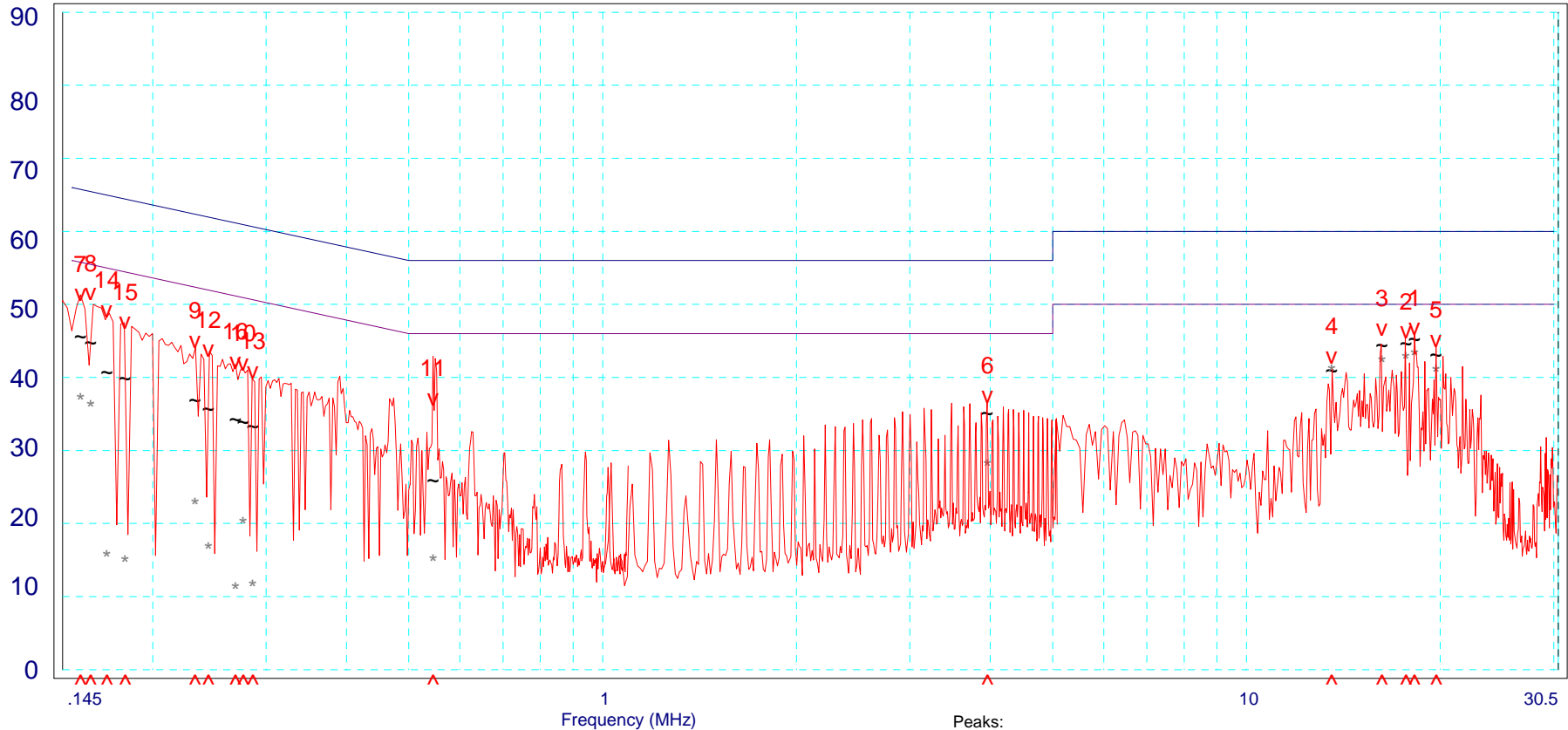
FCC Class B  
Conducted Emissions (dBuV)

Job No:T120110

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Test Date: 15-02-2012

GRAPH No. 5



Magellan Technology Pty Limited  
Multiple Antenna Reader System with Antenna Terminated  
Model: MARS-24AT Serial No: Production Prototype  
Mode: On Power Source: 110V 60Hz

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  
Generic file for any test.  
t:L0360214 c1:C0010612 c2:NONE p:NONE a:L0030612  
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW  
Test Officer: Joel Mulig

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	18.24	46.6	45.2	60.0	-14.8	42.5	50.0	-7.5
2	17.69	46.2	44.6	60.0	-15.4	42.0	50.0	-8.0
3	16.23	46.6	44.4	60.0	-15.6	41.5	50.0	-8.5
4	13.56	42.8	41.0	60.0	-19.0	40.4	50.0	-9.6
5	19.71	45.0	43.1	60.0	-16.9	40.3	50.0	-9.7
6	3.960	37.4	35.1	56.0	-20.9	27.4	46.0	-18.6
7	0.155	51.3	45.7	65.8	-20.1	36.4	55.8	-19.4
8	0.160	51.5	44.7	65.5	-20.8	35.5	55.5	-20.0
9	0.233	45.0	36.9	62.4	-25.5	22.1	52.4	-30.3
10	0.277	41.8	33.9	60.9	-27.0	19.5	50.9	-31.4
11	0.545	37.0	25.9	56.0	-30.1	14.4	46.0	-31.6
12	0.244	43.7	35.7	62.0	-26.3	16.0	52.0	-36.0
13	0.286	40.7	33.3	60.6	-27.3	10.9	50.6	-39.7
14	0.170	49.1	40.7	65.0	-24.3	14.9	55.0	-40.1
15	0.181	47.5	39.9	64.4	-24.5	14.2	54.4	-40.2
16	0.269	42.1	34.2	61.2	-27.0	10.5	51.2	-40.7

# EMC Technologies Pty. Ltd. - Global Product Certification

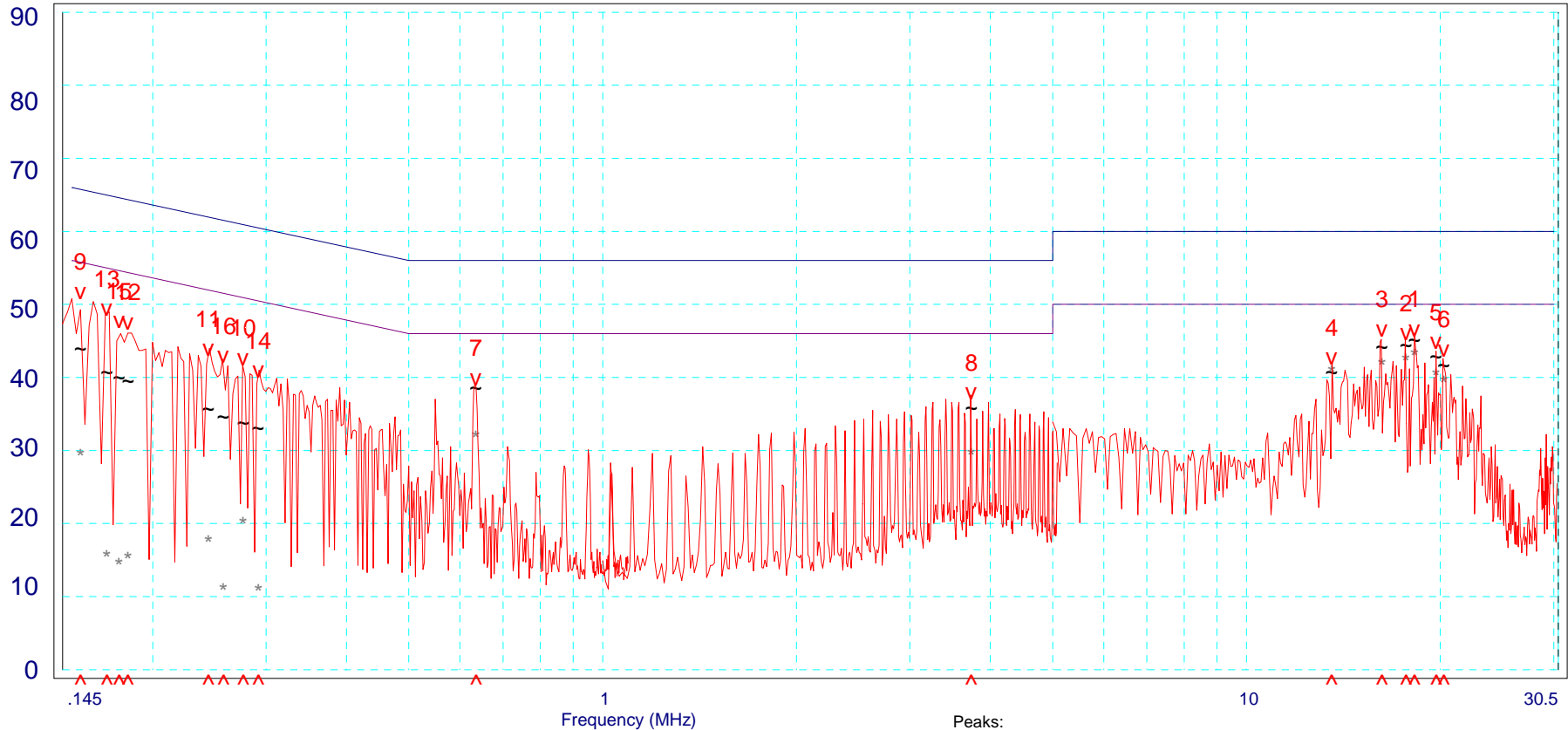
FCC Class B  
Conducted Emissions (dBuV)

Job No:T120110

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Test Date: 15-02-2012

GRAPH No. 6



Magellan Technology Pty Limited  
Multiple Antenna Reader System with Antenna Terminated  
Model: MARS-24AT Serial No: Production Prototype  
Mode: On Power Source: 110V 60Hz

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  
Generic file for any test.  
t:L0360214 c1:C0010612 c2:NONE p:NONE a:L0030612  
Site ID: Syd Room#2,3/87 Station Rd, Seven Hills, NSW  
Test Officer: Joel Mulig

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	18.24	46.5	45.1	60.0	-14.9	42.5	50.0	-7.5
2	17.69	46.0	44.4	60.0	-15.6	41.8	50.0	-8.2
3	16.23	46.5	44.2	60.0	-15.8	41.2	50.0	-8.8
4	13.56	42.6	40.7	60.0	-19.3	40.3	50.0	-9.7
5	19.71	44.8	42.8	60.0	-17.2	39.8	50.0	-10.2
6	20.26	43.7	41.7	60.0	-18.3	38.8	50.0	-11.2
7	0.636	39.8	38.5	56.0	-17.5	31.3	46.0	-14.7
8	3.738	37.8	35.8	56.0	-20.2	28.9	46.0	-17.1
9	0.155	51.7	43.9	65.8	-21.9	28.8	55.8	-27.0
10	0.277	42.6	33.8	60.9	-27.1	19.5	50.9	-31.4
11	0.244	43.8	35.7	62.0	-26.3	17.0	52.0	-35.0
12	0.183	47.4	39.5	64.3	-24.8	14.7	54.3	-39.6
13	0.170	49.3	40.8	65.0	-24.2	14.9	55.0	-40.1
14	0.292	40.8	33.1	60.5	-27.4	10.3	50.5	-40.2
15	0.177	47.6	39.9	64.6	-24.7	13.8	54.6	-40.8
16	0.258	42.8	34.6	61.5	-26.9	10.4	51.5	-41.1



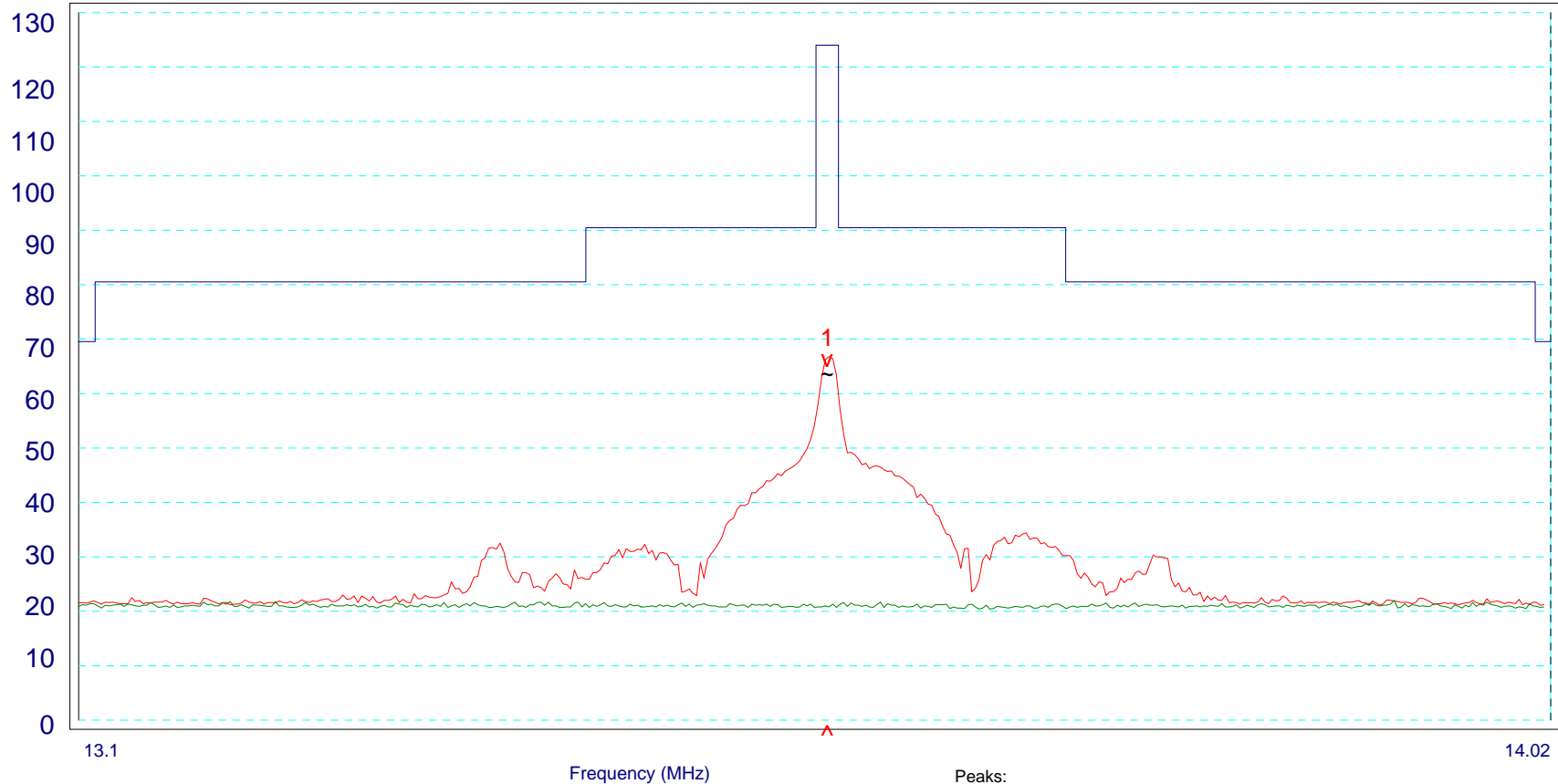
# EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T120110 p:\PCF\T120110\_22.PCF

Test Date: 1-03-2012

GRAPH No. 7



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-005 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 115 VAC 60 Hertz

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mL1 (dBuV/m)	L1 (dB)
1	13.56	66.8	64.3	124.0	-59.7

Limits: FCC\_loop\_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits  
Legend: — Ambients — Carrier (90 Degrees)

Ver 5.5 Build 160  
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: Alan Wilcox

Source: T12011069 T12011071

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:T120110 p:\PCF\T120110\_23.PCF

Test Date: 1-03-2012

GRAPH No. 8



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-005 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 115 VAC 60 Hertz

Limits: FCC\_loop\_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits  
Legend: — Ambients — 90 Degrees  
Source: T12011065 ,66 ,67 ,68 T12011072 ,73 ,74 ,75  
Ver 5.5 Build 160  
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: Alan Wilcox

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

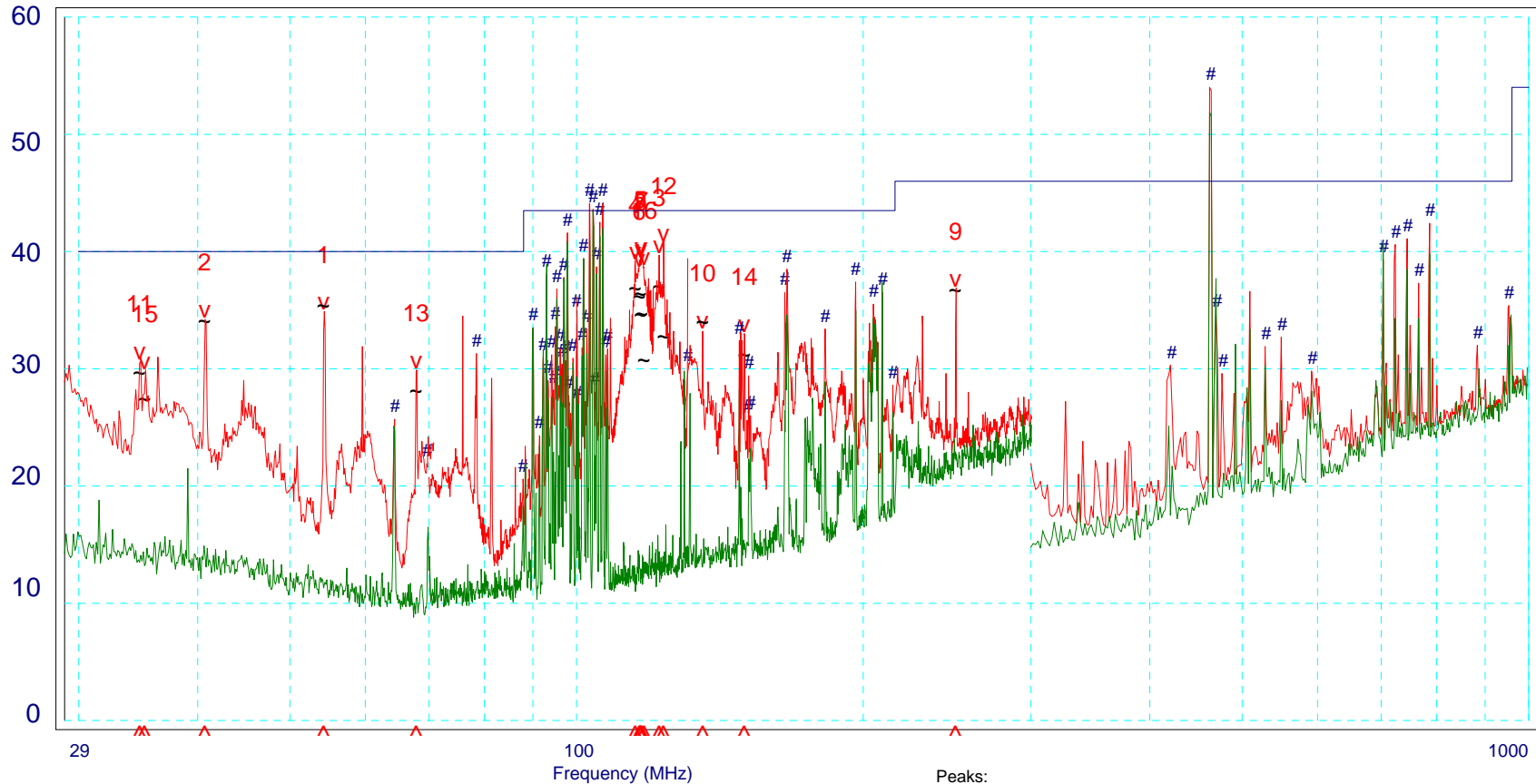
# EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T120110 p:\PCF\T120110\_3.PCF

Test Date: 17-01-2012

GRAPH No. 9



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-005 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 110 VAC 60 Hertz

Limits: FCC-B3 FCC CLASS B RAD 3M LIMITS  
Legend: Vertical Ambients (green line), Vertical Emissions (red line)  
Source: T120110R8 ,19 ,20 ,21 ,22 ,11  
T120110R3 ,24 ,25 ,26 ,27 ,34

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No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	54.24	34.9	34.7	40.0	-5.3
2	40.68	34.2	33.4	40.0	-6.6
3	122.07	39.7	36.3	43.5	-7.2
4	115.24	39.1	36.2	43.5	-7.3
5	116.67	39.6	35.7	43.5	-7.8
6	116.41	38.6	35.5	43.5	-8.0
7	117.07	39.5	34.0	43.5	-9.5
8	116.76	39.3	33.9	43.5	-9.6
9	250.00	36.9	36.0	46.0	-10.0
10	135.61	33.3	33.3	43.5	-10.2
11	34.76	30.7	28.9	40.0	-11.1
12	123.40	40.7	32.0	43.5	-11.5
13	67.82	29.9	27.4	40.0	-12.6
14	150.01	33.0	30.5	43.5	-13.0
15	35.18	29.8	26.7	40.0	-13.3
16	117.71	38.7	30.0	43.5	-13.5

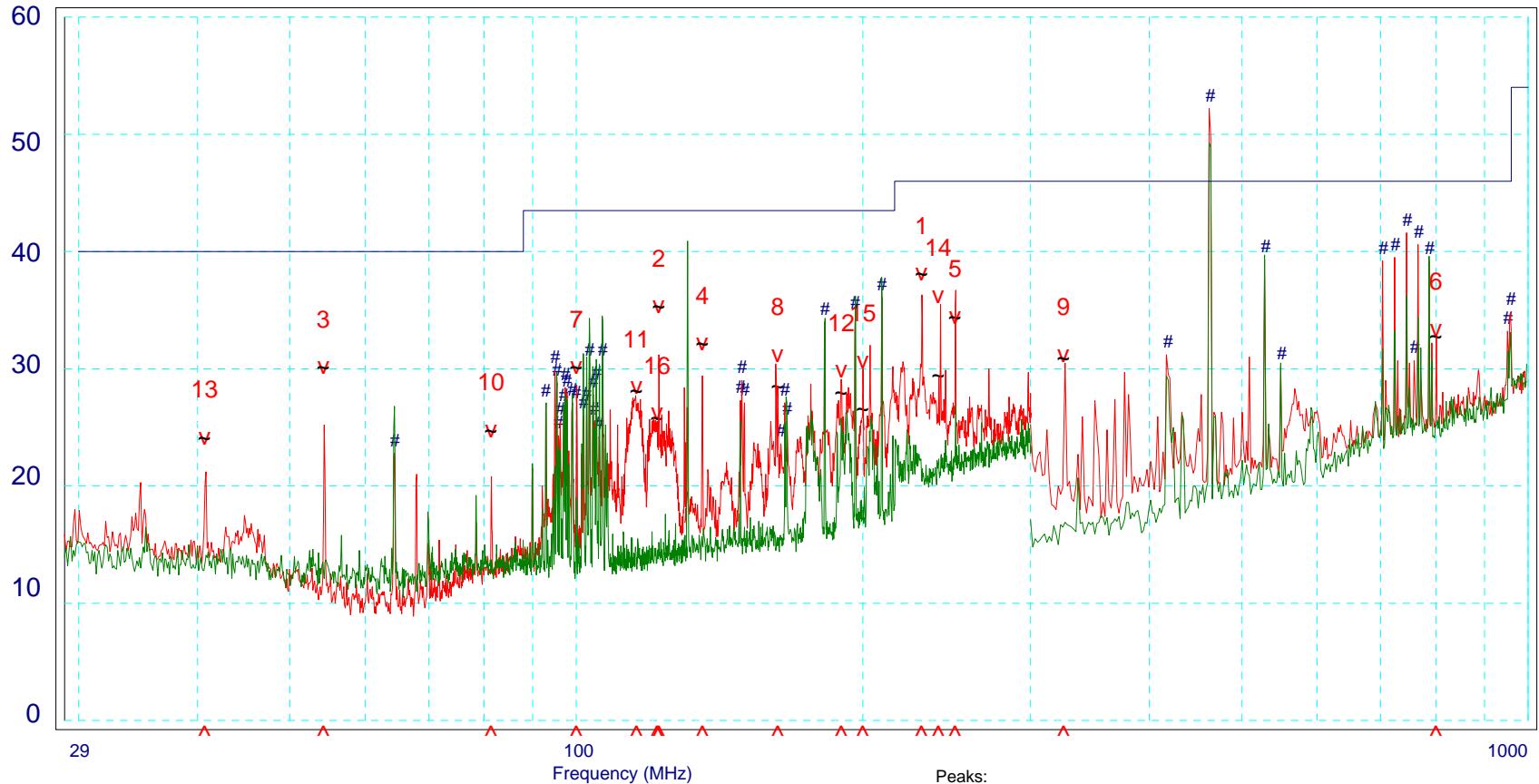
# EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T120110 p:\PCF\T120110\_4.PCF

Test Date: 17-01-2012

GRAPH No. 10



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-005 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 110 VAC 60 Hertz

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	230.51	37.4	37.4	46.0	-8.6
2	122.04	34.6	34.6	43.5	-8.9
3	54.24	29.4	29.4	40.0	-10.6
4	135.60	31.4	31.4	43.5	-12.1
5	250.00	33.7	33.7	46.0	-12.3
6	800.06	32.6	32.0	46.0	-14.0
7	100.00	29.4	29.4	43.5	-14.1
8	162.72	30.4	27.8	43.5	-15.7
9	325.00	30.4	30.2	46.0	-15.8
10	81.36	24.0	24.0	40.0	-16.0
11	115.64	27.7	27.4	43.5	-16.1
12	189.85	29.1	27.3	43.5	-16.2
13	40.68	23.4	23.4	40.0	-16.6
14	240.01	35.5	28.7	46.0	-17.3
15	199.99	29.9	25.9	43.5	-17.6
16	121.57	25.5	25.1	43.5	-18.4

Limits: FCC-B3 FCC CLASS B RAD 3M LIMITS  
Legend: Horizontal Ambients (green line), Horizontal Emissions (red line)  
Source: T120110R3 ,14 ,15 ,16 ,17 ,12  
T120110R8 ,29 ,30 ,31 ,32 ,33

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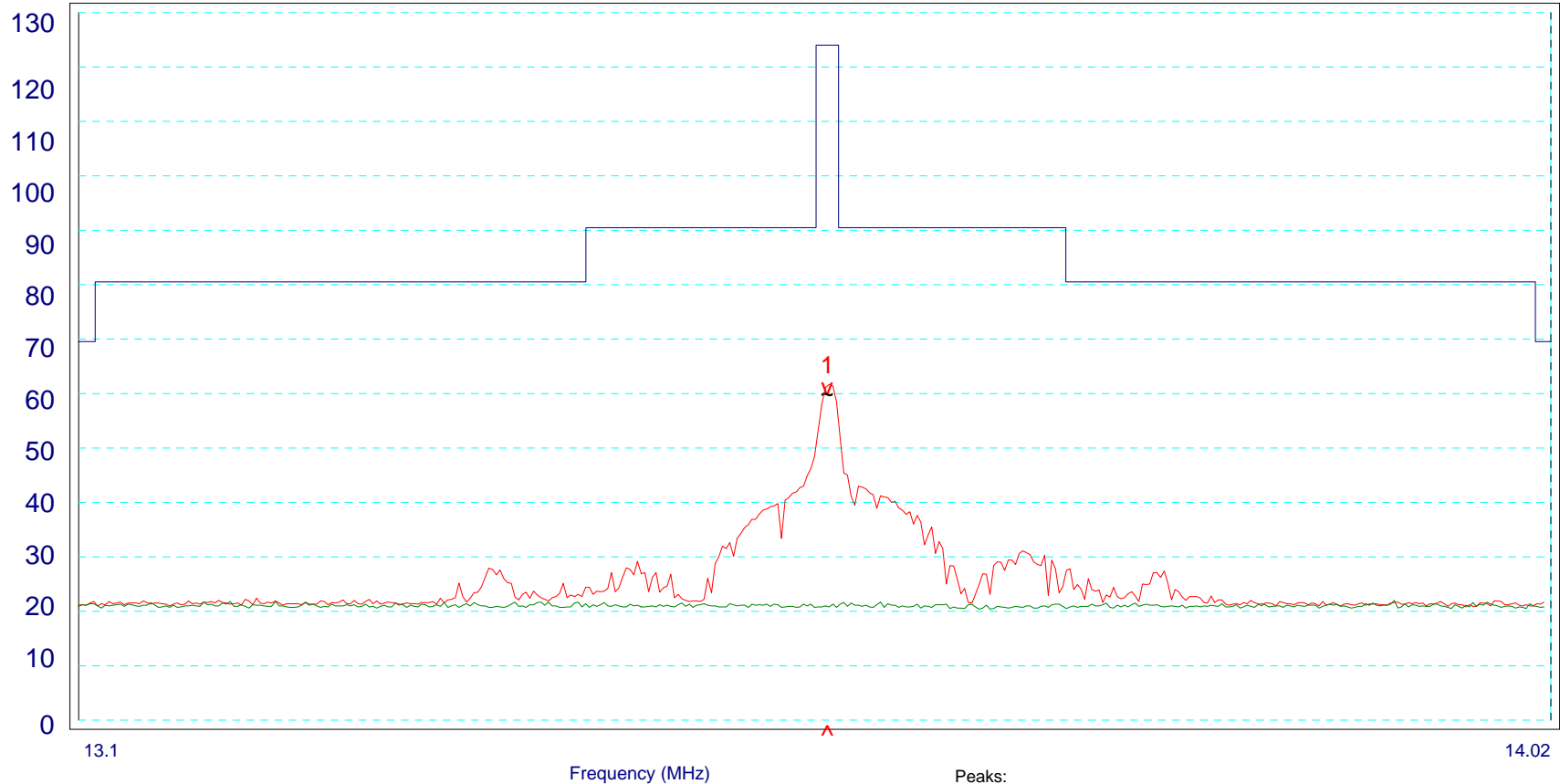
# EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T120110 p:\PCF\T120110\_24.PCF

Test Date: 1-03-2012

GRAPH No. 11



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 31-10-024 and 34-10-000 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 115 VAC 60 Hertz

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC_loop_3mL1 (dBuV/m)	L1 (dB)
1	13.56	61.8	60.7	124.0	-63.3

Limits: FCC\_loop\_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits  
Legend: — Ambients — Carrier (90 Degrees)

Ver 5.5 Build 160  
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: Alan Wilcox

Source: T120110R9 T120110R6

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

Job No:T120110 p:\PCF\T120110\_25.PCF

Test Date: 1-03-2012

GRAPH No. 12



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 31-10-024 and 34-10-000 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 115 VAC 60 Hertz

Limits:  
FCC\_loop\_3m Fcc Pt15 Subpart C Section 15.209(a) 3Metre Limits

Legend:  
— Ambients  
— 90 Degrees

Ver 5.5 Build 160  
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: Alan Wilcox

Source:  
T120110R5 ,66 ,67 ,68  
T120110R8 ,79 ,80 ,81

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

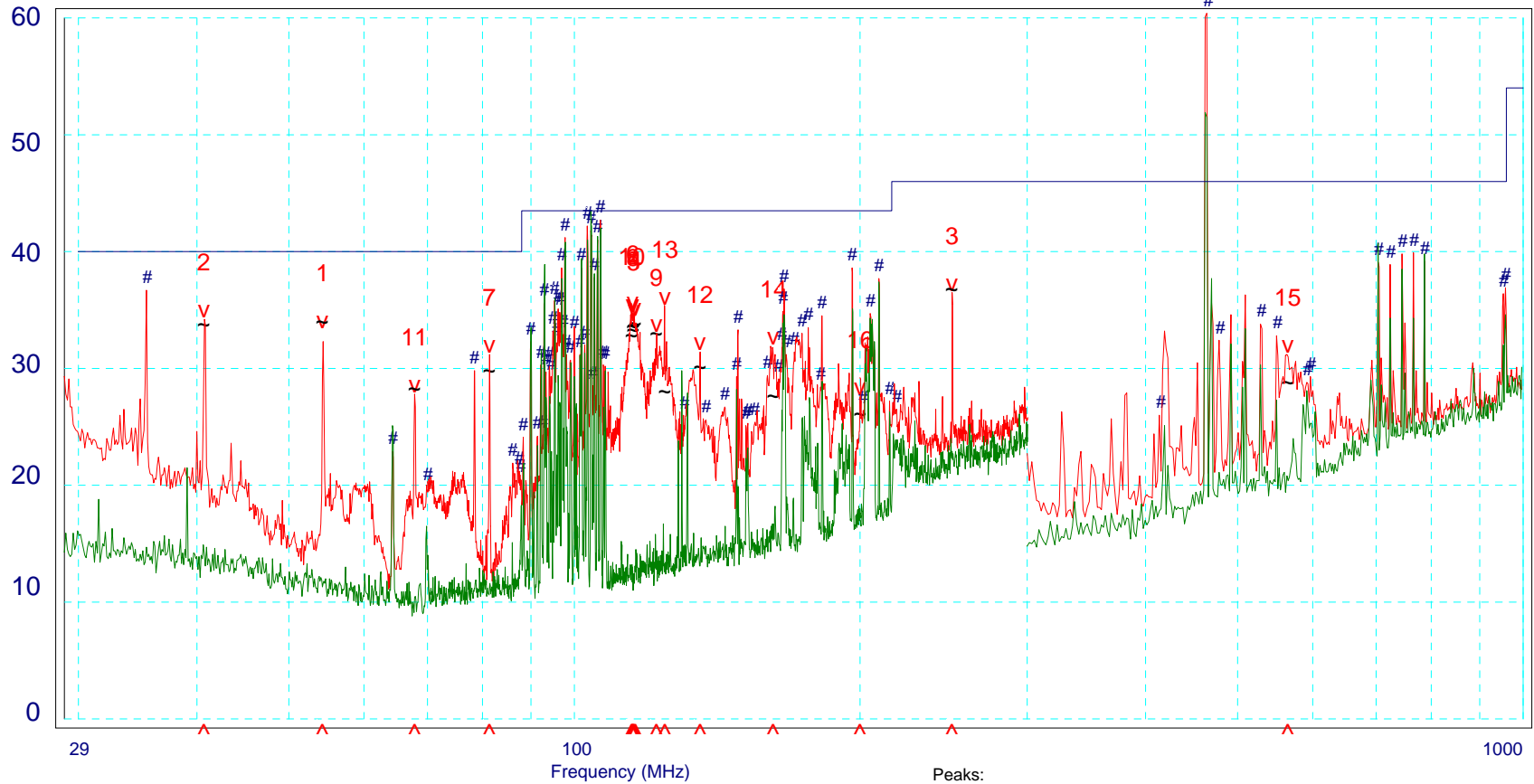
FCC Class B  
Radiated Emissions (dBuV/m)  
# = Ambient

Job No:T120110

p:\PCF\T120110\_6.PCF

Test Date: 17-01-2012

GRAPH No. 13



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-000 & 31-10-024 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 110 VAC 60 Hertz

Limits: FCC-B3      FCC CLASS B RAD 3M LIMITS  
Legend: — Vertical Ambients (green), — Vertical Emissions (red)  
Source: T120110R8 ,19 ,20 ,21 ,22 ,11 (green), T120110B7 ,38 ,39 ,40 ,41 ,35 (red)  
Ver 5.5 Build 160  
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: Alan Wilcox

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/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	54.25	33.3	33.3	40.0	-6.7
2	40.68	34.2	33.1	40.0	-6.9
3	250.00	36.5	36.1	46.0	-9.9
4	115.89	34.4	33.1	43.5	-10.4
5	115.53	34.3	33.0	43.5	-10.5
6	115.19	35.0	32.9	43.5	-10.6
7	81.36	31.2	29.1	40.0	-10.9
8	115.35	34.7	32.6	43.5	-10.9
9	122.03	32.9	32.3	43.5	-11.2
10	114.88	34.7	32.2	43.5	-11.3
11	67.82	27.8	27.6	40.0	-12.4
12	135.61	31.4	29.4	43.5	-14.1
13	124.54	35.3	27.4	43.5	-16.1
14	162.05	31.9	26.9	43.5	-16.6
15	564.86	31.2	28.1	46.0	-17.9
16	200.03	27.6	25.4	43.5	-18.1

# EMC Technologies Pty. Ltd. - Global Product Certification

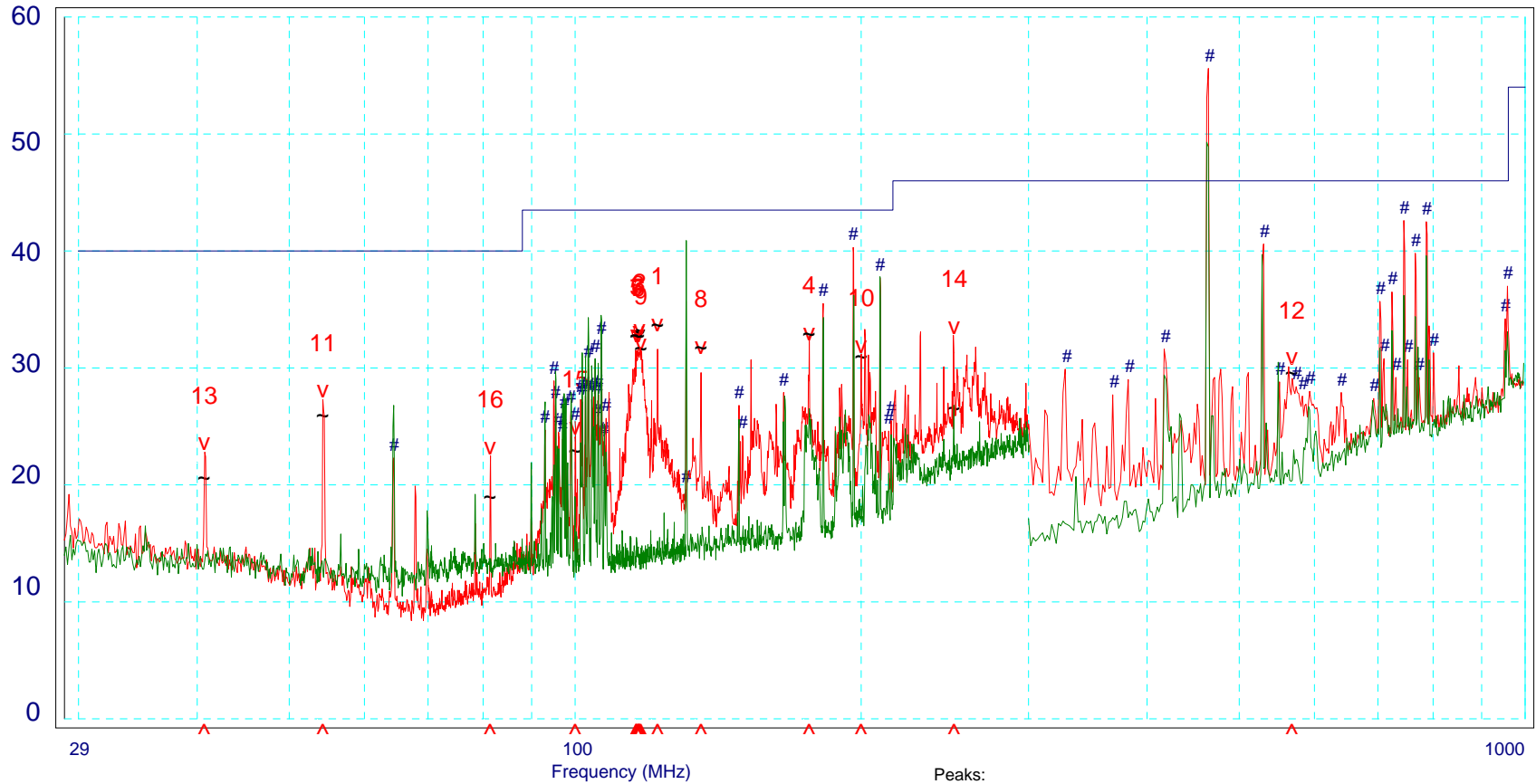
FCC Class B  
Radiated Emissions (dBuV/m)  
# = Ambient

Job No:T120110

p:\PCF\T120110\_7.PCF

Test Date: 17-01-2012

GRAPH No. 14



Magellan Technology Pty Limited  
Multiple Antenna Reader System with 34-10-000 & 31-10-024 Antenna  
Model: MARS24AT Serial No: Prototype  
Power Source: 110 VAC 60 Hertz

No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	122.05	33.0	33.0	43.5	-10.5
2	116.88	32.5	32.5	43.5	-11.0
3	116.62	32.3	32.3	43.5	-11.2
4	176.29	32.2	32.2	43.5	-11.3
5	116.05	32.1	32.1	43.5	-11.4
6	116.60	32.0	32.0	43.5	-11.5
7	116.01	32.0	32.0	43.5	-11.5
8	135.60	31.1	31.1	43.5	-12.4
9	117.26	31.3	31.0	43.5	-12.5
10	200.03	31.2	30.2	43.5	-13.3
11	54.24	27.3	25.2	40.0	-14.8
12	567.84	30.1	28.9	46.0	-17.1
13	40.68	22.8	19.9	40.0	-20.1
14	250.55	32.8	25.8	46.0	-20.2
15	100.00	24.2	22.2	43.5	-21.3
16	81.36	22.5	18.3	40.0	-21.7

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

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

Source:  
T120110R3 ,14 ,15 ,16 ,17 ,12  
T120110R2 ,43 ,44 ,45 ,46 ,36

Ver 5.5 Build 160  
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: Alan Wilcox

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