

APPENDIX H
OF
TEST REPORT T130919_F

GRAPHS OF EMI MEASUREMENT

FCC ID: 2ACNLGPSP-SPI-001
Manufacturer: GPSports Systems Pty Ltd
Test Sample: HPU (High Performance Unit)
Model Number: SPI HPU
Serial Number: SPI HPU 1206

Date: 18th August 2014

Melbourne

176 Harrick Road
Keilor Park, Vic 3042
Tel: +61 3 9365 1000
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Sydney

Unit 3/87 Station Road
Seven Hills NSW 2147
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Auckland (NZ)

47 MacKelvie Street
Grey Lynn Auckland
Tel: +64 9 360 0862
Fax: +64 9 360 0861

APPENDIX H**GRAPHS OF EMI MEASUREMENT****RADIATED EMI**

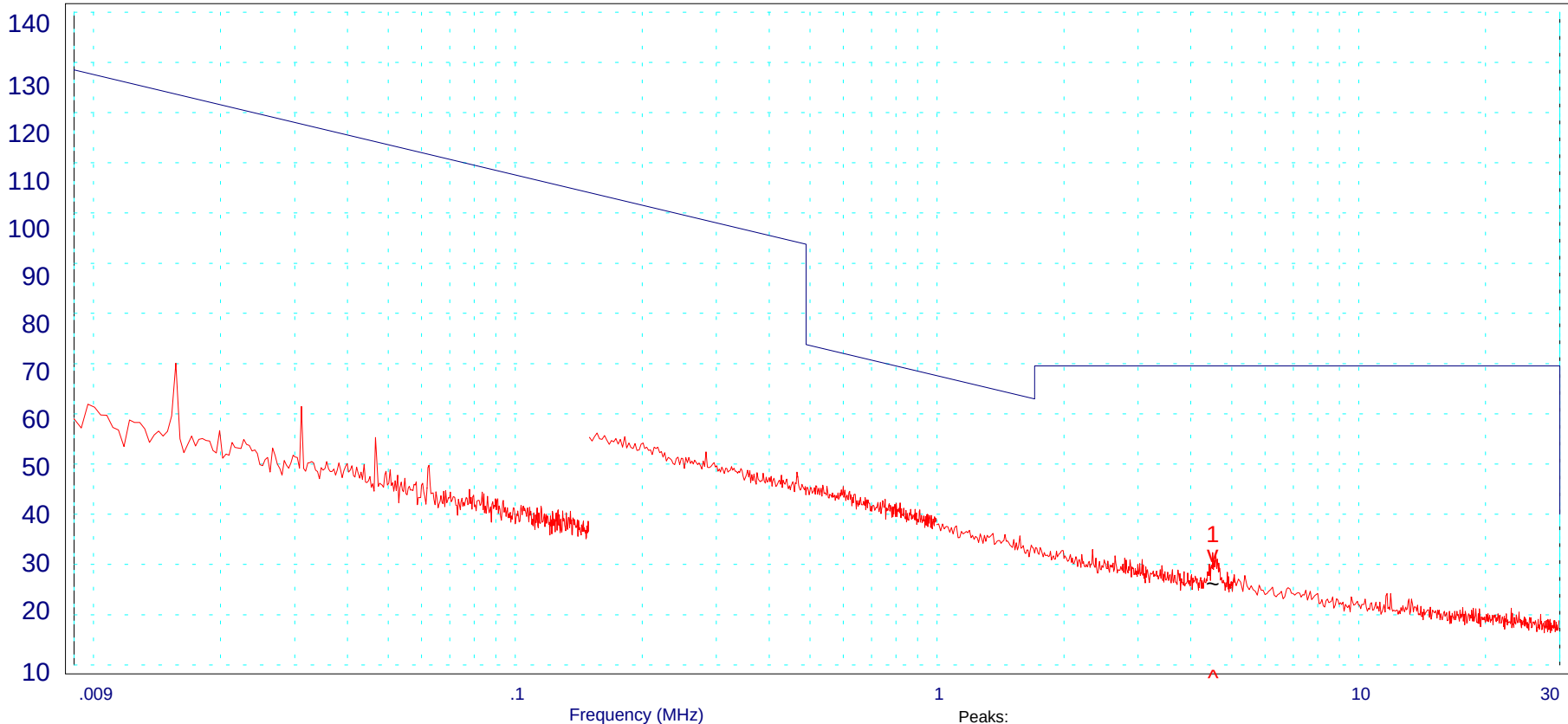
Graph 1:	Loop Antenna, 0 Degrees	9 kHz to 30 MHz
Graph 2:	Loop Antenna, 90 Degrees	9 kHz to 30 MHz
Graph 3:	Vertical Antenna Polarisation	29 to 1000 MHz
Graph 4:	Horizontal Antenna Polarisation	29 to 1000 MHz
Graph 5:	Low Channel 2405 MHz Peak	2400 to 2410 MHz
Graph 6:	Mid Channel 2440 MHz Peak	2435 to 2445 MHz
Graph 7:	High Channel 2480 MHz Peak	2477 to 2483 MHz
Graph 8:	Low Band edge Average	2390 to 2410 MHz
Graph 9:	High Band edge Average	2475 to 2495 MHz
Graph 10:	Vertical Polarisation Average	1000 to 3950 MHz
Graph 11:	Horizontal Polarisation Average	1000 to 3950 MHz
Graph 12:	Vertical Polarisation Average	1000 to 3950 MHz
Graph 13:	Horizontal Polarisation Average	1000 to 3950 MHz
Graph 14:	Vertical Polarisation Average	3950 to 12400 MHz
Graph 15:	Horizontal Polarisation Average	3950 to 12400 MHz
Graph 16:	Horizontal Polarisation, Peak	2600 to 3950 MHz
Graph 17:	Vertical Polarisation, Peak	4500 to 5850 MHz
Graph 18:	Horizontal Polarisation, Peak	4500 to 5850 MHz

EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T130919 p:\PCF\T130919T_1.PCF
Test Date: 18-10-2013

GRAPH No. 1



GP Sports Systems Pty Ltd
HPU (High Performance Unit)
Model: SPI HPU Serial Number: SPI HPU 1206
Tested with SPI Pro X (Spx01955) and SPI HPU 1025 Transmitter

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

Legend:
— 0deg Emissions

Ver 5.5 Build 160
Radiated setup for Rm 3 with Loop Antenna
t:A0080414E c1:C0280714 c2:NONE p:NONE a:NONE
Site ID: Syd Room#3,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T130919T1 , 2 , 10 , 4

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	4.509	32.6	26.7	69.5	-42.8

GP Sports Systems Pty Ltd

HPU (High Performance Unit)

Model: SPI HPU Serial Number: SPI HPU 1206

Tested with SPI Pro X (Spx01955) and SPI HPU 1025 Transmitter

Limits:

FCC-B3 FCC CLASS B RAD 3M LIMITS

Legend:

— 90deg Emissions

Ver 5.5 Build 160

Radiated setup for Rm 3 with Loop Antenna

t:A0080414E c1:C0280714 c2:NONE p:NONE a:NONE

Site ID: Syd Room#3,3/87 Station Rd, Seven Hills, NSW

Test Officer:Kumar Thambialiah

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia

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

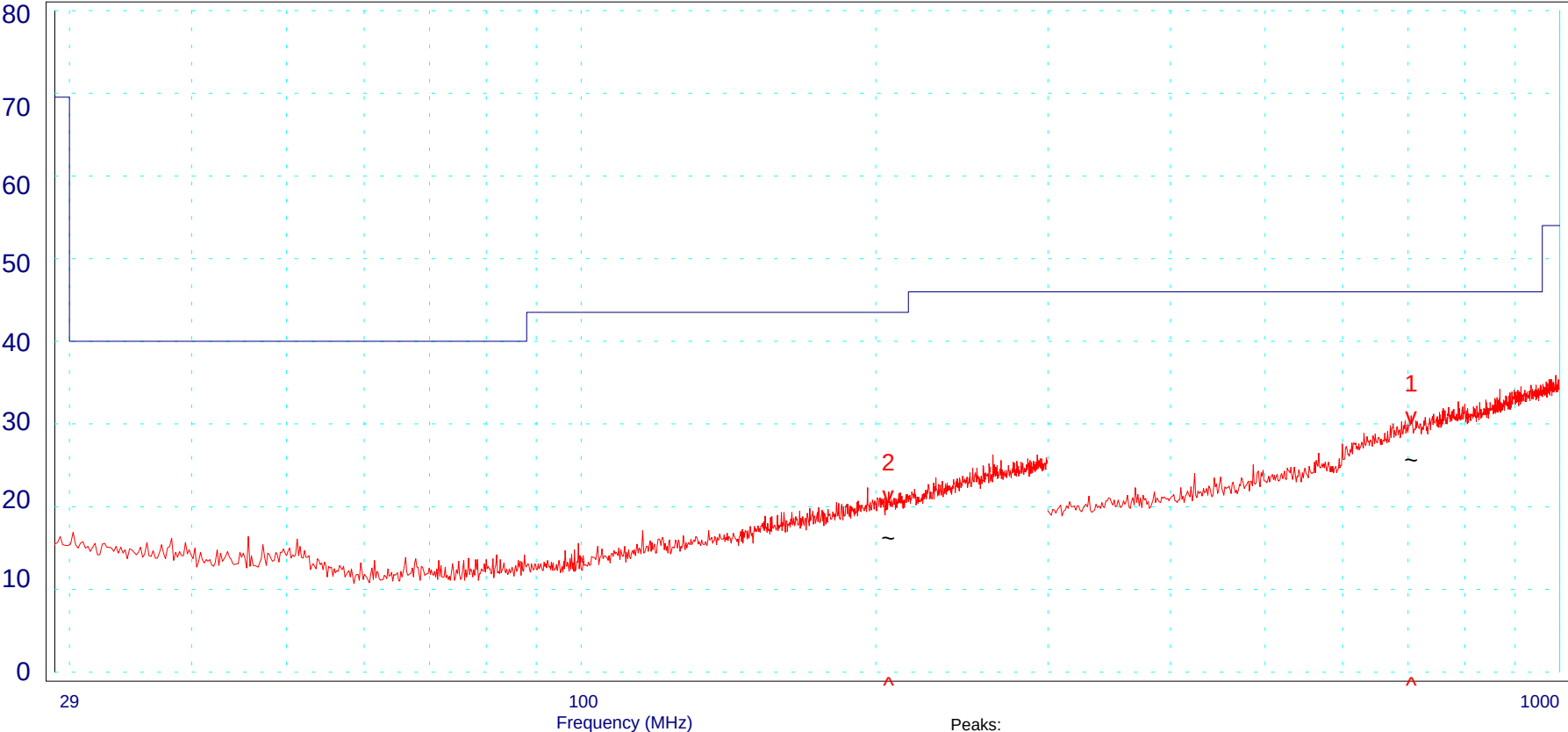
No	Freq (MHz)	Peak (dBuV/m)	QP Val	FCC-B3 (dBuV/m)	dL1 (dB)
1	4.475	36.9	30.9	69.5	-38.6

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

Job No:T130919 p:\PCF\T130919T_3.PCF
Test Date: 18-10-2013

GRAPH No. 3



GP Sports Systems Pty Ltd
HPU (High Performance Unit)
Model: SPI HPU Serial Number: SPI HPU 1206
Tested with SPI Pro X (Spx01955) and SPI HPU 1025 Transmitter

Limits: FCC-B3 Legend: FCC CLASS B RAD 3M LIMITS
Ver 5.5 Build 160 Source: T130919T11,12,13,17,18
Room 3 with HP Bicon
t:A2230214 c1:C0280714 c2:NONE p:NONE a:NONE
Site ID: Syd Room#3,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

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No	Freq (MHz)	Peak (dBUV/m)	QP Val	FCC-B3 (dBUV/m)	dL1 (dB)
1	705.09	30.5	25.2	46.0	-20.8
2	206.08	21.0	15.8	43.5	-27.7

EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B

Radiated Emissions (dBuV/m)

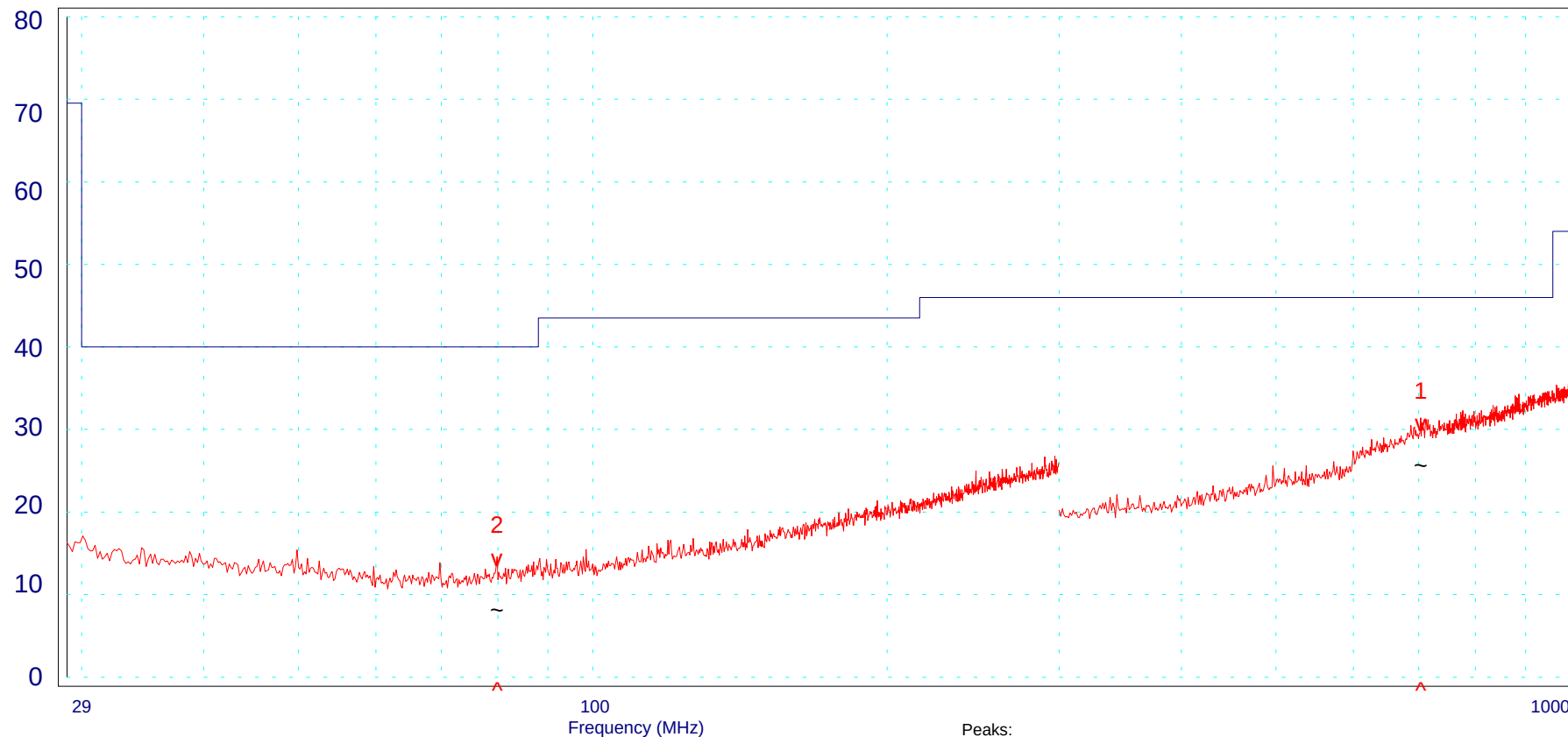
= Ambient

Job No:T130919

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Test Date: 18-10-2013

GRAPH No. 4



GP Sports Systems Pty Ltd
HPU (High Performance Unit)
Model: SPI HPU Serial Number: SPI HPU 1206
Tested with SPI Pro X (Spx01955) and SPI HPU 1025 Transmitter

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

Legend:
Horizontal Emissions

Ver 5.5 Build 160
Room 3 with HP Bicon
t:A2230214 c1:C0280714 c2:NONE p:NONE a:NONE
Site ID: Syd Room#3,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T130919T14 ,15 ,16 ,19 ,20

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
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FCC Class B

Radiated Emissions (dBuV/m)

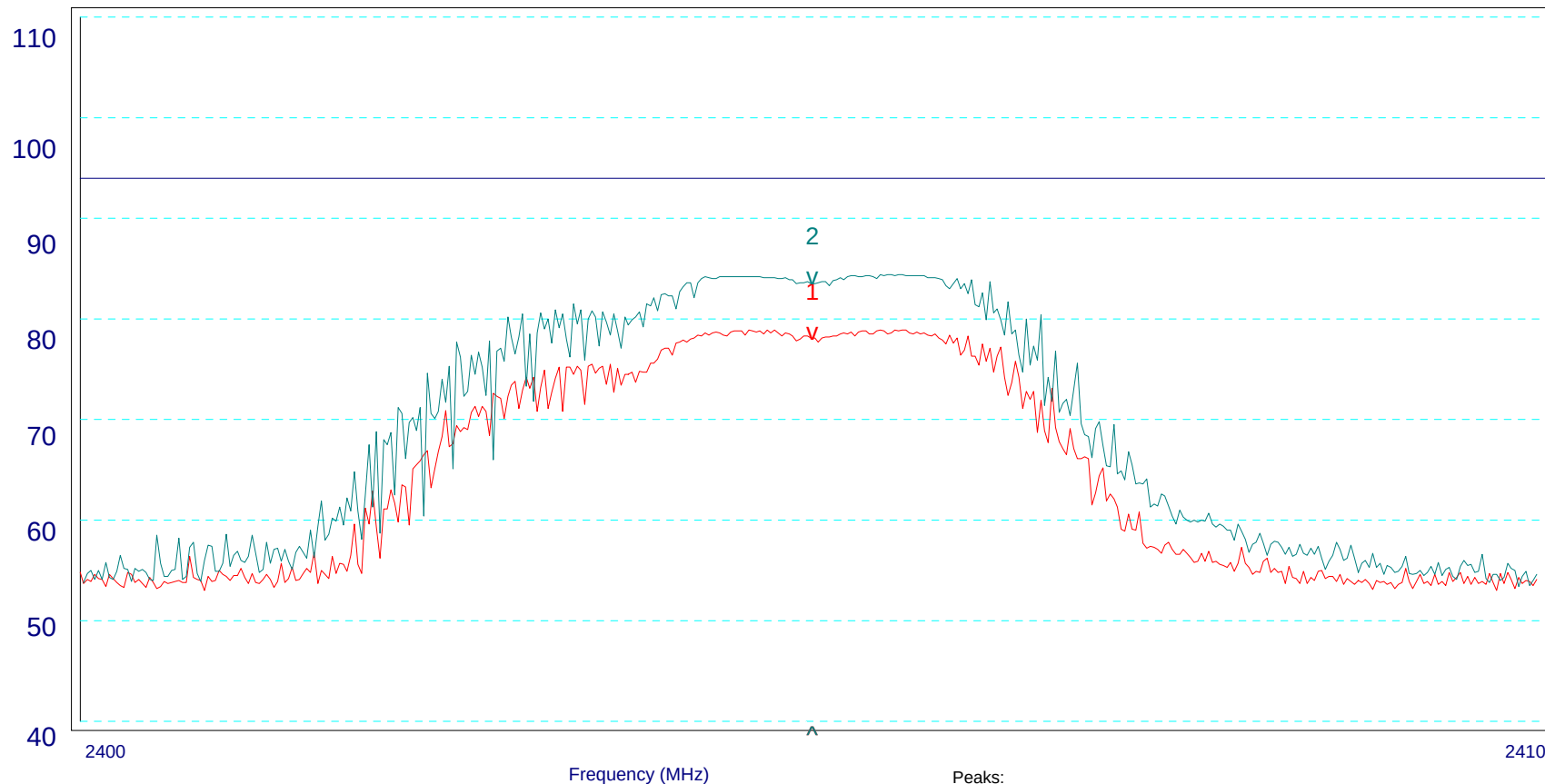
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Job No:T130919

p:\PCF\T130919G_1.PCF

Test Date: 03-10-2013

GRAPH No. 5



GP Sports Systems Pty Ltd
HPU (High Performance Unit) Model: SPI HPU
Low Channel 2405MHz Peak
Serial Number: SPI HPU 1206

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
Vertical Emissions
Horizontal Emissions

Ver 5.5 Build 160
Room3 Out side Radiated Test Setup 3m 1 - 6GHz
t:A3240115 c1:NONE c2:C0280714 p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambialah

Source:
T130919G9
T130919Q0

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FCC Class B

Radiated Emissions (dBuV/m)

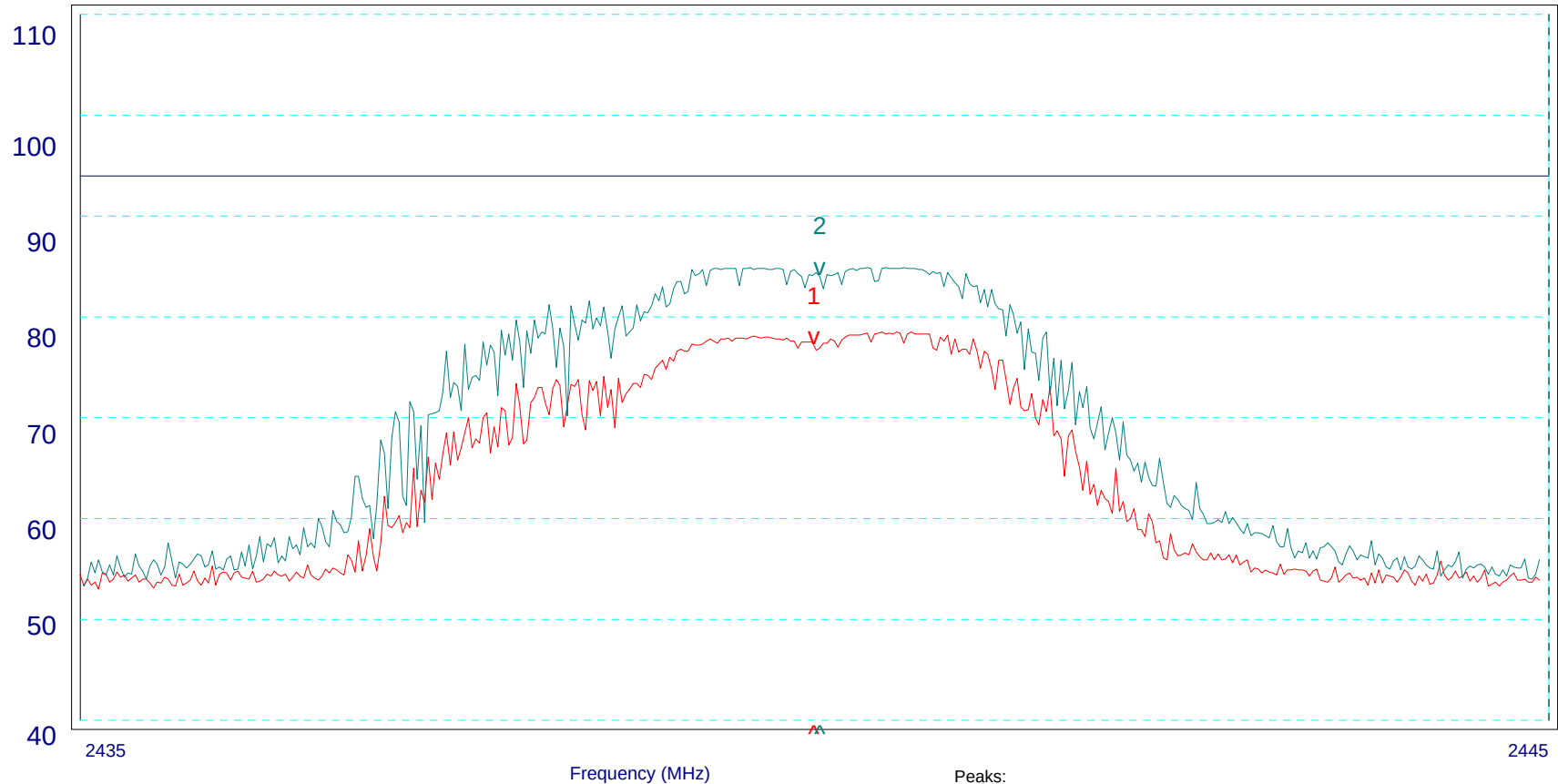
= Ambient

Job No:T130919

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Test Date: 03-10-2013

GRAPH No. 6



GP Sports Systems Pty Ltd
HPU (High Performance Unit) Model: SPI HPU
Mid Channel 2440MHz Peak
Serial Number: SPI HPU 1206

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
— Vertical Emissions
— Horizontal Emissions

Ver 5.5 Build 160
Room3 Out side Radiated Test Setup 3m 1 - 6GHz
t:A3240115 c1:NONE c2:C0280714 p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambialiah

Source:
T130919d3
T130919d4

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
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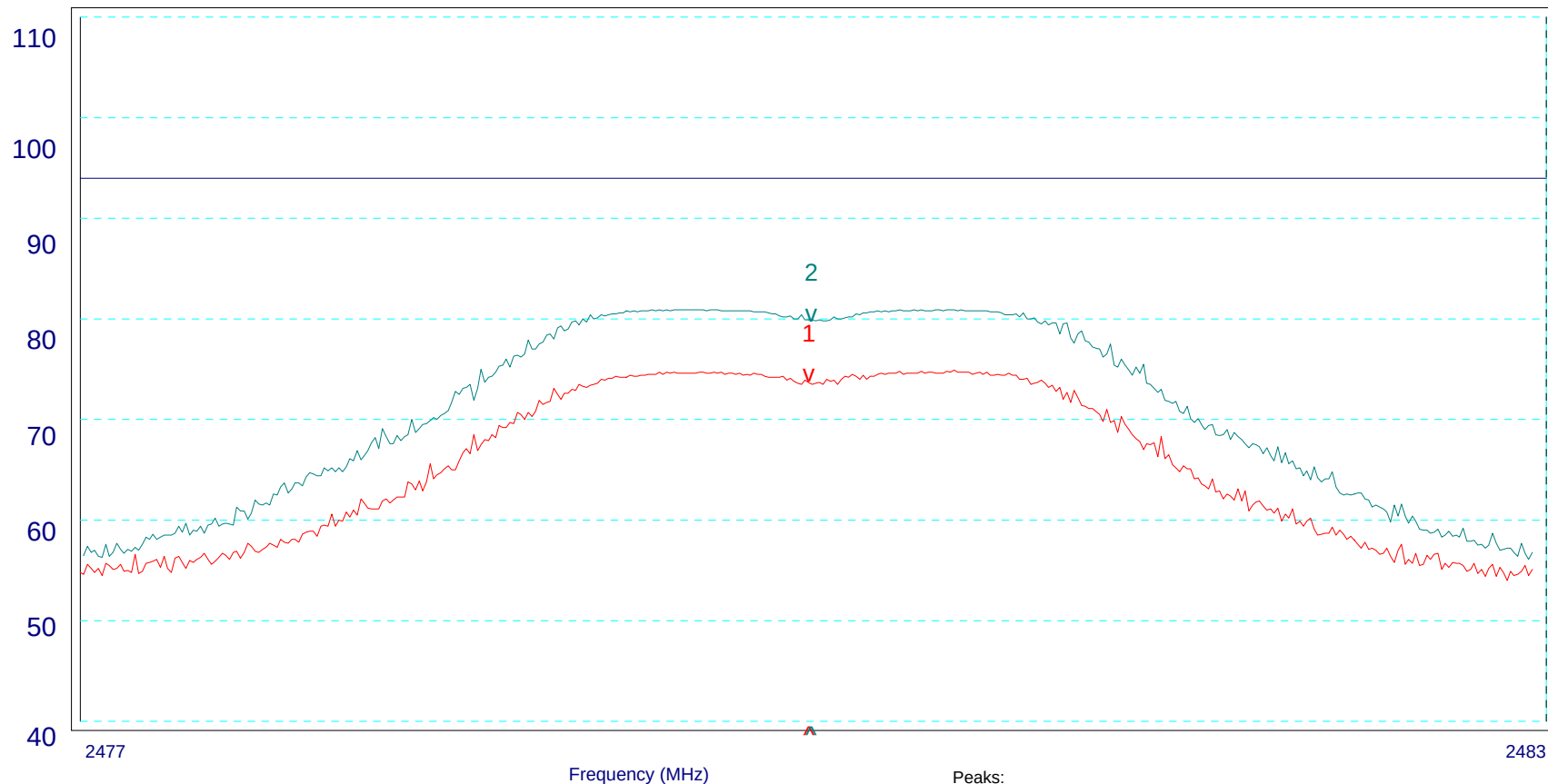
EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T130919 p:\PCF\T130919G_3.PCF

Test Date: 03-10-2013

GRAPH No. 7



GP Sports Systems Pty Ltd
HPU (High Performance Unit) Model: SPI HPU
High Channel 2480MHz Peak
Serial Number: SPI HPU 1206

Peaks:

No	Freq (MHz)	Peak (dBuV/m)	Fcc15249b (dBuV/m)	dL1 (dB)
1	2479.98	73.9	94.0	-20.1
2	2479.99	79.9	94.0	-14.1

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
Vertical Emissions
Horizontal Emissions

Ver 5.5 Build 160
Room3 Out side Radiated Test Setup 3m 1 - 6GHz
t:A3240115 c1:NONE c2:C0280714 p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambialah

Source:
T130919G
T130919G

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EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B

Radiated Emissions (dBuV/m)

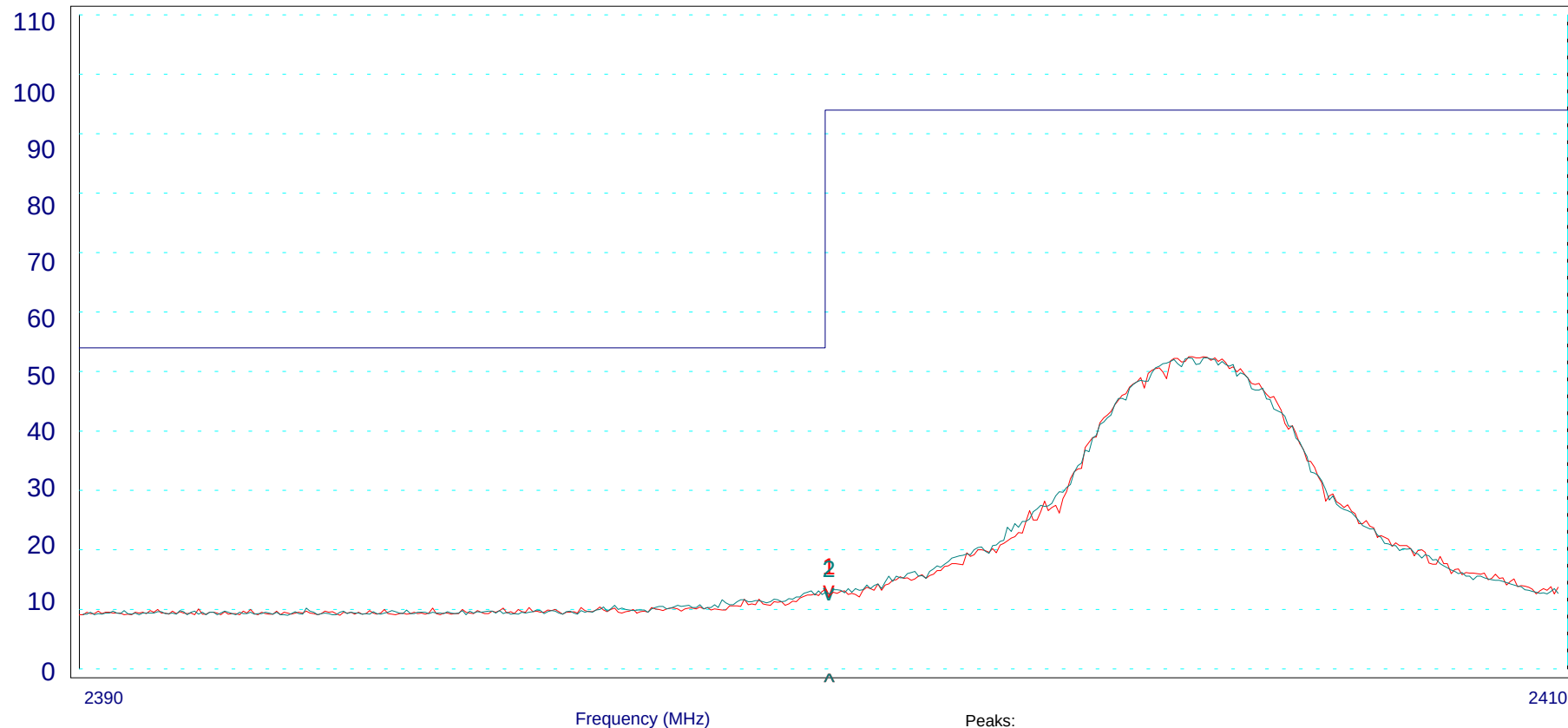
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Job No:T130919

p:\PCF\T130919G_7.PCF

Test Date: 03-10-2013

GRAPH No. 8



GP Sports Systems Pty Ltd
HPU (High Performance Unit) Model: SPI HPU
Low Channel 2405MHz Avg
Serial Number: SPI HPU 1206

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
— Vertical Emissions
— Horizontal Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 1.1 to 3.95 GHz
t:A2401115 c1:C0240314A c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T130919C9
T130919C0

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
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GRAPH No. 9

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
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FCC Class B

Radiated Emissions (dBuV/m)

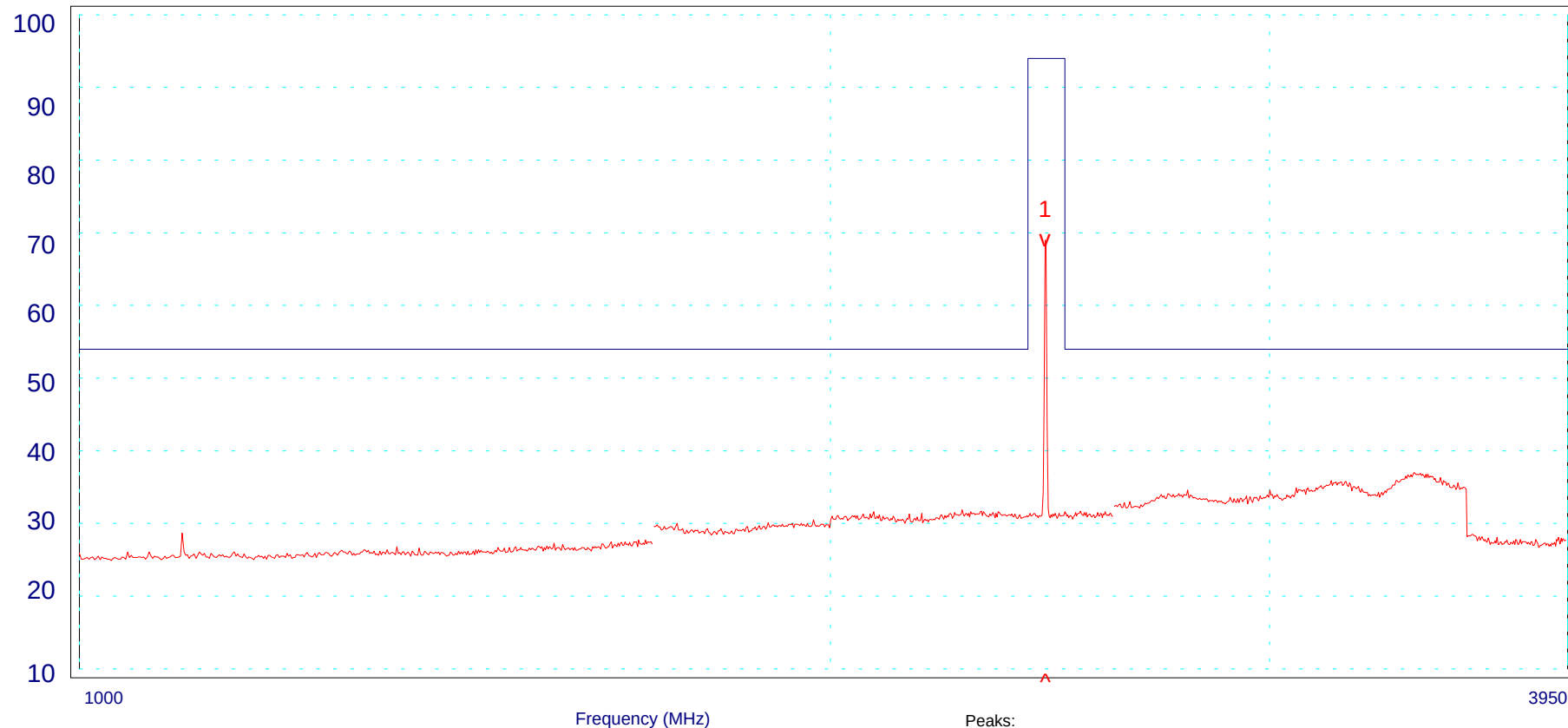
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Job No:T130919

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Test Date: 03-10-2013

GRAPH No. 10



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Average
Serial No: None

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
— Vertical Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 1.1 to 3.95 GHz
t:A2401115 c1:C0240314A c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T130919G1,67,65

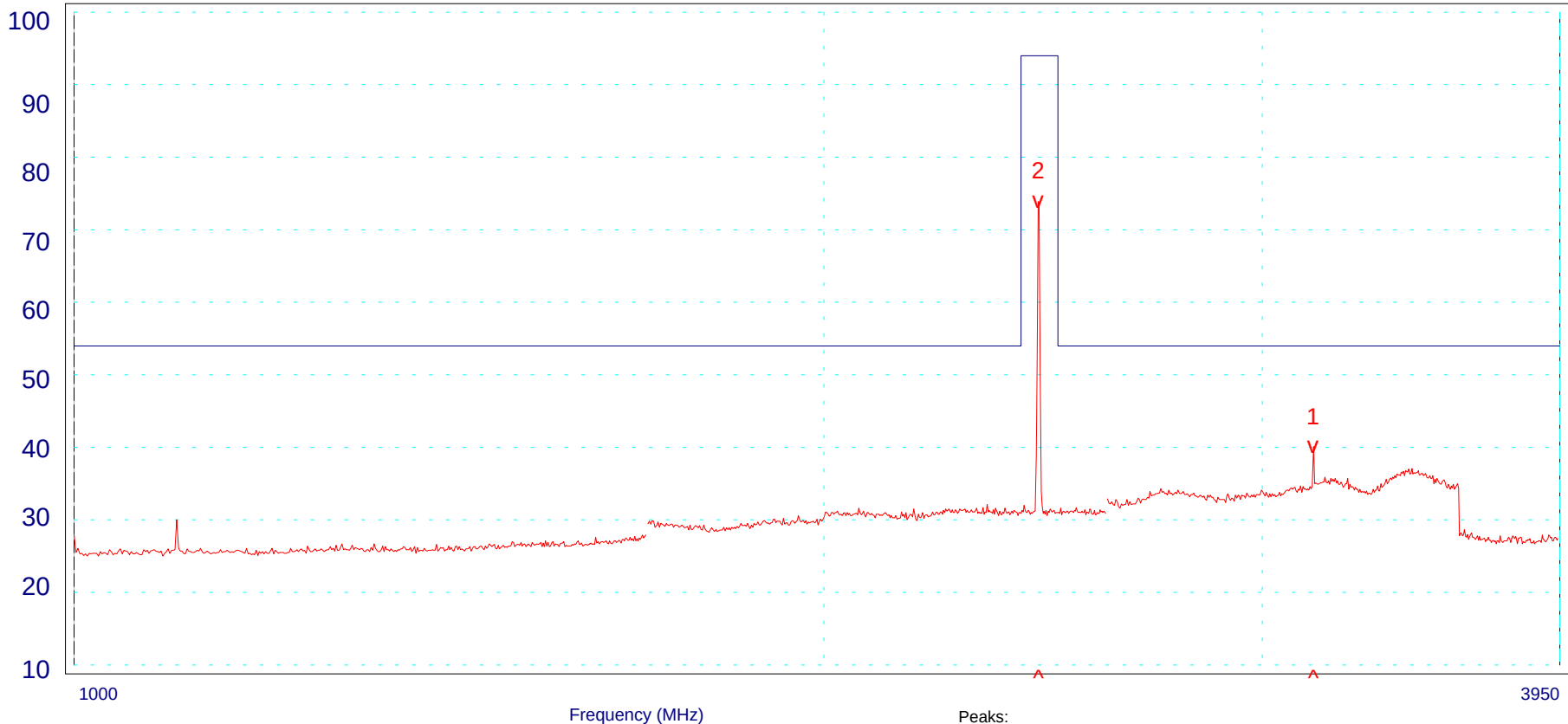
EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

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

Job No:T130919 p:\PCF\T130919G_10.PCF
Test Date: 03-10-2013

GRAPH No. 11



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Average
Serial No: None

Limits: Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits
Legend: Horizontal Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 1.1 to 3.95 GHz
t:A2401115 c1:C0240314A c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 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

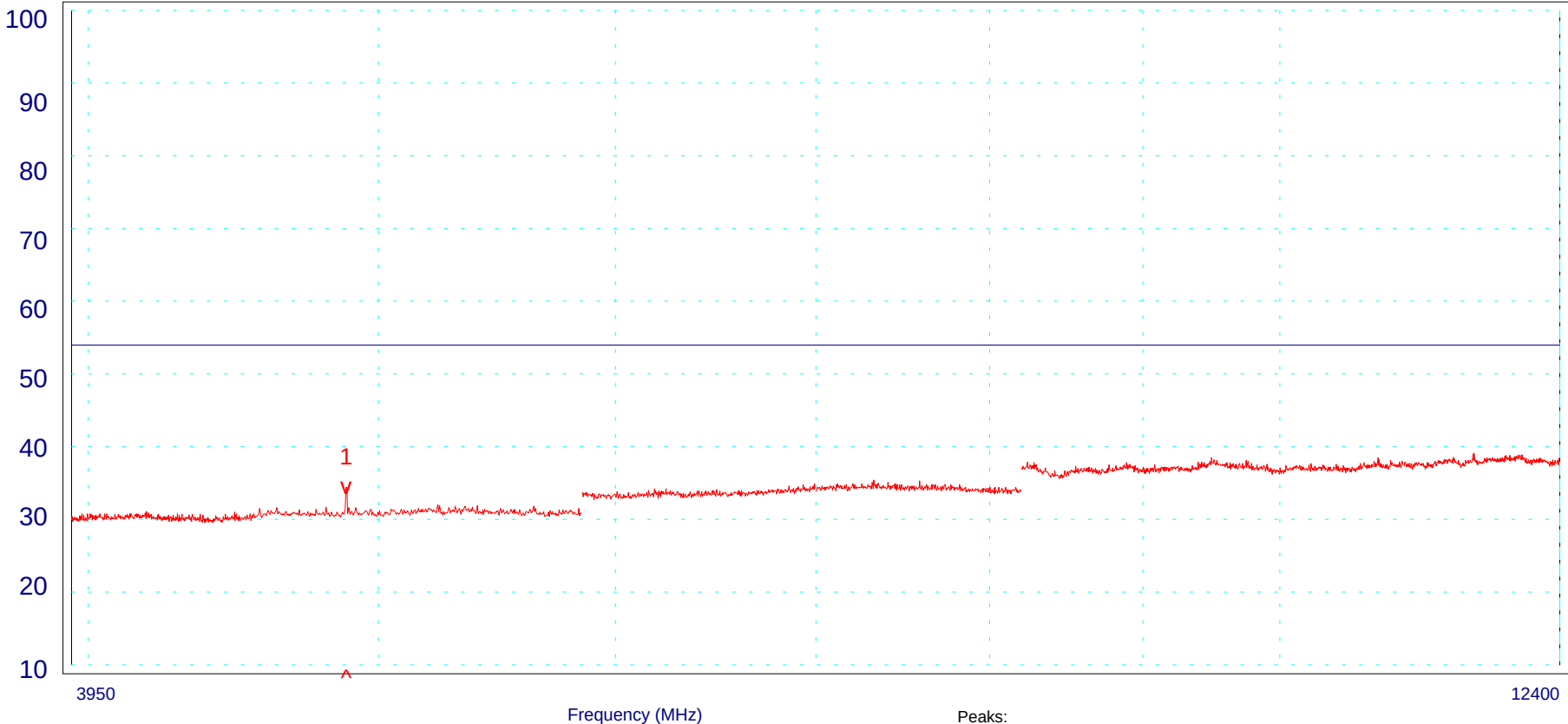
No	Freq (MHz)	Peak (dBuV/m)	Fcc15249b (dBuV/m)	dL1 (dB)
1	3144.31	40.1	54.0	-13.9
2	2438.32	73.9	94.0	-20.1

EMC Technologies Pty. Ltd. - Global Product Certification

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

Job No:T130919 p:\PCF\T130919G_11.PCF
Test Date: 03-10-2013

GRAPH No. 12



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Average
Serial No: None

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 3.95 to 12.4 GHz
t:A2601115 c1:C0240314A c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T130919G9,72,73,74,77,78,79

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

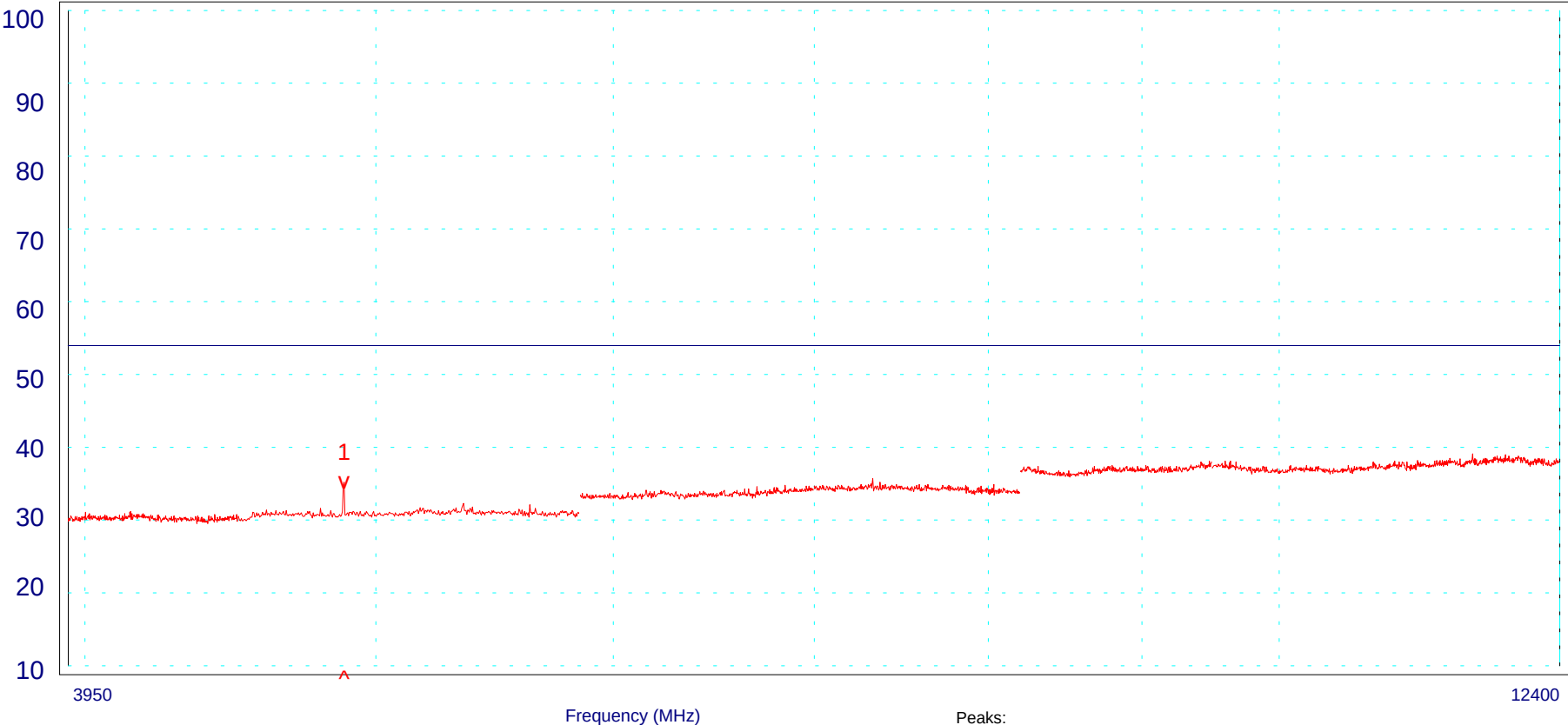
No	Freq (MHz)	Peak (dBuV/m)	Fcc15249b (dBuV/m)	dL1 (dB)
1	4877.28	34.4	54.0	-19.6

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

Job No:T130919 p:\PCF\T130919G_12.PCF
Test Date: 03-10-2013

GRAPH No. 13



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Average
Serial No: None

Limits: Legend:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits — Horizontal Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 3.95 to 12.4 GHz
t:A2601115 c1:C0240314A c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 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/m)	Fcc15249b (dBuV/m)	dL1 (dB)
1	4879.97	35.2	54.0	-18.8

EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B

Radiated Emissions (dBuV/m)

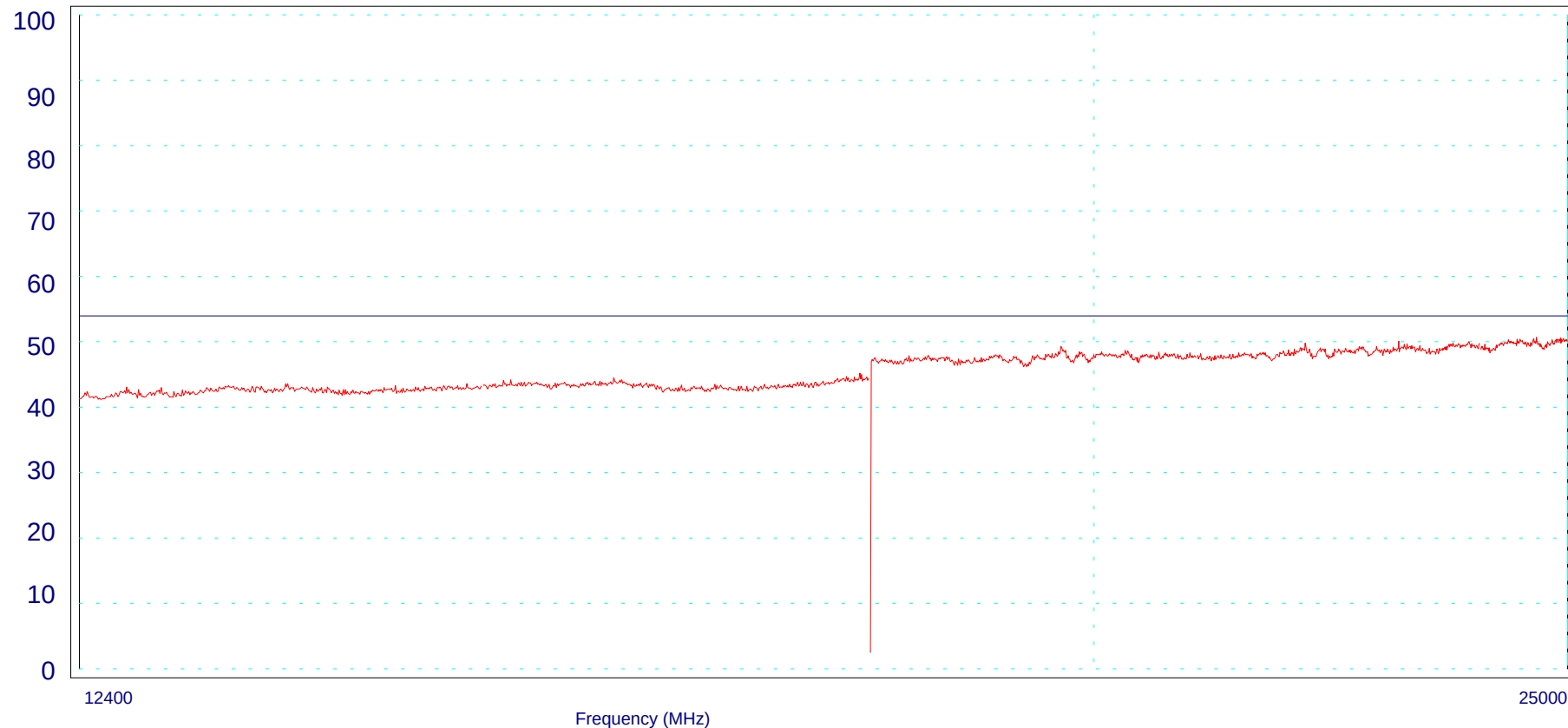
= Ambient

Job No:T130919

p:\PCF\T130919G_13.PCF

Test Date: 03-10-2013

GRAPH No. 14



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Average
Serial No: None

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
— Vertical Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 12.4 to 40 GHz
t:A3051115 c1:C413_414 c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T130919G3 ,84 ,94 ,95 ,96

EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
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FCC Class B

Radiated Emissions (dBuV/m)

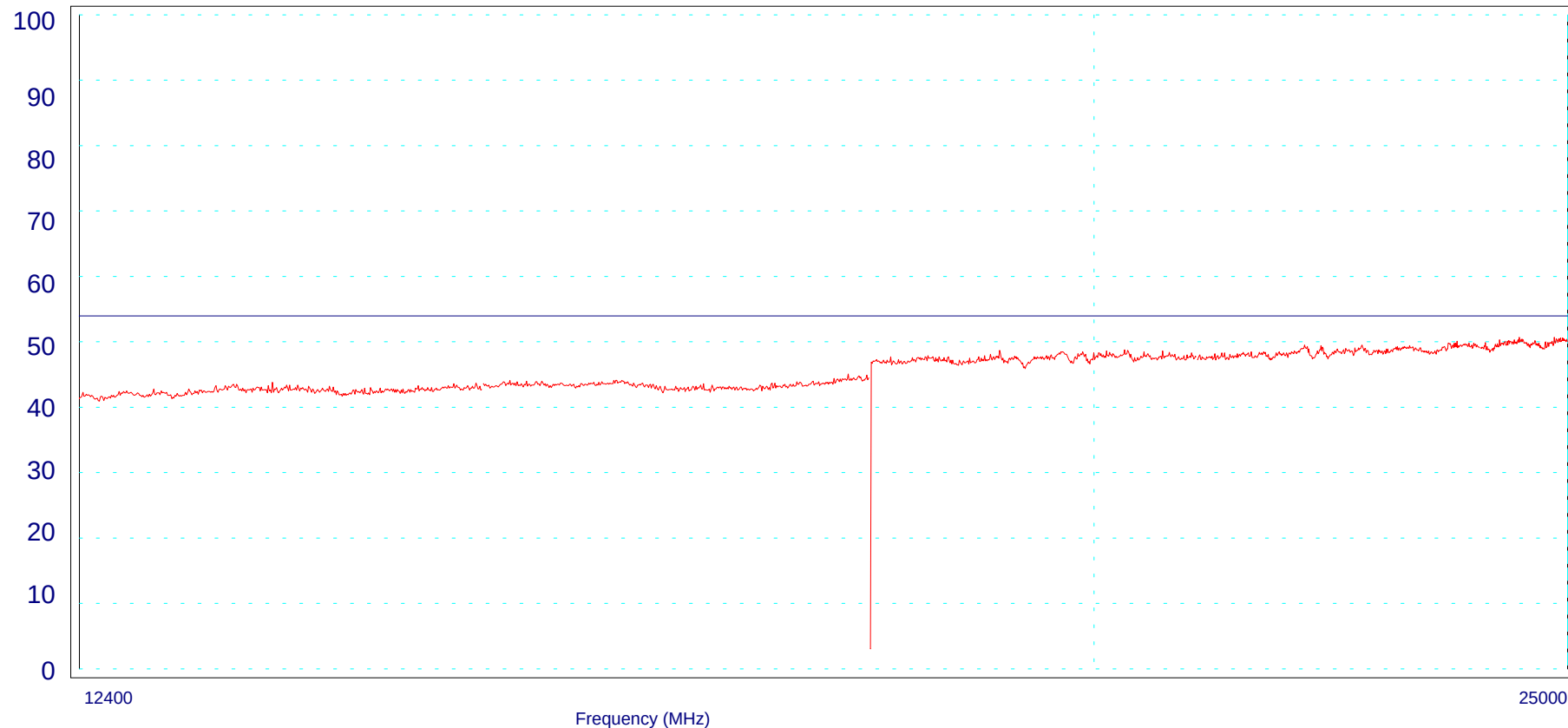
= Ambient

Job No:T130919

p:\PCF\T130919G_14.PCF

Test Date: 03-10-2013

GRAPH No. 15



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Average
Serial No: None

Limits:
Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:
Horizontal Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 12.4 to 40 GHz
t:A3051115 c1:C413_414 c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW
Test Officer:Kumar Thambiah

Source:
T13091905,86,91,92,93

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FCC Class B

Radiated Emissions (dBuV/m)

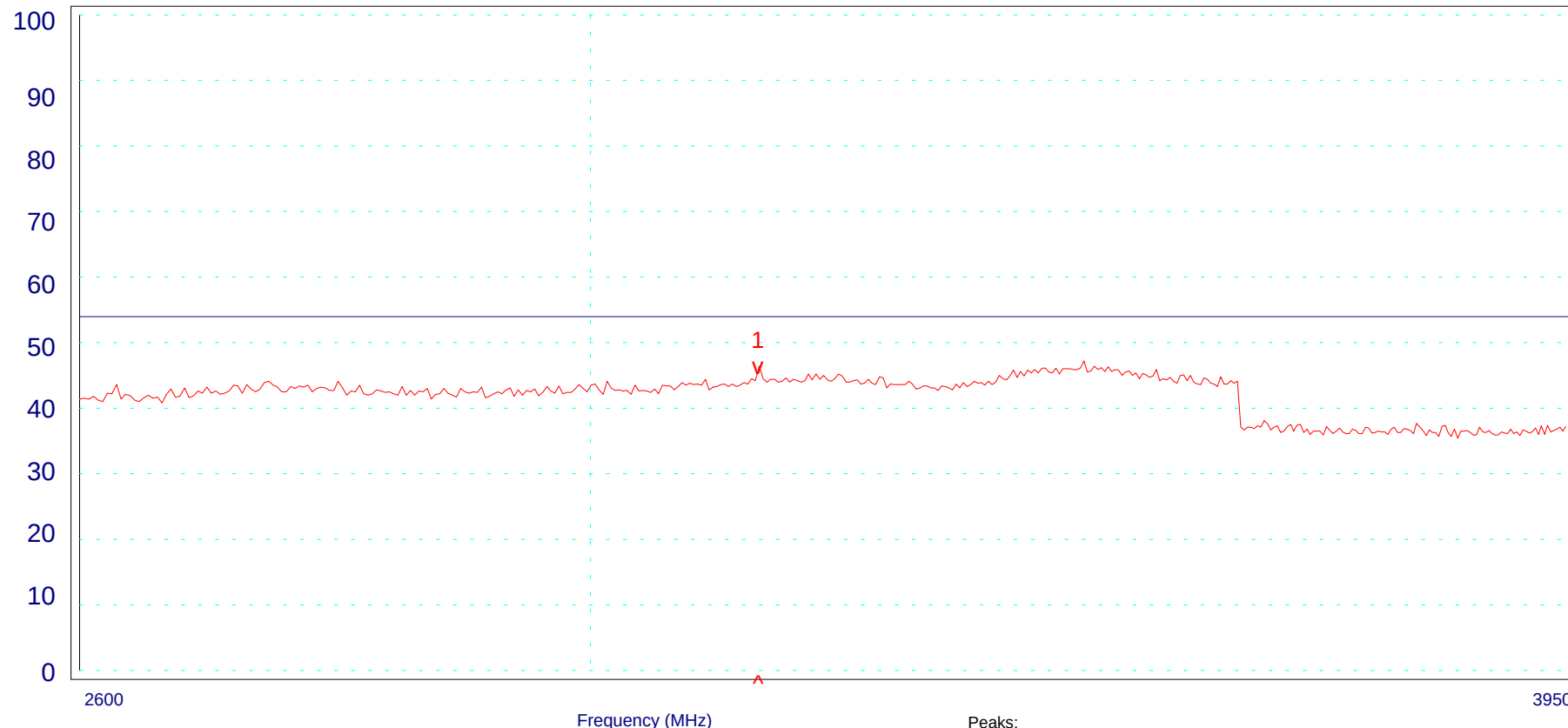
= Ambient

Job No:T130919

p:\PCF\T130919G_15.PCF

Test Date: 03-10-2013

GRAPH No. 16



GP Sports Systems Pty Ltd

Transmitter

Mid Channel 2440Mhz Peak

Serial No: None

Limits:

Fcc15249b

FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:

Horizontal Emissions

Ver 5.5 Build 160

Standard Gain Horn Radiated Emissions 1.1 to 3.95 GHz

t:A2401115 c1:C0240314A c2:NONE p:NONE a:NONE

Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW

Test Officer:Kumar Thambiah

Source:

T130919Q02

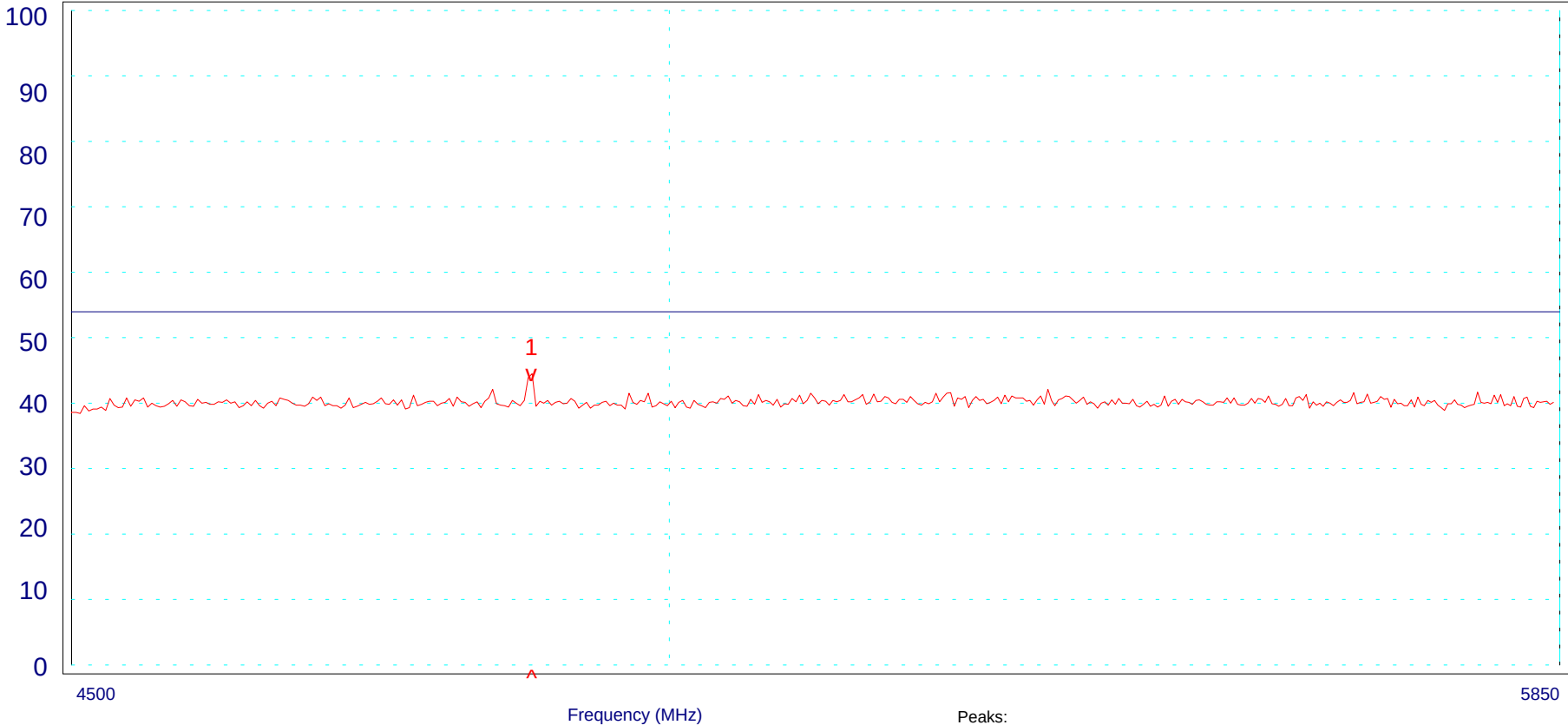
EMC Technologies (Sydney) 3/87 Station Rd, Seven Hills, NSW, 2147, NSW, Australia
Phone +(612) 9624 2777 Fax+(612) 9838 4050

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

Job No:T130919 p:\PCF\T130919G_16.PCF
Test Date: 03-10-2013

GRAPH No. 17



GP Sports Systems Pty Ltd
Transmitter
Mid Channel 2440Mhz Peak
Serial No: None

Limits: Fcc15249b FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits Legend: Vertical Emissions

Ver 5.5 Build 160
Standard Gain Horn Radiated Emissions 3.95 to 12.4 GHz
t:A2571115 c1:C0240314A c2:NONE p:NONE a:NONE
Site ID: Syd Room#1,3/87 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/m)	Fcc15249b (dBuV/m)	dL1 (dB)
1	4879.97	44.5	54.0	-9.5

EMC Technologies Pty. Ltd. - Global Product Certification

FCC Class B

Radiated Emissions (dBuV/m)

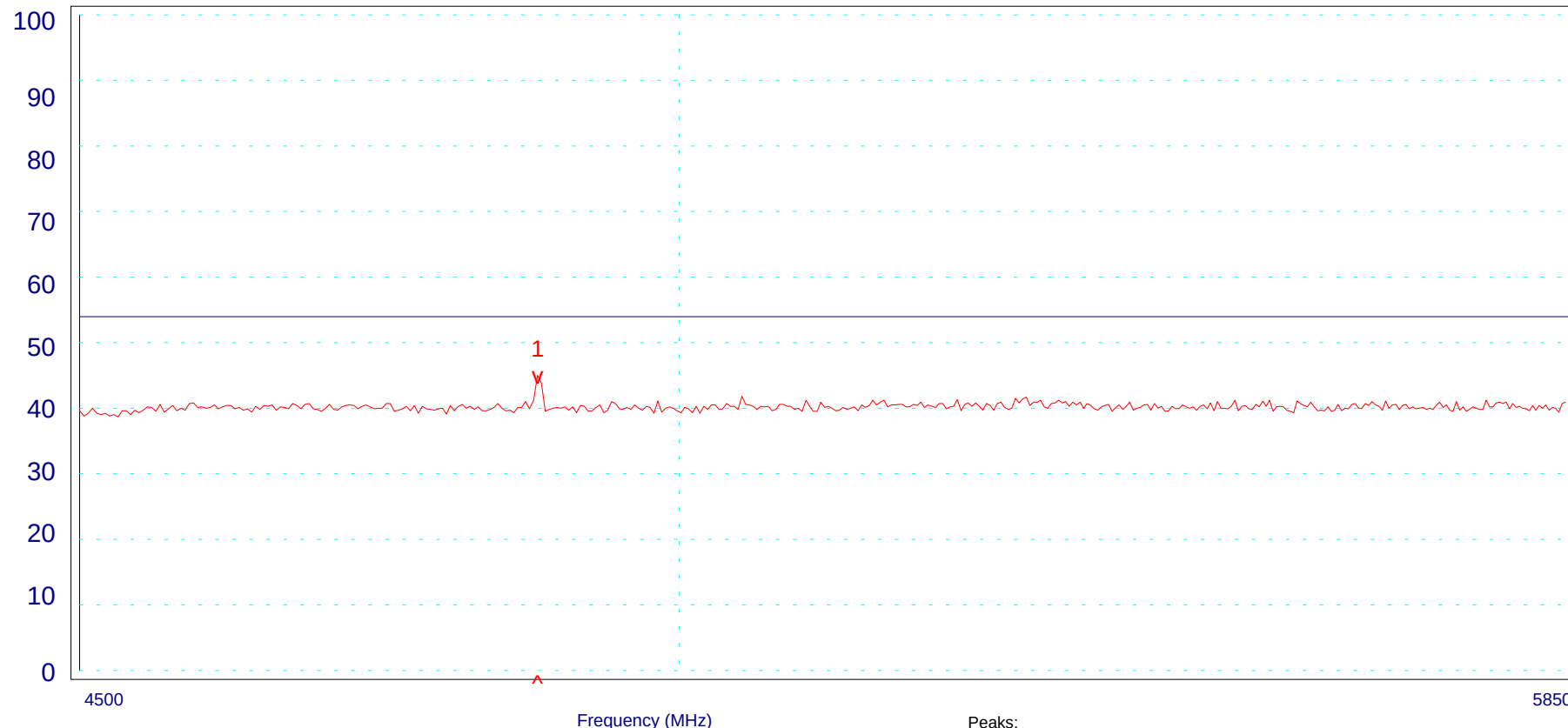
= Ambient

Job No:T130919

p:\PCF\T130919G_17.PCF

Test Date: 03-10-2013

GRAPH No. 18



GP Sports Systems Pty Ltd

Transmitter

Mid Channel 2440Mhz Peak

Serial No: None

Limits:

Fcc15249b

FCC 15.249 b (2400-2483.5MHz) Intentional Radiator Limits

Legend:

Horizontal Emissions

Ver 5.5 Build 160

Standard Gain Horn Radiated Emissions 3.95 to 12.4 GHz

t:A2571115 c1:C0240314A c2:NONE p:NONE a:NONE

Site ID: Syd Room#1,3/87 Station Rd, Seven Hills, NSW

Test Officer:Kumar Thambiah

Source:

T130919Q06

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)	Fcc15249b (dBuV/m)	dL1 (dB)
1	4877.28	45.0	54.0	-9.0