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EMC
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23, Headington Drive,
Cambridge.
CB1 9HE
Tel : 01954 251974 (test site)
or : 01223 241140 (accounts)
Fax : 01954 251907
web : www.dbtechnology.co.uk
email: mail@dbtechnology.co.uk

REPORT ON ELECTROMAGNETIC COMPATIBILITY TESTS

Performed at:
TWENTY PENCE TEST SITE

**Twenty Pence Road,
Cottenham,
Cambridge
U.K.
CB24 8PS**

on

Sepura PLC

SRG3500

dated


22nd June 2012

Document History

Issue	Date	Affected page(s)	Description of modifications	Revised by	Approved by
1	06/07/12		Initial release		

Based on report template:
v090319

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	Report No: R3112	FCC ID: XX6-SRG3500XB	
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Equipment Under Test (EUT): SRG3500

Test Commissioned by: Sepura PLC
Radio House
St Andrews Road
Cambridge
Cambridgeshire
CB4 1GR

Representative: Bob Allen

Test Started: 10th May 2012

Test Completed: 20th June 2012

Test Engineer: Dave Smith

Date of Report: 22nd June 2012

Written by: Dave Smith Checked by: Derek Barlow


Signature: D. A. Smith Signature: D. Barlow

Date: 22nd June 2012 Date: 6th July 2012

dB Technology can only report on the specific unit(s) tested at its site. The responsibility for extrapolating this data to a product line lies solely with the manufacturer.

Test Standards Applied

Part 90 of CFR47	<i>Private Land Mobile Radio Services</i>
CFR 47 Part 15 Class B	<i>Code of Federal Regulations: Pt 15 Subpart B- Radio Frequency Devices - Unintentional Radiators</i>

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Emissions Test Results Summary

Part 90

PASS

Test	Port	Method	Limit	PASS/FAIL	Notes
Output Power Radiated		90.205	90.205(h)	No Limit	#1
Output Power Conducted	antenna	90.205 2.1046	90.205(h)	No Limit	#1
Types of Emissions	antenna	90.207 2.1047	Specified by manufacturer		
Bandwidth	antenna	90.209 2.1049	90.209(b)(5)	PASS	#2
Emissions Masks Radiated		90.210 2.1051	90.221(d)	PASS	#3
Emissions Masks Conducted	antenna	90.210 2.1051	90.221(d)	PASS	#3
Frequency Stability	antenna	90.213 2.1055	90.213	PASS	
Frequency Transient Behaviour	antenna	90.214	90.214	PASS	
Adjacent Channel Power		90.221	90.221(b)	PASS	

specs_canadav111211

CFR 47 Part 15

PASS


Test	Port	Method	Limit	PASS/FAIL	Notes
Conducted Emissions	ac power	ANSI C63.4:2003	FCC_B	PASS	
Radiated Emissions		ANSI C63.4:2003	FCC_B	PASS	

specs_fccv100412

- #1 There is no specific limit on output power.
- #2 The additional note 6 of FCC Waiver 11-63 was applied which allows a bandwidth of up to 22kHz providing the additional Adjacent Channel Power requirements are met.
- #3 The additional note 5 of FCC Waiver 11-63 was applied which only stipulates limits 75kHz from the carrier providing the additional Adjacent Channel Power requirements are met.

This Report shows that the EUT met all of the requirements for the tests performed - as shown above.


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1 EUT Details

1.1 General

The EUT was a TETRA Voice + Data Mobile Station.

The transmitter can operate over the following frequency bands:

817MHz to 824MHz in Trunked Mode Operation (TMO mode)

862MHz to 869MHz in Direct Mode Operation (DMO mode)

The receiver can operate over the following frequency bands:

817MHz to 824MHz

862MHz to 869MHz

Measurements were made at the top and bottom of the appropriate frequency range:

Bottom: 817 MHz

Top: 824 MHz

Bottom: 862 MHz

Top: 869 MHz

The nominal output power is 40dBm (10W).

The unit is normally powered from a lead acid vehicle battery with nominal voltage of 13.2V.


The product is intended to comply with the FCC part 90 requirements using the "Tetra Waiver" as described in FCC 11-63.

Radiated field strength tests were performed at the dB Technology Test Site Registered with the FCC: Registration number: 90528.

Unless otherwise stated, tests were performed with nominal power supply voltage.

The device can be used with a variety of peripherals and therefore radiated tests were performed in two separate configurations. Details of the configurations are given in the tables below.

	Description	P/N	Gain
Configuration 1	Tetra		
Configuration 2/DMU	Tetra for DMU		

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1.2 Modifications to EUT and Peripherals

Details of any modifications that were required to achieve compliance are listed below. The modification numbers are referred to in the results sections as appropriate.

Mod No:	Details	Implemented for
0	Original sample as supplied.	

1.3 EUT Operating Modes

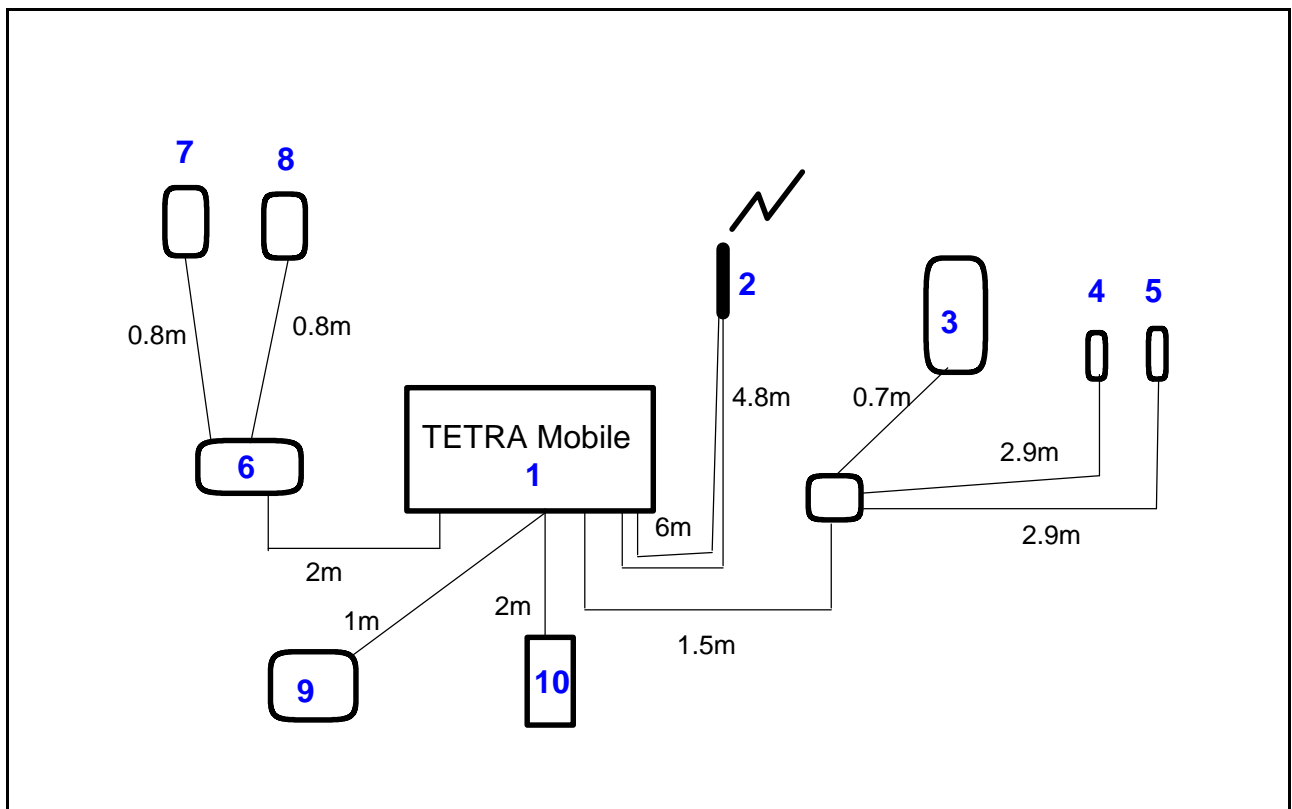
The EUT was tested in the following operating mode or modes. Generally, operating modes are chosen that will exercise the functions of the EUT as fully as possible and in a manner likely to produce maximum emission levels or susceptibility. Individual test result sheets reference the operating mode of the EUT.

Operating Mode	Details
1	Transmitting on selected channel.
2	Receiving on selected channel.

List of Equipment for Configuration 1:

Item	Manufacturer	Model	Description	Serial No:	Notes
1	Sepura	SRG3500	TETRA Mobile Station	566	
2	Sepura	300-00390	Antenna TETRA		
3	Sepura	300 00668	Handset Based Console		
4	Sepura	300 00295	Hands Free Kit Switch		
5	Sepura	300 00294	Hands Free Kit Mic		
6	Sepura	300 00217	Apps Interface Unit		
7	Sepura	300 00061	Handset		
8	Sepura	300 00062	Fist Mic		
9	Sepura	300 00719	Speaker		
10	Kingshill	18V10CA	Bench Power Supply		

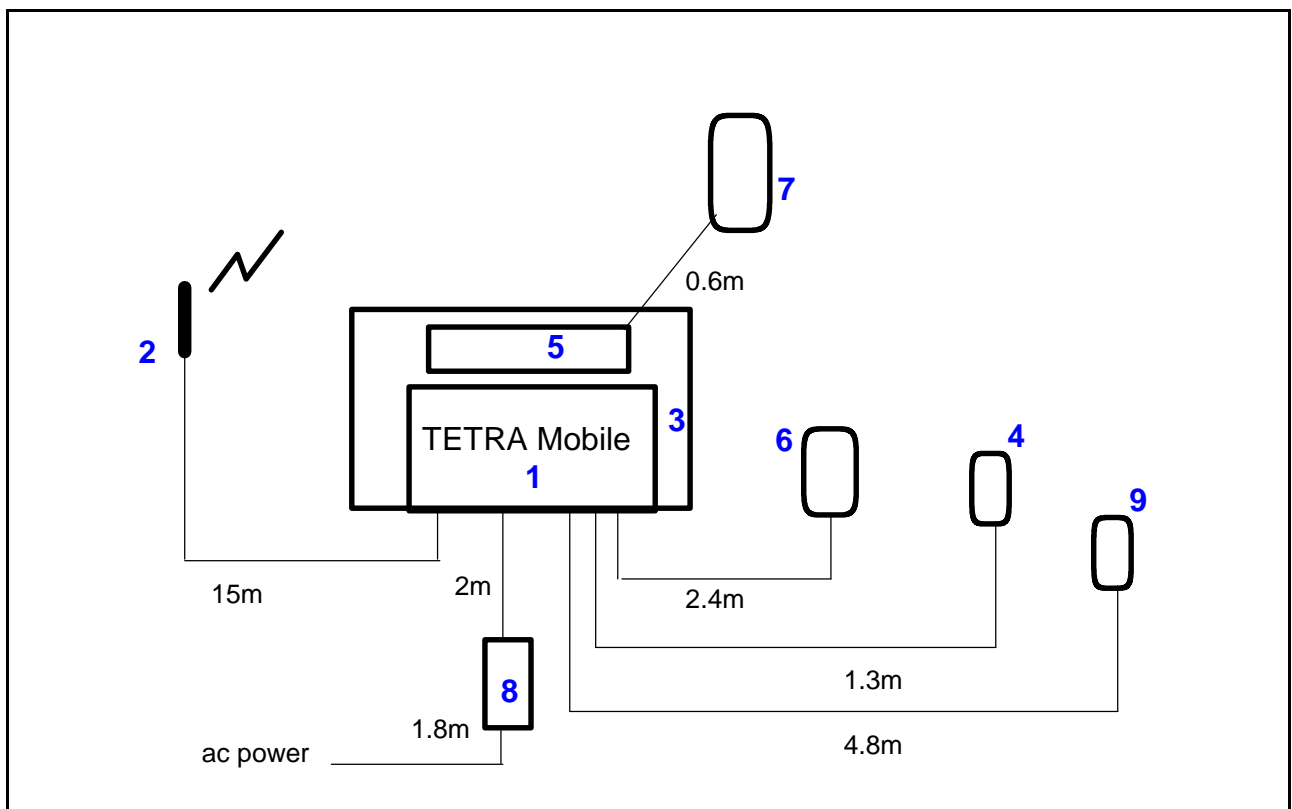
Figure 1 Configuration 1: EUT and Peripherals




List of Equipment for Configuration 2 - Desk Mount Unit (DMU) :

Item	Manufacturer	Model	Description	Serial No:	Notes
1	Sepura	SRG3500	TETRA Mobile Station	C2224642	
2	Sepura	300-00993	Antenna		
3	Sepura	300 00073	Desk Mount Unit		
4	Sepura	300 00074	Gooseneck Mic		
5	Sepura	300 00771	IP 54 Colour Console		
6	Sepura	300 00076	Foot Switch		
7	Sepura	300 00061	Handset		
8	PowerSolve	PSE65-12/SEY	AC-DC supply		
9	Sepura	300 00588	Virtual Console cable		


Figure 2 Configuration 2 - DMU: EUT and Peripherals



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Photograph 1 SRG3500: Connected to Agilent Analyser


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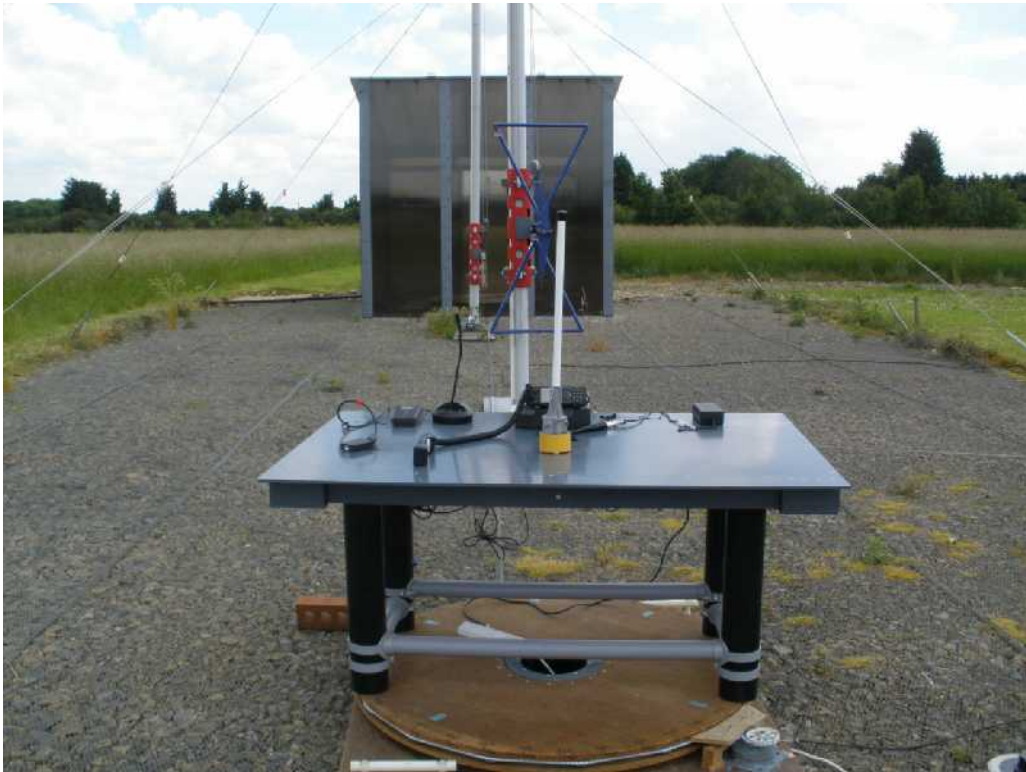


Photograph 2 Configuration 1: Radiated Emissions - Front



Photograph 3 Configuration 1: Radiated Emissions - Back


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Photograph 4 DMU: Radiated Emissions - Front



Photograph 5 DMU: Radiated Emissions - Back

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2 Test Equipment

The test equipment used during the tests was one or more of the items listed below. Individual test result sheets indicate which items were used.

Ref No:	Details	Serial Number	Cal Date	Cal Interval
A19	EMCO 3115 DR Guide (1-18GHz)	2431	23/01/2012	1 year
A23	EMCO 3115 DR Guide (1-18GHz)	9507-4525	31/01/2012	1 year
A24	Chase X-wing Bilog CBL6144 26MHz-3GHz	27590	18/11/2011	1 year
A30	Schwarzbeck MiniBicon (30MHz to 1GHz)	9115-180	21/01/2010	3 years
A5	Chase Bilog CBL6111A	1760	31/01/2012	1 year
L1	EMCO 3825/2 LISN	1358	16/02/2012	1 year
PM6	Marconi 6960B RF Power Meter	236923/003	20/12/2011	1 year
PRE3	dB Tech 100M-20G 36dB pre-amp	03	08/01/2012	1 year
PS10	Marconi 6910 RF Power Sensor (-30dBm / +20dBm) 10MHz to 20GHz	5009	20/12/2011	1 year
R1	CHASE LHR 7000	1056	31/01/2012	1 year
R4	R&S ESVS10	843744/002	16/12/2011	1 year
R8	Agilent E7405A Spectrum Analyser	MY44212494	19/09/2011	1 year
R9	Agilent E7405A Spectrum Analyser	MY45110758	21/11/2011	1 year
RFF15	Band Pass Filter 1GHz to 2GHz	15	08/02/2012	1 year
RFF16	500MHz to 1GHz Notch Filter	FF204-3	08/02/2012	1 year
RFF17	Low Pass RF Filter 550MHz	17	08/02/2012	1 year
RFF22	High Pass Filter - 1.35GHz (10GHz) MicroTronics HPM13017	033	20/12/2011	1 year
SG16	Marconi 6203 Microwave Test Set (10MHz - 26.5GHz)	236252/025	08/02/2012	1 year
SG9	HP 8648C 9kHz-3.2GHz Signal Generator	3847A05254	08/02/2012	1 year
SEP1	R&S FSU Spectrum Analyser	200088	02/04/2009	3 years
TTS	IFR 2968 Tetra radio Test Set	296501/107	11/11/2011	1 year

The Tetra Test Set is owned by Sepura.

The calibration of the signal generator was not critical because its output frequency, level and modulation were measured with calibrated equipment during each test.

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3 Test Methods

3.1 Antenna Conducted Carrier Power

The antenna output is connected to a spectrum analyser via a suitable PAD. The bandwidth on the spectrum analyser is set to greater than the EUT occupied bandwidth. A peak measurement is recorded. Additional measurements are made with antenna output connected to a power meter providing average measurements.

3.2 Antenna Conducted Transmitter Unwanted Emissions

Measurements are made with the antenna output connected to a spectrum analyser via a suitable PAD. Sweeps are made over the specified frequency ranges. The limit is set relative to the measured carrier power. A peak detector is used.

3.3 Antenna Conducted Occupied Bandwidth

Measurements are made with the antenna output connected to a spectrum analyser via a suitable PAD. Sweeps are made with a 300Hz Resolution Bandwidth and a 1kHz Video Bandwidth. A peak detector is used. Markers are used to determine the 99% power bandwidth.

3.4 Antenna Conducted Adjacent Channel Power

Measurements are made with the antenna output connected to an R&S FSU Spectrum Analyser via a suitable PAD. The Analyser is set to make adjacent channel power measurements using the pre-configured settings for Tetra with 25kHz channel spacing.


3.5 Frequency Stability

The EUT is placed in an environmental chamber. The temperature inside the chamber is set to the required level and allowed to stabilise.

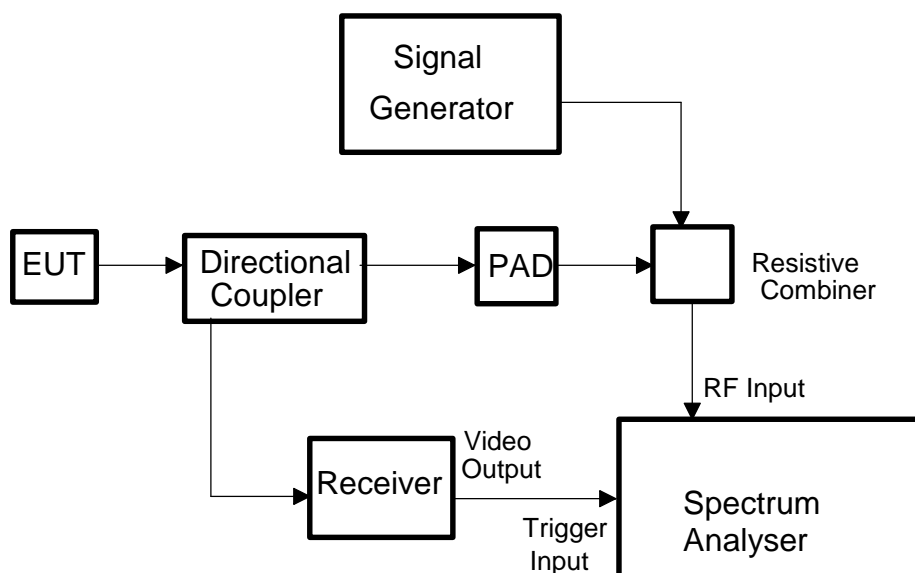
For DMO mode the antenna output is connected to a spectrum analyser via a suitable PAD. The EUT is set to transmit with constant carrier (at a frequency 2.25kHz above channel centre frequency). The frequency is measured using the frequency counter function of the spectrum analyser.

For TMO mode the antenna output is connected to a Tetra Test Set. The EUT is set to transmit using normal burst operation. the frequency error, as indicated by the Tetra Test Set, is recorded.

Measurements are made at the specified temperature and over the required voltage supply range of the EUT.

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3.6 Transient Frequency Behaviour



The test equipment was set up as shown above.

The spectrum analyser was set to 0Hz span with its inbuilt FM demodulation function activated.


Initially only the EUT was set to transmit an unmodulated signal and the centre frequency of the analyser adjusted to give 0Hz FM deviation.

The EUT transmitter was then switched off and the signal generator set to provide a carrier only output. The frequency of the signal generator was adjusted to again give 0Hz FM deviation on the spectrum analyser.

The signal generator FM modulation was then switched on and adjusted to give 25kHz FM deviation on the spectrum analyser.

The spectrum analyser was then set to trigger only on video output from the receiver. The directional coupler was used to feed an attenuated portion of the EUT transmitter into the receiver. The receiver was tuned to the transmit frequency and so produced a change on its video output when the transmitter was switched on and off. This signal was used to trigger the spectrum analyser.

FM deviation data was recorded from the spectrum analyser for both carrier switch on and switch off and at all three test frequencies.

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3.7 Radiated Transmitter Emissions (Substitution Method)

Initial scans are performed in a semi-anechoic screened room at a distance of 3m. Scans are performed over the frequency range specified in the test standard with the antenna both horizontally and vertically polarised. During these scans the EUT and peripherals are rotated through 360°. Bench top EUTs are placed on a non-conducting bench at a height of 0.8m above the ground plane. Floor standing EUTs are placed 0.1m above the ground plane. The EUT cables were manipulated in an attempt to produce maximum emissions. The results of the scans are shown in the plots included at the end of the report.

Significant emissions identified by the scans are measured using a substitution method. Maximised emission readings are obtained by rotating the EUT through 360° and adjusting the height of the antenna from 1m to 4m. Measurements are made with the antenna both horizontally and vertically polarised and the results tabulated.

The EUT is then replaced with a calibrated reference antenna fed from a signal generator. The level fed into the reference antenna is measured with a power meter. Measurements are made to determine the power output of the signal generator required to give the same emission levels as were observed from the EUT.

The radiated power from the EUT is calculated as:

Signal Level fed into Reference Antenna	+ Gain of Reference Antenna	+ Radiated Level From EUT	- Radiated Level From Reference Antenna
---	-----------------------------------	------------------------------	---

For example, assuming following measurements:

Signal Level fed into Reference Antenna	= -14.3dBm
Gain of Reference Antenna	= 7.1 dBi
Radiated Level from EUT (i.e. Level at Measuring Receiver)	= 37 dBuV
Radiated Level from Reference Antenna (i.e. Level at Measuring Receiver)	= 61.5 dBuV

Then the Radiated Power from the EUT = $-14.3 + 7.1 + 37 - 61.5$ dBm (isotropic)
= -31.7 dBm (isotropic)

3.8 Receiver Radiated Emissions

Initial scans are performed in a semi-anechoic screened room at a distance of 3m. Scans are performed over the frequency range specified in the test standard with the antenna both horizontally and vertically polarised. During these scans the EUT and peripherals are rotated through 360°. Bench top EUTs are placed on a non-conducting bench at a height of 0.8m above the ground plane. Floor standing EUTs are placed 0.1m above the ground plane. The EUT cables were manipulated in an attempt to produce maximum emissions. The results of the scans are shown in the plots included at the end of the report.

Significant emissions identified by the scans are measured on an open area test site at the appropriate test distance using a CISPR16 quasi-peak receiver. Maximised readings are obtained by rotating the EUT through 360° and adjusting the height of the antenna from 1m to 4m. Measurements are made with the antenna both horizontally and vertically polarised and the results tabulated.

Tabulated results show levels based on the following calculation:


Field Strength (dBuV) = receiver reading (dBuV) + CF (dB/m)

CF is the correction factor for the antenna and cable.

For example:

at 114MHz receiver reading was 17.9 dBuV, combined correction factor = 13.1 (dB/m).

Total field strength = $17.9 + 13.1 = 31.0$ dBuV/m.

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3.9 Conducted Emissions - ac power

This section describes the general method of performing this test. The specific method used and any deviations from this general method are listed in the appropriate results section.

Bench top EUTs and peripheral equipment are normally placed on a 0.8m high non-conducting bench, positioned 0.4m from one of the metallic walls of a screened room. Floor standing EUTs are normally placed 0.1m above the metallic floor of the screened room. Mains leads are bundled so as not to exceed 1m.

The EUT is powered using a 50ohm/50uH Line Impedance Stabilisation Network (LISN). Peripherals are powered using a second a 50ohm/50uH LISN. These LISNs are bonded to the screened room floor.

With the correct supply voltage applied to the EUT scans are performed on both the live and neutral line outputs of the LISN using quasi-peak detection over the specified frequency range. The results of these scans are shown in the plots section at the end of the report.

Significant emissions identified by the scans are measured and the results tabulated. The table of results is shown in the conducted emissions results section.


Final Level (dBuV) = Receiver Reading (dBuV) + Combined Cable & Attenuator Correction Factor (dB)

Example:

@ 191kHz Final Level = 45.8 + 10.0 = 55.8 dBuV

4 Test Results

The following sections contain tabulated test results. Plots of various scans are included at the back of this section.


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4.1 Conducted Antenna Output Power

Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: R9 PS10 PM6

Conducted Emissions (Signal)

Company: Sepura PLC		Product: SRG3500	
Date: 06/06/2012		Test Eng: Dave Smith	
Ports: antenna			
Test: 90.209		using limits of 90.209(b)(5)	
Ports:			
Test:		using limits of	
Notes	Comments and Observations		
	Spectrum anlayser results using a peak detector are shown in plots 1 to 4.		
	Measurements were also made using a power meter with an average detector.		
	Measurements were made with continuous modulation.		
	Taking into account the loss of the cable and attenuators the following measurements were made:		
	Channel	Peak dBm	Average dBm
	817 MHz	40.9	38.02
	824 MHz	41.0	38.08
	862 MHz	40.6	37.82
	869 MHz	41.0	38.13


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4.2 Conducted Antenna Occupied Bandwidth

Factor Set 1:
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9

Conducted Emissions (Signal)

Company: Sepura PLC		Product: SRG3500													
Date: 07/06/2012		Test Eng: Dave Smith													
Ports:	antenna														
Test:	90.210	using limits of	90.221(d)												
Ports:															
Test:	using limits of														
Notes	Comments and Observations														
	<p>Measurements were made with continuous modulation applied. Spectrum analyser results are shown in plots 5 to 8.</p> <p>Using the "Bandwidth Power" function of the spectrum analyser, the following measurements were recorded:</p> <table><tr><td>817MHz</td><td>21.03</td><td>kHz</td></tr><tr><td>824MHz</td><td>21.05</td><td>kHz</td></tr><tr><td>862MHz</td><td>20.89</td><td>kHz</td></tr><tr><td>869MHz</td><td>20.73</td><td>kHz</td></tr></table> <p>Limit:</p> <p>Using note 6 in the "Tetra Waiver" (FCC11-63) the limit is 22kHz (providing Adjacent Channel Power requirements are met).</p> <p>PASS</p>			817MHz	21.03	kHz	824MHz	21.05	kHz	862MHz	20.89	kHz	869MHz	20.73	kHz
817MHz	21.03	kHz													
824MHz	21.05	kHz													
862MHz	20.89	kHz													
869MHz	20.73	kHz													

	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

4.3 Frequency Stability - DMO Mode - Absolute Frequency Measurements

Factor Set 1:
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9

Frequency Stability

Company: Sepura PLC

Product: SRG3500

Date: 12/06/2012

Test Eng: Dave Smith

Ports: antenna


Test: 90.205 using limits of 90.205(h)

Ports:

Test: using limits of

Notes	Comments and Observations			
	DMO Frequency (as recorded from Spectrum Analyser Freqenct Counter)			
		862MHz Channel	869MHz Channel	
	-30.0° C	10.8V	862.002442	869.002687
		13.2V	862.002553	869.002670
		15.6V	862.002586	869.002651
	-20.0° C	10.8V	862.002589	869.002562
		13.2V	862.002647	869.002527
		15.6V	862.002658	869.002467
	-10.0° C	10.8V	862.002342	869.002477
		13.2V	862.002354	869.002388
		15.6V	862.002359	869.002348
	0.0° C	10.8V	862.002345	869.002372
		13.2V	862.002342	869.002318
		15.6V	862.002336	869.002320
	10.0° C	10.8V	862.002254	869.002297
		13.2V	862.002257	869.002309
		15.6V	862.002259	869.002314
	20.0° C	10.8V	862.002268	869.002240
		13.2V	862.002248	869.002261
		15.6V	862.002245	869.002275
	30.0° C	10.8V	862.002288	869.002346
		13.2V	862.002273	869.002325
		15.6V	862.002265	869.002311
	40.0° C	10.8V	862.002387	869.002259
		13.2V	862.002366	869.002288
		15.6V	862.002345	869.002312
	50.0° C	10.8V	862.002517	869.002456
		13.2V	862.002516	869.002470
		15.6V	862.002500	869.002492
	55.0° C	10.8V	862.002500	869.002489
		13.2V	862.002519	869.002473
		15.6V	862.002536	869.002460

See next page for deviation from nominal voltage/temperature.

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	Test No: T4354		
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4.4 Frequency Stability - DMO Mode - Deviations from Nominal Volt/Temp - ppm

Factor Set 1:
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9

Frequency Stability

Frequency Stability

Company:	Sepura PLC		Product:	SRG3500
Date:	12/06/2012		Test Eng:	Dave Smith
Ports:	antenna			
Test:	90.205	using limits of	90.205(h)	
Ports:				
Test:	using limits of			
Notes	Comments and Observations			
	DMO Frequency deviation from nominal voltage/temperature - ppm			
			862MHz Channel	869MHz Channel
-30.0° C	10.8V		0.225	0.490
	13.2V		0.354	0.471
	15.6V		0.392	0.449
-20.0° C	10.8V		0.396	0.346
	13.2V		0.463	0.306
	15.6V		0.476	0.237
-10.0° C	10.8V		0.109	0.249
	13.2V		0.123	0.146
	15.6V		0.129	0.100
0.0° C	10.8V		0.113	0.128
	13.2V		0.109	0.066
	15.6V		0.102	0.068
10.0° C	10.8V		0.007	0.041
	13.2V		0.010	0.055
	15.6V		0.013	0.061
20.0° C	10.8V		0.023	-0.024
	13.2V		0.000	0.000
	15.6V		-0.003	0.016
30.0° C	10.8V		0.046	0.098
	13.2V		0.029	0.074
	15.6V		0.020	0.058
40.0° C	10.8V		0.161	-0.002
	13.2V		0.137	0.031
	15.6V		0.113	0.059
50.0° C	10.8V		0.312	0.224
	13.2V		0.311	0.241
	15.6V		0.292	0.266
55.0° C	10.8V		0.292	0.262
	13.2V		0.314	0.244
	15.6V		0.334	0.229
The part 90 Limit for the 854MHz to 869MHz band is 2.5ppm				
PASS				

	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

4.5 Frequency Stability - TMO Mode - Frequency Error Hz


Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: TTS

Frequency Stability

Frequency Stability

Company:	Sepura PLC		Product:	SRG3500
Date:	12/06/2012		Test Eng:	Dave Smith
Ports:	antenna			
Test:	90.205	using limits of	90.205(h)	
Ports:				
Test:	using limits of			
Notes	Comments and Observations			
	TMO Frequency Error (as recorded from Tetra Test Set) (Hz)			
			817MHz Channel	824MHz Channel
-30.0° C	10.8V		-7.4	0.5
	13.2V		-8.4	0.9
	15.6V		-10.4	0.7
-20.0° C	10.8V		-1.2	1.2
	13.2V		-2.2	1.4
	15.6V		-4.7	0.0
-10.0° C	10.8V		-8.6	-1.6
	13.2V		-10.0	1.1
	15.6V		-11.3	0.3
0.0° C	10.8V		-7.8	-0.5
	13.2V		-9.3	-0.8
	15.6V		-11.0	-0.6
10.0° C	10.8V		4.5	7.8
	13.2V		4.3	7.0
	15.6V		4.0	6.8
20.0° C	10.8V		2.8	7.3
	13.2V		3.8	6.5
	15.6V		5.1	5.9
30.0° C	10.8V		8.0	18.4
	13.2V		9.1	16.1
	15.6V		8.3	14.6
40.0° C	10.8V		17.0	13.2
	13.2V		17.7	12.7
	15.6V		15.2	14.3
50.0° C	10.8V		12.6	12.7
	13.2V		14.4	13.1
	15.6V		13.3	12.7
55.0° C	10.8V		8.0	12.4
	13.2V		8.3	12.5
	15.6V		10.4	12.2

See next page for deviation in ppm.

	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report


4.6 Frequency Stability - TMO Mode - Deviation from nominal volt/temp - ppm

Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: TTS

Frequency Stability

Frequency Stability

Company:	Sepura PLC		Product:	SRG3500
Date:	12/06/2012		Test Eng:	Dave Smith
Ports:	antenna			
Test:	90.205	using limits of	90.205(h)	
Ports:				
Test:	using limits of			
Notes	Comments and Observations			
	TMO Frequency deviation - ppm			
		817MHz Channel	824MHz Channel	
-30.0° C	10.8V	-0.014	-0.007	
	13.2V	-0.015	-0.007	
	15.6V	-0.017	-0.007	
-20.0° C	10.8V	-0.006	-0.006	
	13.2V	-0.007	-0.006	
	15.6V	-0.010	-0.008	
-10.0° C	10.8V	-0.015	-0.010	
	13.2V	-0.017	-0.007	
	15.6V	-0.018	-0.008	
0.0° C	10.8V	-0.014	-0.008	
	13.2V	-0.016	-0.009	
	15.6V	-0.018	-0.009	
10.0° C	10.8V	0.001	0.002	
	13.2V	0.001	0.001	
	15.6V	0.000	0.000	
20.0° C	10.8V	-0.001	0.001	
	13.2V	0.000	0.000	
	15.6V	0.002	-0.001	
30.0° C	10.8V	0.005	0.014	
	13.2V	0.006	0.012	
	15.6V	0.006	0.010	
40.0° C	10.8V	0.016	0.008	
	13.2V	0.017	0.008	
	15.6V	0.014	0.009	
50.0° C	10.8V	0.011	0.008	
	13.2V	0.013	0.008	
	15.6V	0.012	0.008	
55.0° C	10.8V	0.005	0.007	
	13.2V	0.006	0.007	
	15.6V	0.008	0.007	
The part 90 Limit for the 809MHz to 824MHz band is 2.5ppm				
PASS				


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4.7 Conducted Emission Antenna Adjacent Channel Power

Factor Set 1:
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: SEP1

Conducted Emissions (Signal)

Company: Sepura PLC		Product: SRG3500																																																		
Date: 07/06/2012		Test Eng: Dave Smith																																																		
Ports: antenna																																																				
Test: 90.213		using limits of 90.213																																																		
Ports:																																																				
Test:		using limits of																																																		
Notes	Comments and Observations																																																			
	<p>Using the R&S FSU Spectrum analyser with the appropriate Tetra adjacent channel power settings. Captured results are shown in plots 9 to 12.</p> <p>Readings in dBc</p> <table><thead><tr><th></th><th colspan="6">Channel</th></tr><tr><th></th><th>-75kHz</th><th>-50kHz</th><th>-25kHz</th><th>+ 25kHz</th><th>+ 50kHz</th><th>+ 75kHz</th></tr></thead><tbody><tr><td>817MHz</td><td>-79.26</td><td>-76.60</td><td>-65.30</td><td>-65.48</td><td>-76.42</td><td>-79.26</td></tr><tr><td>824MHz</td><td>-79.60</td><td>-76.28</td><td>-63.98</td><td>-65.90</td><td>-75.97</td><td>-79.61</td></tr><tr><td>862MHz</td><td>-79.38</td><td>-75.52</td><td>-63.63</td><td>-64.23</td><td>-75.46</td><td>-79.36</td></tr><tr><td>869MHz</td><td>-78.51</td><td>-75.59</td><td>-62.57</td><td>-63.56</td><td>-75.61</td><td>-78.31</td></tr><tr><td>Limit (dBc)</td><td>-65</td><td>-65</td><td>-55</td><td>-55</td><td>-65</td><td>-65</td></tr></tbody></table> <p>Limit shown is the maximum allowed level (dBc) for a product with output power less than 15 W and operating at a frequency above 700MHz (Part 90.221(c))</p> <p>PASS</p>				Channel							-75kHz	-50kHz	-25kHz	+ 25kHz	+ 50kHz	+ 75kHz	817MHz	-79.26	-76.60	-65.30	-65.48	-76.42	-79.26	824MHz	-79.60	-76.28	-63.98	-65.90	-75.97	-79.61	862MHz	-79.38	-75.52	-63.63	-64.23	-75.46	-79.36	869MHz	-78.51	-75.59	-62.57	-63.56	-75.61	-78.31	Limit (dBc)	-65	-65	-55	-55	-65	-65
	Channel																																																			
	-75kHz	-50kHz	-25kHz	+ 25kHz	+ 50kHz	+ 75kHz																																														
817MHz	-79.26	-76.60	-65.30	-65.48	-76.42	-79.26																																														
824MHz	-79.60	-76.28	-63.98	-65.90	-75.97	-79.61																																														
862MHz	-79.38	-75.52	-63.63	-64.23	-75.46	-79.36																																														
869MHz	-78.51	-75.59	-62.57	-63.56	-75.61	-78.31																																														
Limit (dBc)	-65	-65	-55	-55	-65	-65																																														


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4.8 Transmitter Transient Frequency Behaviour - Results

Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: R9 R4 SG9

Conducted Emissions (Signal)

Company: Sepura PLC		Product: SRG3500													
Date: 06/06/2012		Test Eng: Dave Smith													
Ports:	antenna														
Test:	90.214	using limits of	90.214												
Ports:															
Test:	using limits of														
Notes	Comments and Observations														
	<p>The output of the antenna port of the EUT was fed through a Directional Coupler and then combined with the output of a signal generator.</p> <p>The spectrum analyser has an FM demodulation function.</p> <p>The EUT was initially set to produce a constant carrier output and the tuning of the spectrum analyser adjusted to give 0Hz FM deviation.</p> <p>The output of the EUT was turned off and a carrier only signal output from the signal generator set at approximately the same frequency as the EUT. This frequency was adjusted to again give 0Hz FM deviation on the spectrum analyser.</p> <p>The signal generator was then set to give 25kHz FM deviation (with 1kHz signal).</p> <p>The forward power output of the directional coupler was fed into a receiver tuned to the carrier frequency. The video output of this receiver was used to trigger the spectrum analyser when the EUT RF is turned on or off.</p> <p>The results of sweeps captured from the spectrum analyser are shown in plots 13 to 20.</p> <p>All of the plots show the EUT comfortably meets the Transient Frequency Behaviour limits for a 25kHz channel spacing transmitter as shown below:</p> <table><tr><td></td><td>Frequency</td><td>Duration</td></tr><tr><td>t1</td><td>± 25 kHz</td><td>10 msec</td></tr><tr><td>t2</td><td>± 12.5 kHz</td><td>25 msec</td></tr><tr><td>t3</td><td>± 25 kHz</td><td>10 msec</td></tr></table>				Frequency	Duration	t1	± 25 kHz	10 msec	t2	± 12.5 kHz	25 msec	t3	± 25 kHz	10 msec
	Frequency	Duration													
t1	± 25 kHz	10 msec													
t2	± 12.5 kHz	25 msec													
t3	± 25 kHz	10 msec													


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4.10 Radiated Emissions - Transmit Carrier ERP - Configuration 1

Factor Set 1: A30_dBi_10A - - -
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9 A24 A30 SG16 PM6 PS10

Substitution Emissions

Company: Sepura PLC						Product: SRG3500								
Date: 01/06/2012						Test Eng: Dave Smith								
Ports:														
Test: 90.205						using limits of				90.205(h)				
Ports:														
Test:						using limits of								
Op Mode	Mod State	CF Set	Freq. MHz	Sig Gen Level Cable dBm	Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBuV	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBuV	Sub'n Ant Gain dBi	ERP dBm	Limit dBm	Margin dB	Note
1	0	1	817.000	0.0	0.0	V	113.1	-16.5	48.9	-6.1	41.6			
1	0	1	817.000	0.0	0.0	H	109.9	-16.5	48.7	-6.1	38.6			
1	0	1	824.000	0.0	0.0	V	113.5	-16.5	48.6	-6.1	42.3			
1	0	1	824.000	0.0	0.0	H	109.8	-16.5	48.8	-6.1	38.4			
1	0	1	862.000	0.0	0.0	V	113.5	-16.6	47.5	-6.1	43.3			
1	0	1	862.000	0.0	0.0	H	106.4	-16.6	48.0	-6.1	35.6			
1	0	1	869.000	0.0	0.0	V	112.9	-16.6	47.4	-6.2	42.6			
1	0	1	869.000	0.0	0.0	H	106.9	-16.6	48.2	-6.2	35.8			
Results				Minimum Margin PASS/FAIL					N/A dB					
Notes														
Configuration 1 The results above are radiated measurements using the substitution method. There are no specific limits in the standard for this test.														


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4.11 Radiated Emissions - Transmit Carrier ERP - DMU

Factor Set 1: A30_dBi_10A - - -
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9 A24 A30 SG16 PM6 PS10

Substitution Emissions

Company: Sepura PLC						Product: SRG3500								
Date: 01/06/2012						Test Eng: Dave Smith								
Ports:														
Test: 90.205			using limits of						90.205(h)					
Ports:														
Test:			using limits of											
Op Mode	Mod State	CF Set	Freq. MHz	Sig Gen Level Cable	Cable Loss Rec'vr Level Cable	Ant Pol	Rec'vr Level EUT	Sig Gen Level Sub'n Ant	Rec'vr Level Sub'n Ant	Sub'n Ant Gain	ERP	Limit	Margin	Note
				dBm	dBm		dBuV	dBm	dBuV	dBi	dBm	dBm	dB	
1	0	1	817.000	0.0	0.0	V	116.2	-16.5	48.9	-6.1	44.7			
1	0	1	817.000	0.0	0.0	H	105.6	-16.5	48.7	-6.1	34.3			
1	0	1	824.000	0.0	0.0	V	115.4	-16.5	48.6	-6.1	44.2			
1	0	1	824.000	0.0	0.0	H	104.5	-16.5	48.8	-6.1	33.1			
1	0	1	862.000	0.0	0.0	V	115.3	-16.6	47.5	-6.1	45.1			
1	0	1	862.000	0.0	0.0	H	103.1	-16.6	48.0	-6.1	32.3			
1	0	1	869.000	0.0	0.0	V	114.5	-16.6	47.4	-6.2	44.2			
1	0	1	869.000	0.0	0.0	H	103.5	-16.6	48.2	-6.2	32.4			
Results				Minimum Margin					N/A		dB			
				PASS/FAIL										
Notes														
DMU The results above are radiated measurements using the substitution method. There are no specific limits in the standard for this test.														


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4.12 Radiated Emissions - Transmit Spur - Config 1 - 806MHz to 824MHz band

Factor Set 1: A19_dbi_11A - - -
Factor Set 2: A30_dBi_10A - - -
Factor Set 3: - - -
Test Equipment: R9 A24 A23 A19 SG16 PM6 PS10 PRE3 RFF15 RFF16 RFF17 RFF22

Substitution Emissions

Company: Sepura PLC				Product: SRG3500										
Date: 28/05/2012				Test Eng: Dave Smith										
Ports:														
Test: 90.210				using limits of					90.221(d)					
Ports:														
Test:				using limits of										
Op Mode	Mod State	CF Set	Freq. MHz	Sig Gen Level Cable	Rec'vr Level Cable	Ant Pol	Rec'vr Level EUT	Sig Gen Level Sub'n Ant	Rec'vr Level Sub'n Ant	Sub'n Ant Gain	ERP	Limit	Margin	Note
				dBm	dBm		dBuV	dBm	dBuV	dBi	dBm	dBm	dB	
1	0	2	272.333	0.0	0.0	V	34.2	-13.6	62.0	-4.9	-46.2	-15.4	30.8	#1
1	0	2	272.333	0.0	0.0	H	35.7	-13.6	63.8	-4.9	-46.5	-15.4	31.1	#1
1	0	1	5446.750	0.0	0.0	V	65.3	-17.7	86.0	11.0	-27.4	-15.4	12.0	#1
1	0	1	5446.750	0.0	0.0	H	55.4	-17.7	88.5	11.0	-39.9	-15.4	24.5	#1
1	0	1	7353.065	0.0	0.0	V	52.9	-18.5	87.2	11.1	-41.7	-15.4	26.3	#1
1	0	1	7353.065	0.0	0.0	H	49.4	-18.5	85.8	11.1	-43.9	-15.4	28.5	#1
1	0	2	274.666	0.0	0.0	V	33.2	-13.6	62.4	-4.7	-47.5	-14.7	32.8	#2
1	0	2	274.666	0.0	0.0	H	32.3	-13.6	63.9	-4.7	-50.0	-14.7	35.3	#2
1	0	1	5493.350	0.0	0.0	V	65.4	-17.8	85.9	11.1	-27.3	-14.7	12.6	#2
1	0	1	5493.350	0.0	0.0	H	56.8	-17.8	88.7	11.1	-38.6	-14.7	23.9	#2
Results				Minimum Margin PASS/FAIL					12.0 dB PASS					
Notes														
Results of prescans shown in plots 29 to 40.														
Configuration 1. 3m test distance. #1: Tx @ 817MHz, #2: Tx @824MHz Lmits set at -13dBm.														


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

4.13 Radiated Emissions - Transmit Spur - Config 1 - 851MHz to 869MHz band

Factor Set 1: A19_dbi_11A - - -
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9 A24 A23 A19 SG16 PM6 PS10 PRE3 RFF15 RFF16 RFF17 RFF22

Substitution Emissions

Company: Sepura PLC				Product: SRG3500										
Date: 28/05/2012				Test Eng: Dave Smith										
Ports:														
Test: 90.210				using limits of				90.221(d)						
Ports:														
Test:				using limits of										
Op Mode	Mod State	CF Set	Freq. MHz	Sig Gen Level Cable	Rec'vr Level Cable	Ant Pol	Rec'vr Level EUT	Sig Gen Level Sub'n Ant	Rec'vr Level Sub'n Ant	Sub'n Ant Gain	ERP	Limit	Margin	Note
				dBm	dBm		dBuV	dBm	dBuV	dB	dBm	dBm	dB	
1	0	1	2586.029	0.0	0.0	V	63.2	-16.9	89.1	9.9	-32.9	-13.7	19.2	#1
1	0	1	2586.029	0.0	0.0	H	66.1	-16.9	90.1	9.9	-31.0	-13.7	17.3	#1
1	0	1	2606.988	0.0	0.0	V	59.5	-16.9	89.5	9.9	-37.0	-14.4	22.6	#2
1	0	1	2606.988	0.0	0.0	H	67.5	-16.9	90.4	9.9	-29.9	-14.4	15.5	#2
1	0	1	4634.600	0.0	0.0	V	64.1	-17.4	89.0	11.2	-31.1	-14.4	16.7	#2
1	0	1	4634.600	0.0	0.0	H	51.6	-17.4	90.8	11.2	-45.4	-14.4	31.0	#2
1	0	1	5793.369	0.0	0.0	V	55.9	-17.7	86.3	11.7	-36.5	-14.4	22.1	#2
1	0	1	5793.369	0.0	0.0	H	50.9	-17.7	88.3	11.7	-43.4	-14.4	29.0	#2
1	0	1	8110.838	0.0	0.0	V	49.3	-18.7	83.9	11.7	-41.6	-14.4	27.2	#2
1	0	1	8110.838	0.0	0.0	H	47.9	-18.7	85.4	11.7	-44.5	-14.4	30.1	#2
1	0	1	8690.013	0.0	0.0	V	53.8	-18.9	82.8	11.5	-36.3	-14.4	21.9	#2
1	0	1	8690.013	0.0	0.0	H	49.1	-18.9	84.7	11.5	-42.9	-14.4	28.5	#2
Results				Minimum Margin PASS/FAIL					15.5 dB PASS					
Notes														
Results of prescans shown in plots 29 to 40.														
Configuration 1. 3m test distance. #1: Tx @ 862MHz, #2: Tx @869MHz Lmits set at -13dBm.														

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 31 of 100

4.14 Radiated Emissions - Transmit Spurious - DMU - 806MHz to 824MHz band

Factor Set 1: A19_dbi_11A - - -


Factor Set 2: - - -

Factor Set 3: - - -

Test Equipment: R9 A24 A23 A19 SG16 PM6 PS10 PRE3 RFF15 RFF16 RFF17 RFF22

Substitution Emissions

Company: Sepura PLC						Product: SRG3500								
Date: 28/05/2012						Test Eng: Dave Smith								
Ports:														
Test: 90.205						using limits of				90.205(h)				
Ports:														
Test: 90.210						using limits of				90.221(d)				
Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss		Ant Pol	Rec'vr Level EUT	Sig Gen Level Sub'n Ant	Rec'vr Level Sub'n Ant	Sub'n Ant Gain	ERP	Limit	Margin	Notes
				Sig Gen Level Cable	Rec'vr Level Cable									
				dBm	dBm									
1	0	1	4357.350	0.0	0.0	V	62.2	-17.5	89.2	11.0	-33.4	-15.0	18.4	#1
1	0	1	4357.350	0.0	0.0	H	57.8	-17.5	91.7	11.0	-40.3	-15.0	25.3	#1
1	0	1	8170.125	0.0	0.0	V	59.2	-18.8	83.1	11.7	-30.9	-15.0	15.9	#1
1	0	1	8170.125	0.0	0.0	H	58.4	-18.8	85.0	11.7	-33.7	-15.0	18.7	#1
1	0	1	7416.150	0.0	0.0	V	59.3	-18.6	84.2	11.0	-32.4	-15.0	17.4	#2
1	0	1	7416.150	0.0	0.0	H	53.8	-18.6	85.5	11.0	-39.4	-15.0	24.4	#2
1	0	1	8240.047	0.0	0.0	V	59.2	-18.8	82.9	11.7	-30.9	-15.0	15.9	#2
1	0	1	8240.047	0.0	0.0	H	57.0	-18.8	85.8	11.7	-36.0	-15.0	21.0	#2
Results				Minimum Margin					15.9 dB					
				PASS/FAIL					PASS					
Notes														
Results of prescans shown in plots 41 to 52.														
DMU. 3m test distance. #1: Tx @ 817MHz, #2: Tx @824MHz														
Limits set at -13dBm.														


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 32 of 100

4.15 Radiated Emissions - Transmit Spurious - DMU - 851MHz to 869MHz band

Factor Set 1: A19_dbi_11A - - -
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R9 A24 A23 A19 SG16 PM6 PS10 PRE3 RFF15 RFF16 RFF17 RFF22

Substitution Emissions

Company: Sepura PLC				Product: SRG3500										
Date: 28/05/2012				Test Eng: Dave Smith										
Ports:														
Test: 90.210				using limits of					90.221(d)					
Ports:														
Test:				using limits of										
Op Mode	Mod State	CF Set	Freq. MHz	Sig Gen Level Cable dBm	Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBuV	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBuV	Sub'n Ant Gain dBi	ERP dBm	Limit dBm	Margin dB	Note
1	0	1	5746.675	0.0	0.0	V	57.3	-17.9	89.7	11.6	-38.8	-15.0	23.8	#1
1	0	1	5746.675	0.0	0.0	H	54.6	-17.9	88.4	11.6	-40.1	-15.0	25.1	#1
1	0	1	8045.333	0.0	0.0	V	49.9	-18.7	82.8	11.7	-39.8	-15.0	24.8	#1
1	0	1	8045.333	0.0	0.0	H	49.0	-18.7	85.8	11.7	-43.8	-15.0	28.8	#1
1	0	1	5214.050	0.0	0.0	V	62.3	-17.6	89.5	10.8	-33.9	-15.0	18.9	#2
1	0	1	5214.050	0.0	0.0	H	57.0	-17.6	88.9	10.8	-38.6	-15.0	23.6	#2
1	0	1	6952.088	0.0	0.0	V	57.6	-18.4	87.5	11.6	-36.6	-15.0	21.6	#2
1	0	1	6952.088	0.0	0.0	H	52.8	-18.4	86.8	11.6	-40.7	-15.0	25.7	#2
Results				Minimum Margin PASS/FAIL					18.9 dB PASS					
Notes														
Results of prescans shown in plots 41 to 52.														
DMU. 3m test distance. #1: Tx @ 862MHz, #2: Tx @869MHz Limits set at -13dBm														


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		
Test Report			Page: 33 of 100

4.16 Radiated Emissions - Receive Mode - Configuration 1 - below 1GHz

Factor Set 1: A5_FS_10C CBL015_11A - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R4 A5

Radiated Emissions

Company: Sepura PLC					Product: SRG3500									
Date: 20/06/2012					Test Eng: Dave Smith									
Ports:														
Test: ANSI C63.4:2003					using limits of FCC_B									
Ports:														
Test:					using limits of									
Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Rec. Level dBuV	Corr'n Factor dB/m	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes	
862MHz Rx channel														
53	1	0	3	1	114.620	V	1.2	13.1		14.3	43.5	29.2	#1	
53	1	0	3	1	114.620	H	-3.1	13.1		10.0	43.5	33.5		
54	1	0	3	1	931.250	V	0.3	31.0		31.3	46.0	14.7		
54	1	0	3	1	931.250	H	5.6	31.0		36.6	46.0	9.4		
869MHz Rx channel														
54	1	0	3	1	938.250	V	1.6	31.5		33.1	46.0	12.9	#1	
54	1	0	3	1	938.250	H	-0.1	31.5		31.4	46.0	14.6	#1	
Results											Minimum Margin PASS/FAIL		9.4 dB PASS	
Notes		Comments and Observations												
#1		Results of scans shown in plots 53 and 54. Configuration 1. Measured with 10kHz average detector because of high ambient. Measurements in screened room show less than 2dB difference between 120kHz Quasi Peak reading and 10kHz Average reading for this emission All other measurements made with 120kHz bandwidth Quasi Peak detector.												


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		
Test Report			Page: 34 of 100

4.17 Radiated Emissions - Receive Mode - Configuration 1 - above 1GHz

Factor Set 1:	A23_3m_10A CBL049_11A PRE3_11A RFF22_11A	1 m cable
Factor Set 2:	- - -	
Factor Set 3:	- - -	
Test Equipment:	R9 A23 PRE3 RFF22	

Radiated Emissions

Company: Sepura PLC					Product: SRG3500								
Date: 28/05/2012					Test Eng: Dave Smith								
Ports:													
Test: ANSI C63.4:2003					using limits of FCC_B								
Ports:													
Test:					using limits of								
Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Rec. Level dBuV	Corr'n Factor dB/m	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes
862MHz Rx channel													
56	2	0	3	1	3724.998	V	51.2	-2.4		48.8	74.0	25.2	PK
56	2	0	3	1	3724.998	V	47.2	-2.4		44.8	54.0	9.2	AV
56	2	0	3	1	3724.998	H	49.0	-2.4		46.6	54.0	7.4	PK
56	2	0	3	1	5581.503	V	45.2	1.6		46.8	54.0	7.2	PK
56	2	0	3	1	5587.496	H	44.1	1.6		45.7	54.0	8.3	PK
869MHz Rx channel													
56	2	0	3	1	3753.026	V	48.3	-2.2		46.1	54.0	7.9	PK
56	2	0	3	1	3753.026	H	47.4	-2.2		45.2	54.0	8.8	PK
Results											Minimum Margin		
											PASS/FAIL		
											7.2 dB		
											PASS		
Notes													
Comments and Observations													
Results of scans shown in plots 55 and 56.													
Configuration 1.													
Where peak measurements were comfortably below the average limit only the peak reading is recorded - in this case the average limit is show. Otherwise separate peak and average measurements were made and show against the corresponding limits.													


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Page: 35 of 100
Test Report			

4.18 Radiated Emissions - Receive Mode - DMU- below 1GHz

Factor Set 1: A5_FS_10C CBL015_11A - -
Factor Set 2: - - -
Factor Set 3: - - -
Test Equipment: R4 A5

Radiated Emissions

Company: Sepura PLC					Product: SRG3500									
Date: 20/06/2012					Test Eng: Dave Smith									
Ports:														
Test: ANSI C63.4:2003					using limits of FCC_B									
Ports:														
Test:					using limits of									
Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Rec. Level dBuV	Corr'n Factor dB/m	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes	
862MHz Rx channel														
57	1	0	3	1	78.160	V	4.3	8.1		12.4	40.0	27.6		
57	1	0	3	1	78.160	H	0.5	8.1		8.6	40.0	31.4		
58	1	0	3	1	481.102	V	11.4	21.6		33.0	46.0	13.0		
58	1	0	3	1	481.102	H	8.9	21.6		30.5	46.0	15.5		
58	1	0	3	1	509.272	V	7.6	22.4		30.0	46.0	16.0		
58	1	0	3	1	509.272	H	10.6	22.4		33.0	46.0	13.0		
58	1	0	3	1	537.350	V	3.5	23.5		27.0	46.0	19.0		
58	1	0	3	1	537.350	H	7.5	23.5		31.0	46.0	15.0		
58	1	0	3	1	547.484	V	5.9	24.5		30.4	46.0	15.6		
58	1	0	3	1	547.484	H	11.5	24.5		36.0	46.0	10.0		
58	1	0	3	1	556.878	V	2.9	24.9		27.8	46.0	18.2		
58	1	0	3	1	556.878	H	7.6	24.9		32.5	46.0	13.5		
869MHz Rx channel														
58	1	0	3	1	931.250	V	-0.8	31.0		30.2	46.0	15.8	#1	
58	1	0	3	1	931.250	H	5.1	31.0		36.1	46.0	9.9		
58	1	0	3	1	938.250	V	-0.1	31.5		31.4	46.0	14.6	#1	
58	1	0	3	1	938.250	H	0.5	31.5		32.0	46.0	14.0	#1	
Results											Minimum Margin PASS/FAIL		9.9 dB PASS	
Notes		Comments and Observations												
#1		Results of scans shown in plots 57 and 58. DMU. Measured with 10kHz average detector because of high ambient. Measurements in screened room show less than 2dB difference between 120kHz Quasi Peak reading and 10kHz Average reading for this emission All other measurements made with 120kHz bandwidth Quasi Peak detector.												


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

4.19 Radiated Emissions - Receive Mode - DMU - above 1GHz - Vertical

Factor Set 1:	A23_3m_10A CBL049_11A PRE3_11A RFF22_11A	1 m cable
Factor Set 2:	- - -	
Factor Set 3:	- - -	
Test Equipment:	R9 A23 PRE3 RFF22	

Radiated Emissions

Company: Sepura PLC					Product: SRG3500									
Date: 28/05/2012					Test Eng: Dave Smith									
Ports:														
Test: ANSI C63.4:2003					using limits of FCC_B									
Ports:														
Test:					using limits of									
Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Rec. Level dBuV	Corr'n Factor dB/m	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes	
862MHz Rx channel														
59	2	0	3	1	1862.525	V	50.9	-6.7		44.2	54.0	9.8	PK	
60	2	0	3	1	2793.846	V	47.4	-5.2		42.2	54.0	11.8	PK	
60	2	0	3	1	3724.987	V	51.9	-2.4		49.5	74.0	24.5	PK	
60	2	0	3	1	3724.987	V	48.9	-2.4		46.5	54.0	7.5	AV	
60	2	0	3	1	4656.255	V	45.8	-1.8		44.0	54.0	10.0	PK	
869MHz Rx channel														
59	2	0	3	1	1876.500	V	49.7	-6.7		43.1	54.0	10.9	PK	
60	2	0	3	1	2814.708	V	49.6	-5.1		44.4	54.0	9.6	PK	
60	2	0	3	1	4691.247	V	46.0	-1.7		44.3	54.0	9.7	PK	
60	2	0	3	1	5629.815	V	44.6	1.7		46.3	54.0	7.7	PK	
Results											Minimum Margin PASS/FAIL		7.5 dB PASS	
Notes	Comments and Observations													
	Results of scans shown in plots 59 and 60. DMU. Where peak measurements were comfortably below the average limit only the peak reading is recorded - in this case the average limit is show. Otherwise separate peak and average measurements were made and show against the corresponding limits.													


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 37 of 100

4.20 Radiated Emissions - Receive Mode - DMU - above 1GHz - Horizontal

Factor Set 1:	A23_3m_10A CBL049_11A PRE3_11A RFF22_11A	1 m cable
Factor Set 2:	- - -	
Factor Set 3:	- - -	
Test Equipment:	R9 A23 PRE3 RFF22	

Radiated Emissions

Company: Sepura PLC					Product: SRG3500								
Date: 28/05/2012					Test Eng: Dave Smith								
Ports:													
Test: ANSI C63.4:2003					using limits of FCC_B								
Ports:													
Test:					using limits of								
Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Rec. Level dBuV	Corr'n Factor dB/m	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes
862MHz Rx channel													
59	2	0	3	1	1862.525	H	50.4	-6.7		43.7	54.0	10.3	PK
60	2	0	3	1	2793.846	H	47.0	-5.2		41.8	54.0	12.2	PK
60	2	0	3	1	3724.987	H	49.7	-2.4		47.2	54.0	6.8	PK
60	2	0	3	1	4656.255	H	43.1	-1.8		41.3	54.0	12.7	PK
869MHz Rx channel													
59	2	0	3	1	1877.500	H	44.7	-6.7		38.1	54.0	15.9	PK
60	2	0	3	1	2814.708	H	47.3	-5.1		42.2	54.0	11.8	PK
60	2	0	3	1	4691.247	H	43.7	-1.7		42.0	54.0	12.0	PK
60	2	0	3	1	5629.815	H	44.0	1.7		45.7	54.0	8.3	PK
Results					Minimum Margin PASS/FAIL						6.8 dB PASS		
Notes	Comments and Observations												
Results of scans shown in plots 59 and 60. DMU. Where peak measurements were comfortably below the average limit only the peak reading is recorded - in this case the average limit is show. Otherwise separate peak and average measurements were made and show against the corresponding limits.													


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

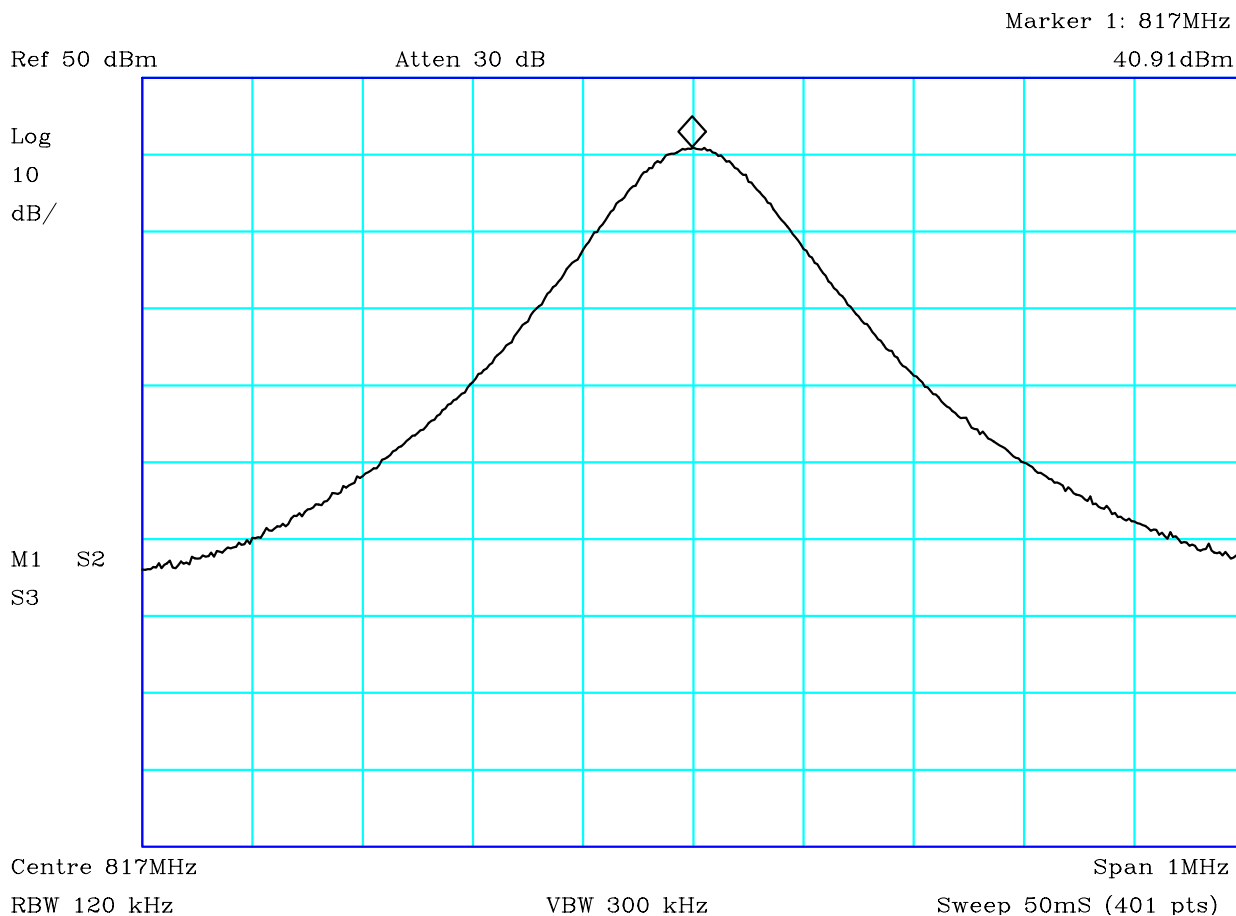
4.21 Conducted Emissions (Power) - Results

Factor Set 1: L1_11A AB002_CBL005_CBL039_11A - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R1 L1

Conducted Emissions (Power)

Company: Sepura PLC					Product: SRG3500							
Date: 08/06/12					Test Eng: Dave Smith							
Ports: ac power												
Test: ANSI C63.4:2003					using limits of FCC_B							
Ports:												
Test:					using limits of							
Plot	Op Mode	Mod State	Line (L/N)	Fact Set	Freq. MHz	Det qp/av	Rec. Level dBuV	Corr'n Factor dB	Total Level dBuV	Limit FCC_B dBuV	Margin FCC_B dB	Notes
61	1	0	L	1	0.189	qp	40.3	10.0	50.3	64.1	13.8	
61	1	0	L	1	0.189	av	29.0	10.0	39.0	54.1	15.1	
61	1	0	L	1	0.252	qp	35.2	10.0	45.2	61.7	16.5	
61	1	0	L	1	0.252	av	21.0	10.0	31.0	51.7	20.7	
61	1	0	L	1	0.377	qp	23.6	10.0	33.6	58.3	24.8	
61	1	0	L	1	0.377	av	12.8	10.0	22.8	48.3	25.6	
62	1	0	N	1	0.189	qp	40.2	10.0	50.2	64.1	13.9	
62	1	0	N	1	0.189	av	29.0	10.0	39.0	54.1	15.1	
62	1	0	N	1	0.252	qp	35.0	10.0	45.0	61.7	16.7	
62	1	0	N	1	0.252	av	21.0	10.0	31.0	51.7	20.7	
62	1	0	N	1	0.377	qp	23.8	10.0	33.8	58.3	24.6	
62	1	0	N	1	0.377	av	10.8	10.0	20.8	48.3	27.6	
Results									Minimum Margin PASS/FAIL		13.8 dB PASS	
Notes		Comments and Observations										
Results of scans shown in plots 61 to 66. Tabulated results above were for worst case mode - Transmit @ 817MHz.												


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 39 of 100

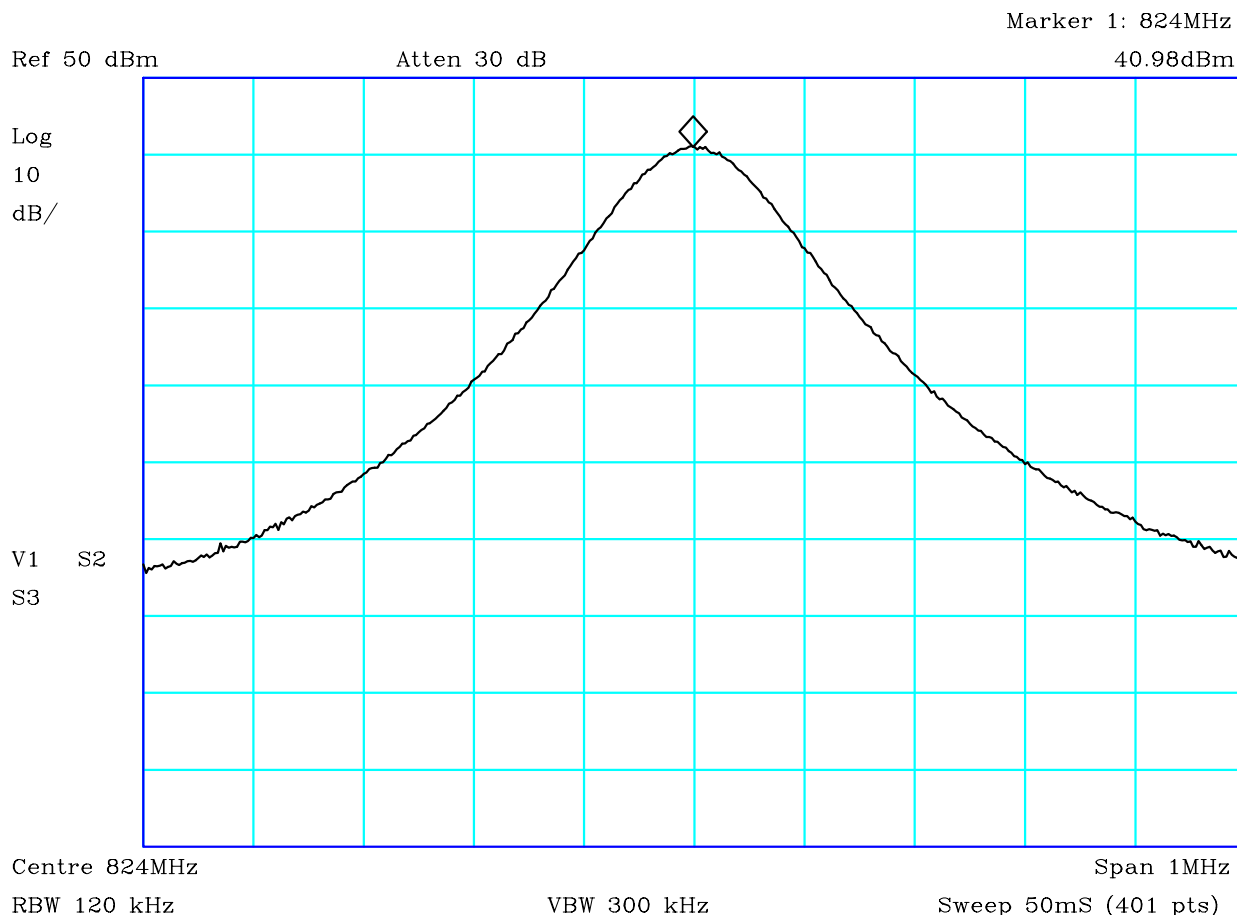


CF1:30dB PAD + cable

PLOT 1 Conducted Antenna Output Power (817MHz)

Company:	Sepura	Product:	SRG3500
Date:	06/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
Peak: 40.91 dBm Average (measured with power meter): 38.02 dBm			
Facility:	Anech_2	Mode:	1
		Modification State:	0
File:	H250675F		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 40 of 100

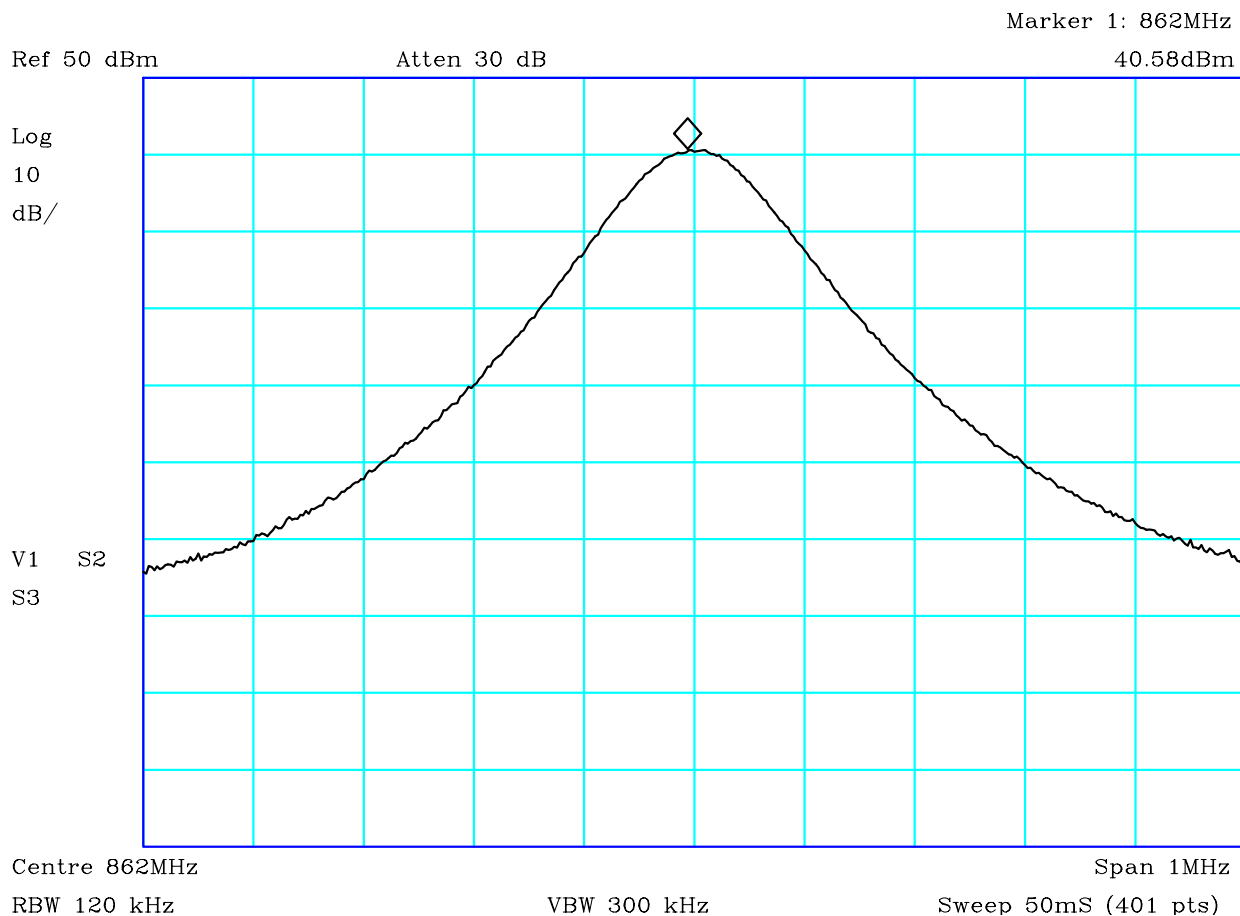


CF1:30dB PAD + cable

PLOT 2 Conducted Antenna Output Power (824MHz)

Company:	Sepura	Product:	SRG3500
Date:	06/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
Peak: 40.98 dBm Average (measured with power meter): 38.08 dBm			
Facility:	Anech_2	Mode:	1
		Modification State:	0
File:	H2506762		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 41 of 100

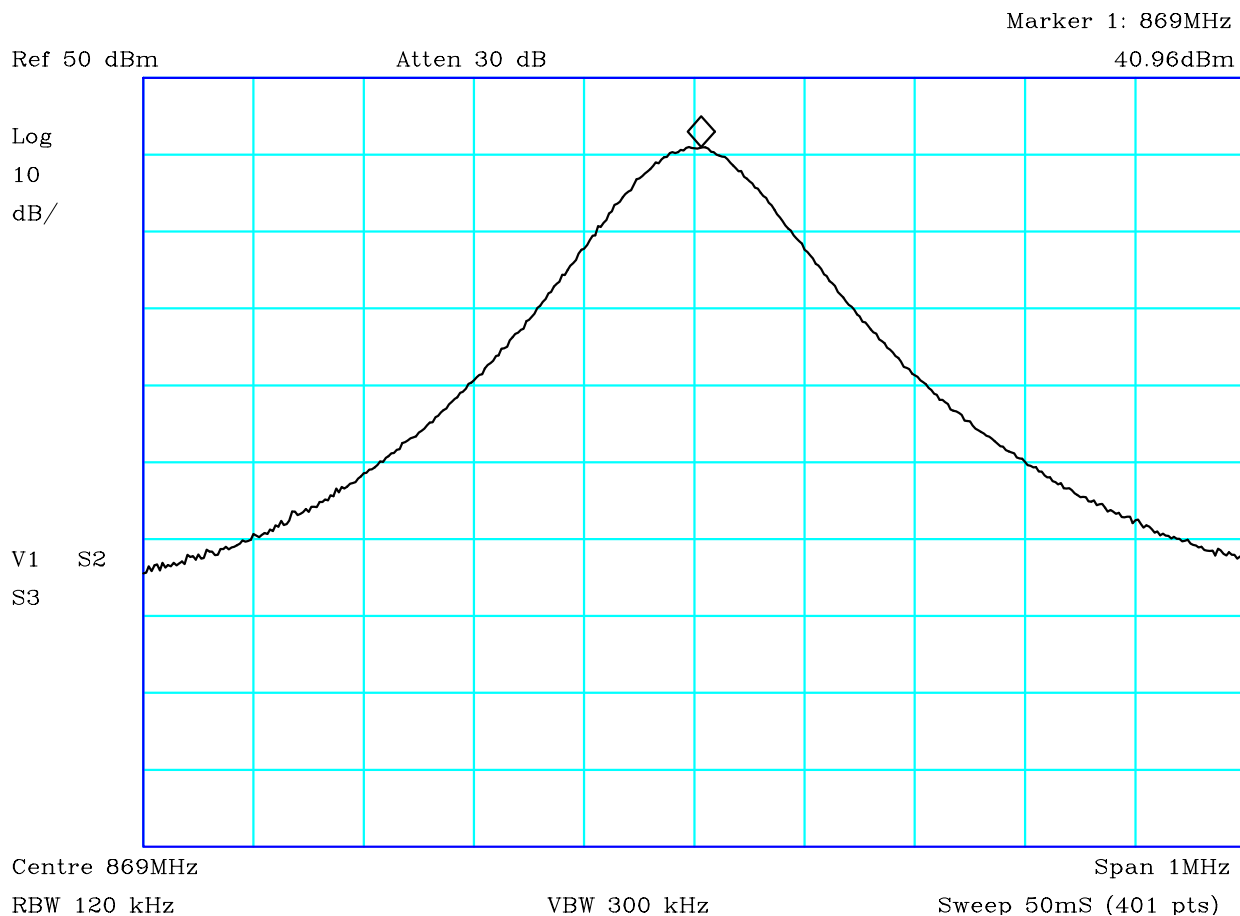


CF1:30dB PAD + cable

PLOT 3 Conducted Antenna Output Power (862MHz)

Company:	Sepura	Product:	SRG3500
Date:	06/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
Peak: 40.58 dBm Average (measured with power meter): 37.82 dBm			
Facility:	Anech_2	Mode:	1
		Modification State:	0
File:	H2506768		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 42 of 100

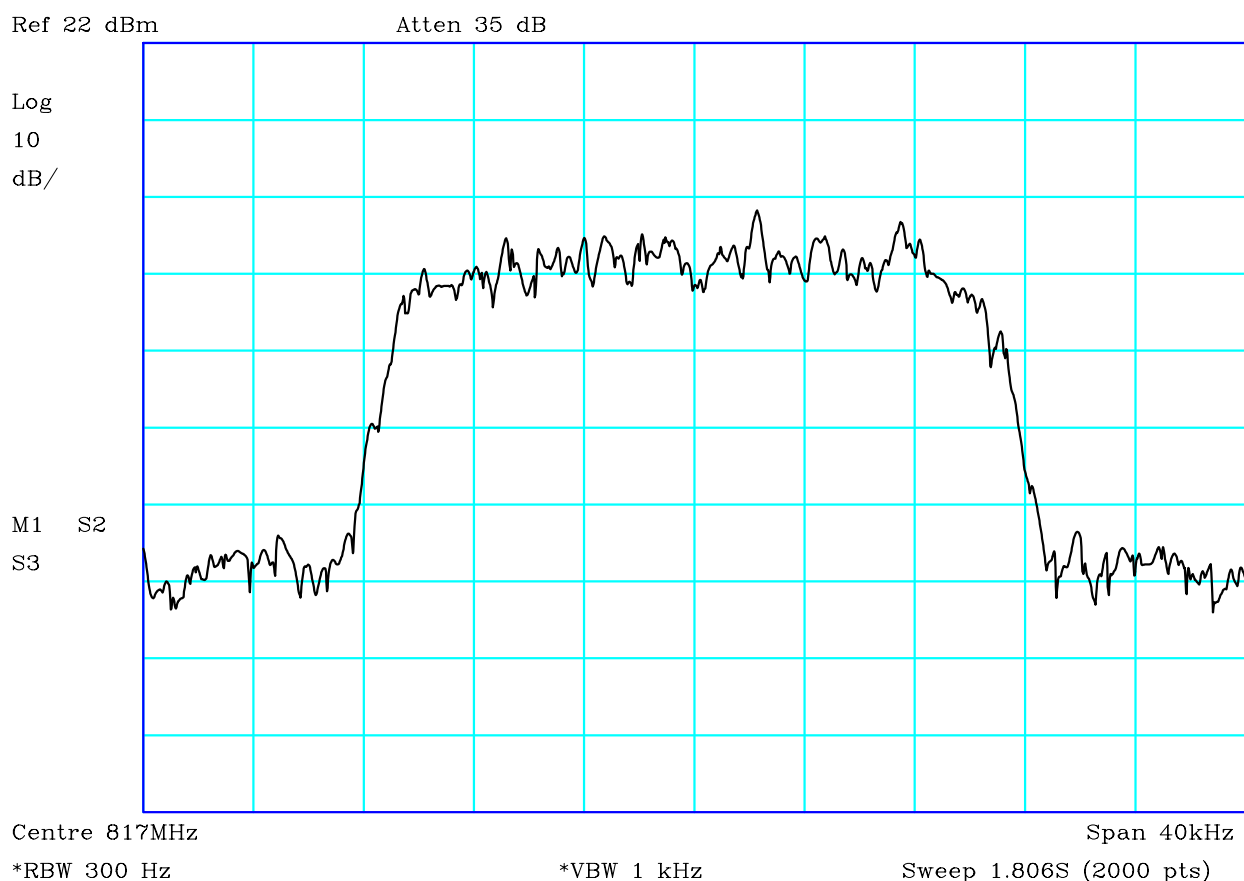


CF1:30dB PAD + cable

PLOT 4 Conducted Antenna Output Power (869MHz)

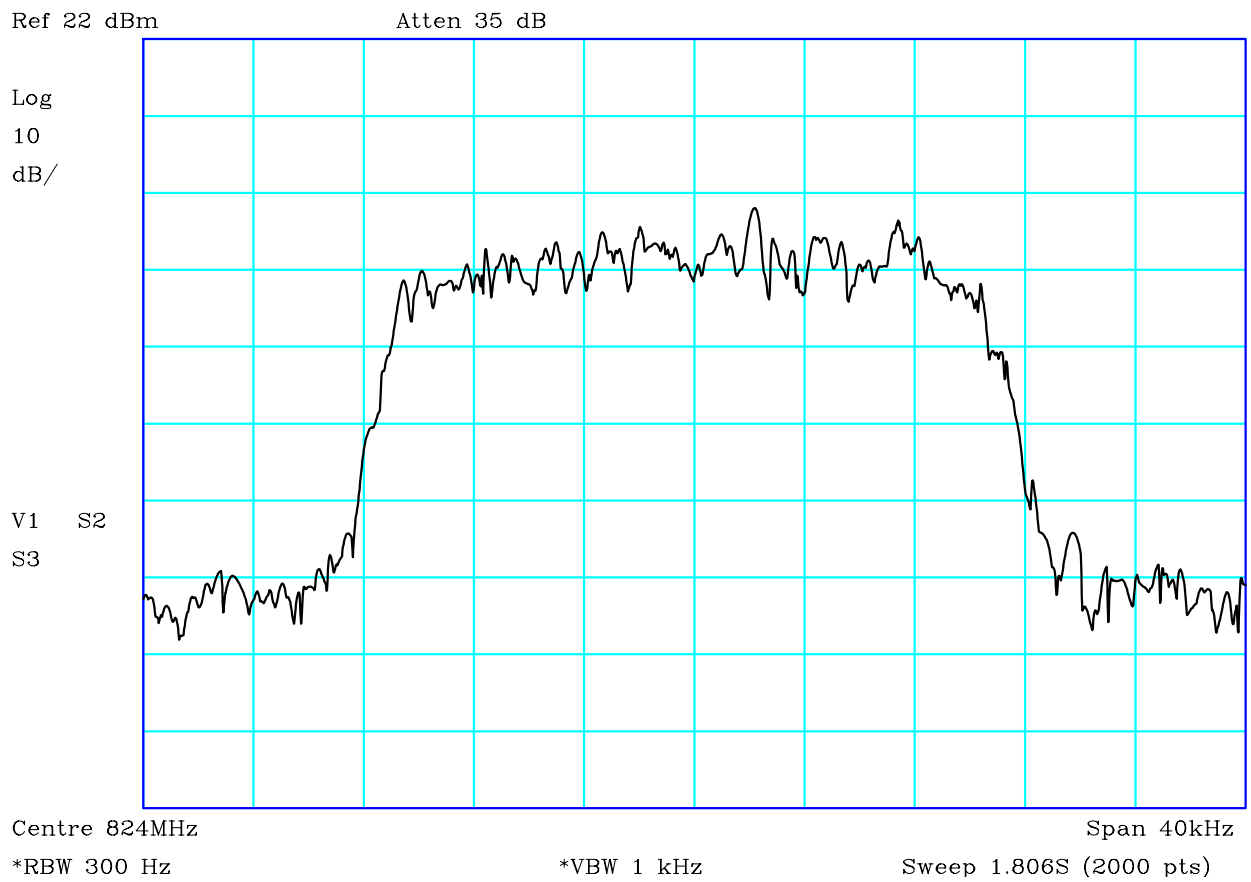
Company:	Sepura	Product:	SRG3500
Date:	06/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
Peak: 40.96 dBm Average (measured with power meter): 38.13 dBm			
Facility:	Anech_2	Mode:	1
		Modification State:	0
File:	H250676B		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 43 of 100




PLOT 5 Occupied Bandwidth (817MHz)

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
817MHz 99% Occupied bandwidth measurement: 21.03kHz			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H2525574		



PLOT 6 Occupied Bandwidth (824MHz)

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
824MHz 99% Occupied bandwidth measurement: 21.05kHz			

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 45 of 100

Ref 22 dBm

Atten 35 dB

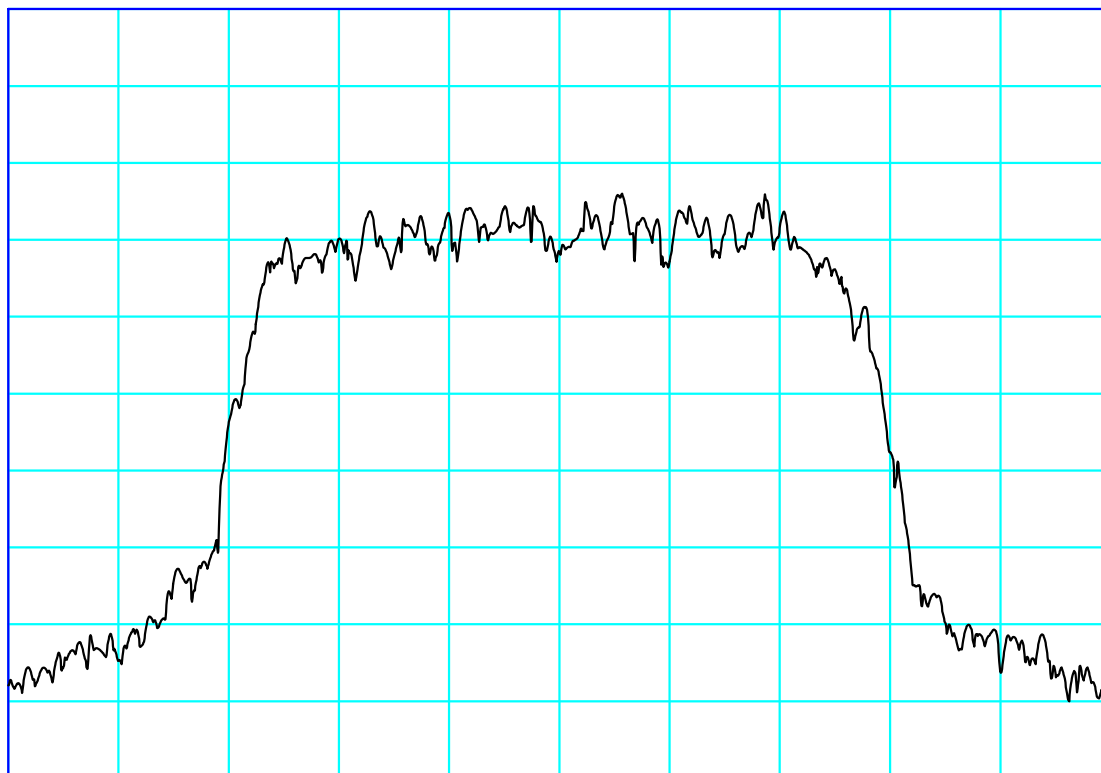
Log

10

dB/

V1 S2

S3



Centre 862MHz

Span 40kHz


*RBW 300 Hz

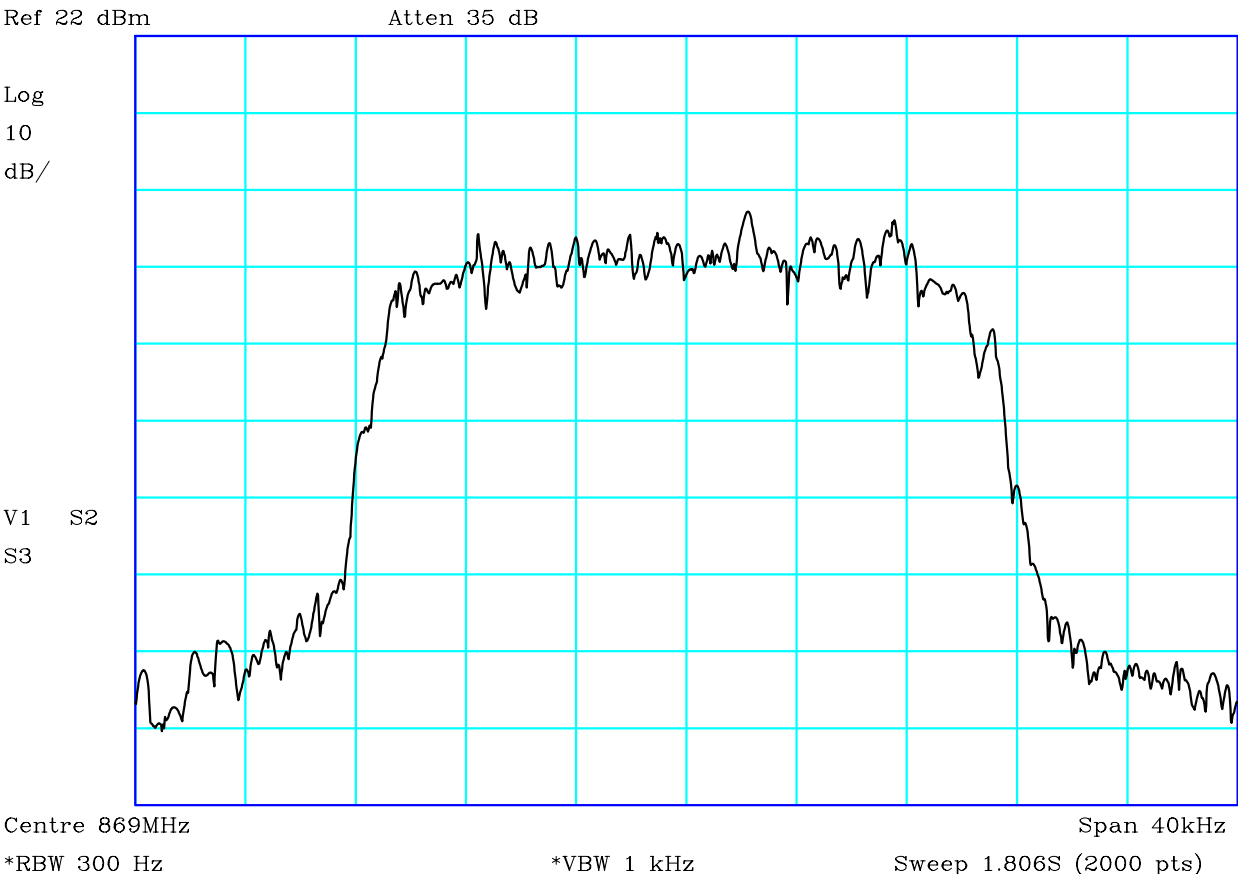
*VBW 1 kHz

Sweep 1.806S (2000 pts)

PLOT 7 Occupied Bandwidth (862MHz)

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
862MHz 99% Occupied bandwidth measurement: 20.89kHz			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H252558C		

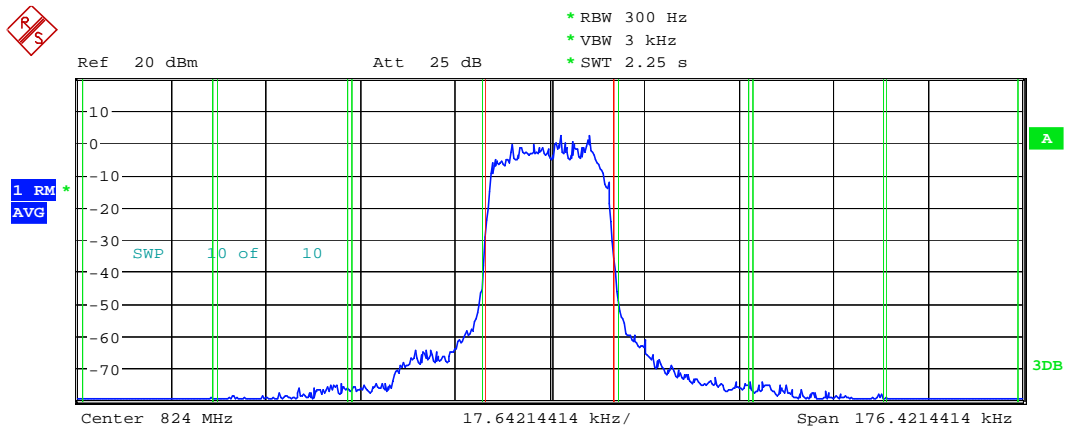
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 46 of 100



PLOT 8 Occupied Bandwidth (869MHz)

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	
869MHz 99% Occupied bandwidth measurement: 20.73kHz			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H2525595		

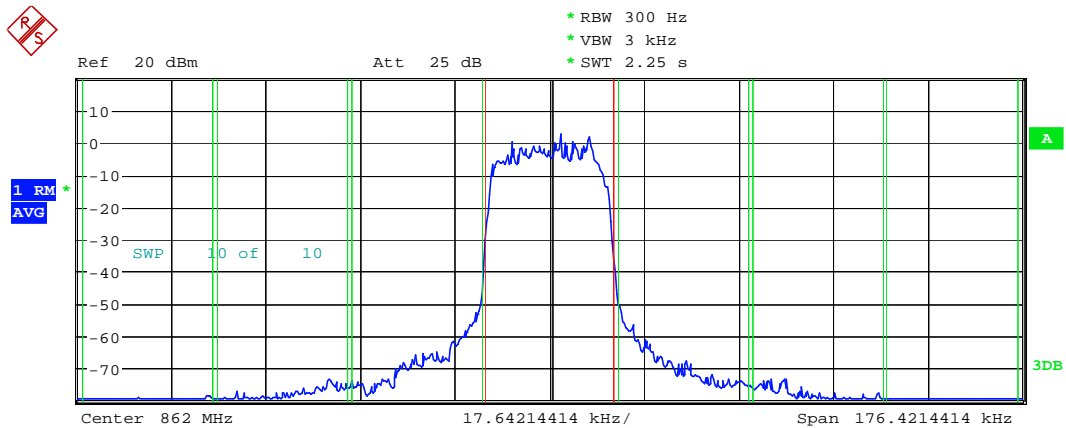




Tx Channel		TETRA	
Bandwidth	24.3 kHz	Power	14.87 dBm
Adjacent Channel		Lower	
Bandwidth	24.3 kHz		-63.98 dB
Spacing	25 kHz	Upper	
			-65.90 dB
Alternate Channel		Lower	
Bandwidth	24.3 kHz		-76.28 dB
Spacing	50 kHz	Upper	
			-75.97 dB
2nd Alternate Channel		Lower	
Bandwidth	24.3 kHz		-79.60 dB
Spacing	75 kHz	Upper	
			-79.61 dB

Date: 12.JUN.2012 13:22:10

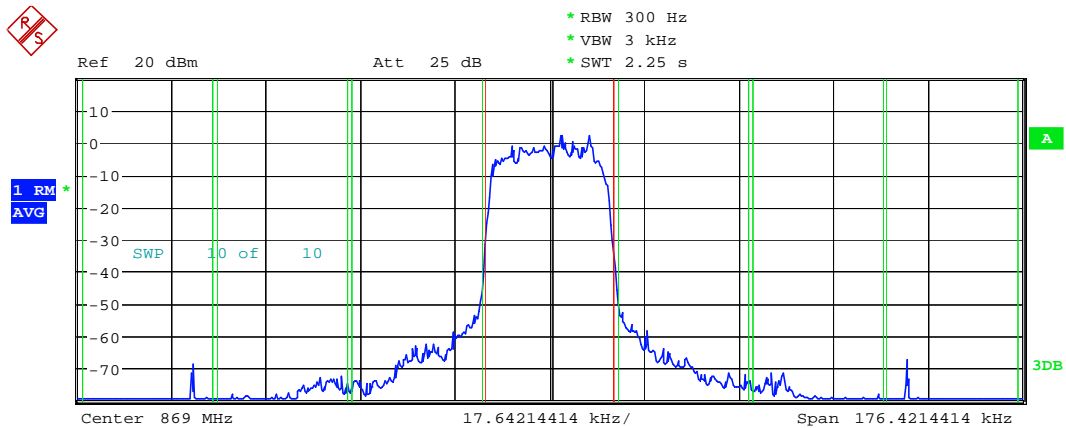
PLOT 10 Adjacent Channel Power (824MHz)



Tx Channel		TETRA	
Bandwidth	24.3 kHz	Power	14.82 dBm
Adjacent Channel		Lower	
Bandwidth	24.3 kHz		-63.63 dB
Spacing	25 kHz	Upper	
			-64.23 dB
Alternate Channel		Lower	
Bandwidth	24.3 kHz		-75.52 dB
Spacing	50 kHz	Upper	
			-75.46 dB
2nd Alternate Channel		Lower	
Bandwidth	24.3 kHz		-79.38 dB
Spacing	75 kHz	Upper	
			-79.36 dB

Date: 12.JUN.2012 13:24:12

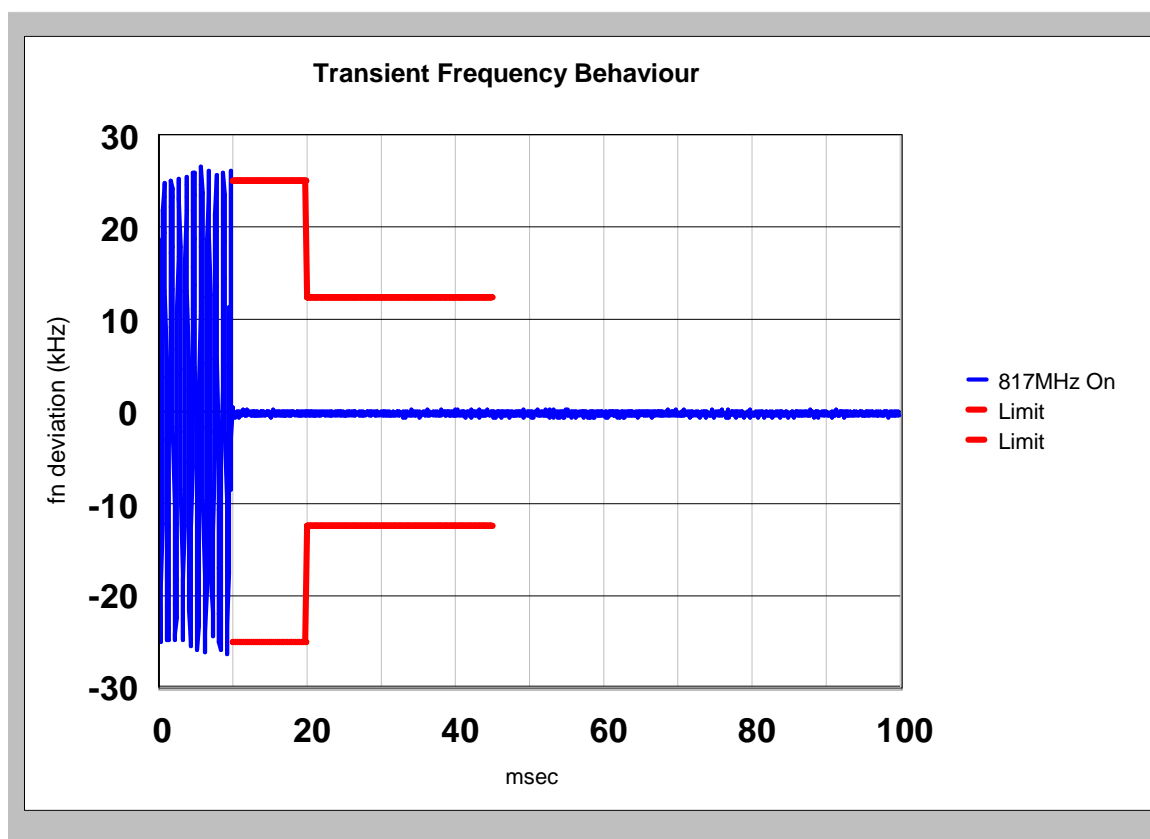
PLOT 11 Adjacent Channel Power (862MHz)



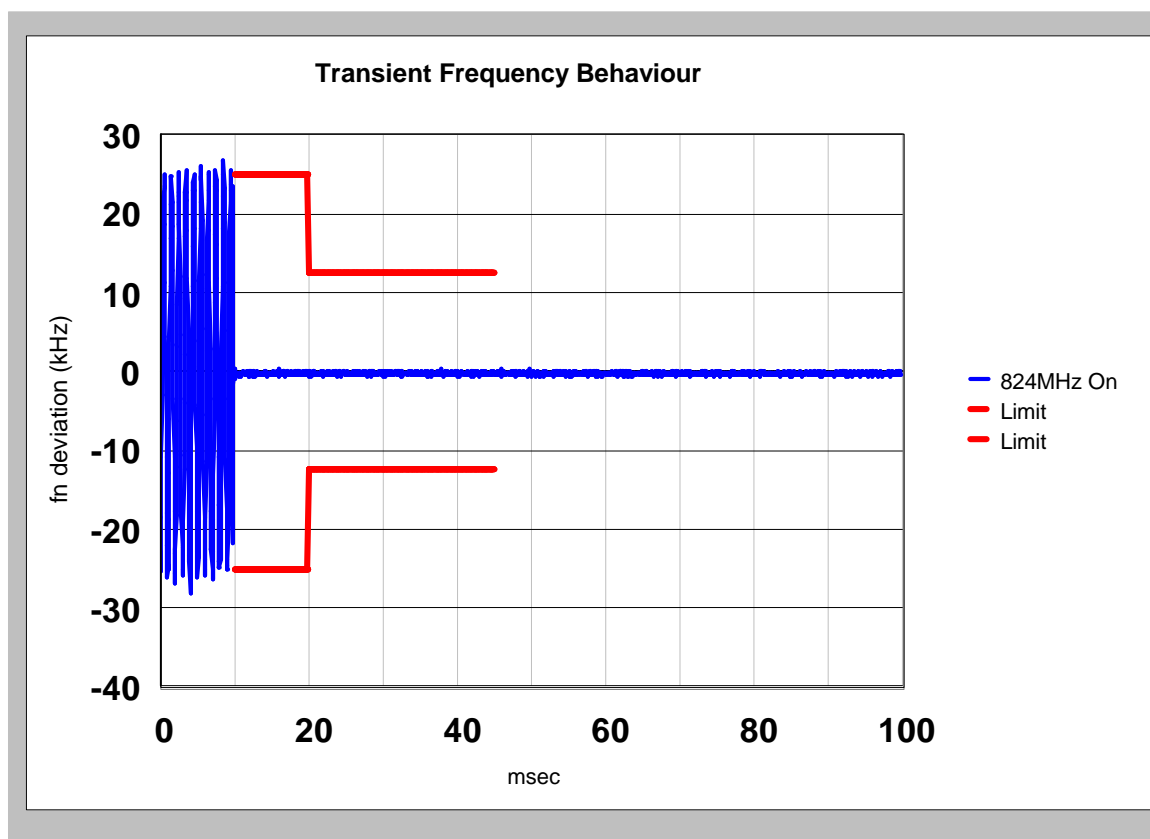
Tx Channel		TETRA	
Bandwidth	24.3 kHz	Power	15.04 dBm
Adjacent Channel		Lower	
Bandwidth	24.3 kHz		-62.57 dB
Spacing	25 kHz	Upper	
			-63.56 dB
Alternate Channel		Lower	
Bandwidth	24.3 kHz		-75.59 dB
Spacing	50 kHz	Upper	
			-75.61 dB
2nd Alternate Channel		Lower	
Bandwidth	24.3 kHz		-78.51 dB
Spacing	75 kHz	Upper	
			-78.31 dB

Date: 12.JUN.2012 13:24:50

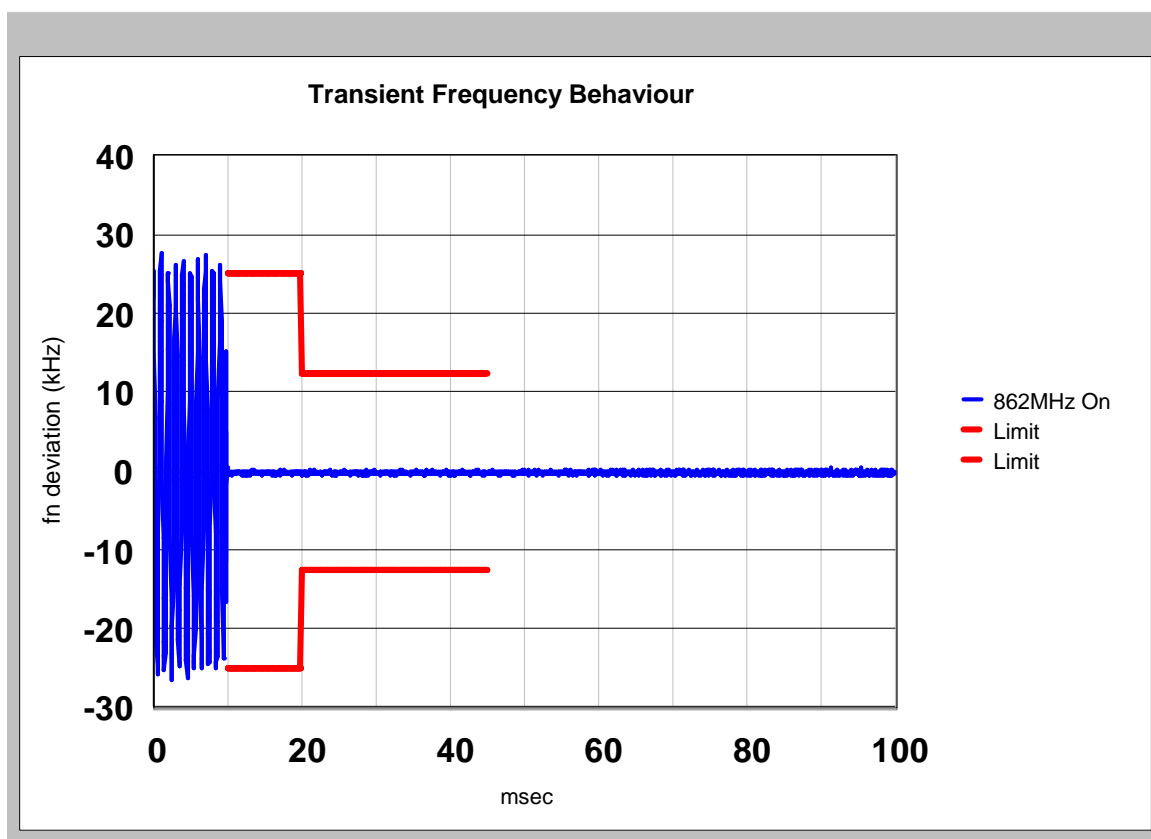
PLOT 12 Adjacent Channel Power (869MHz)



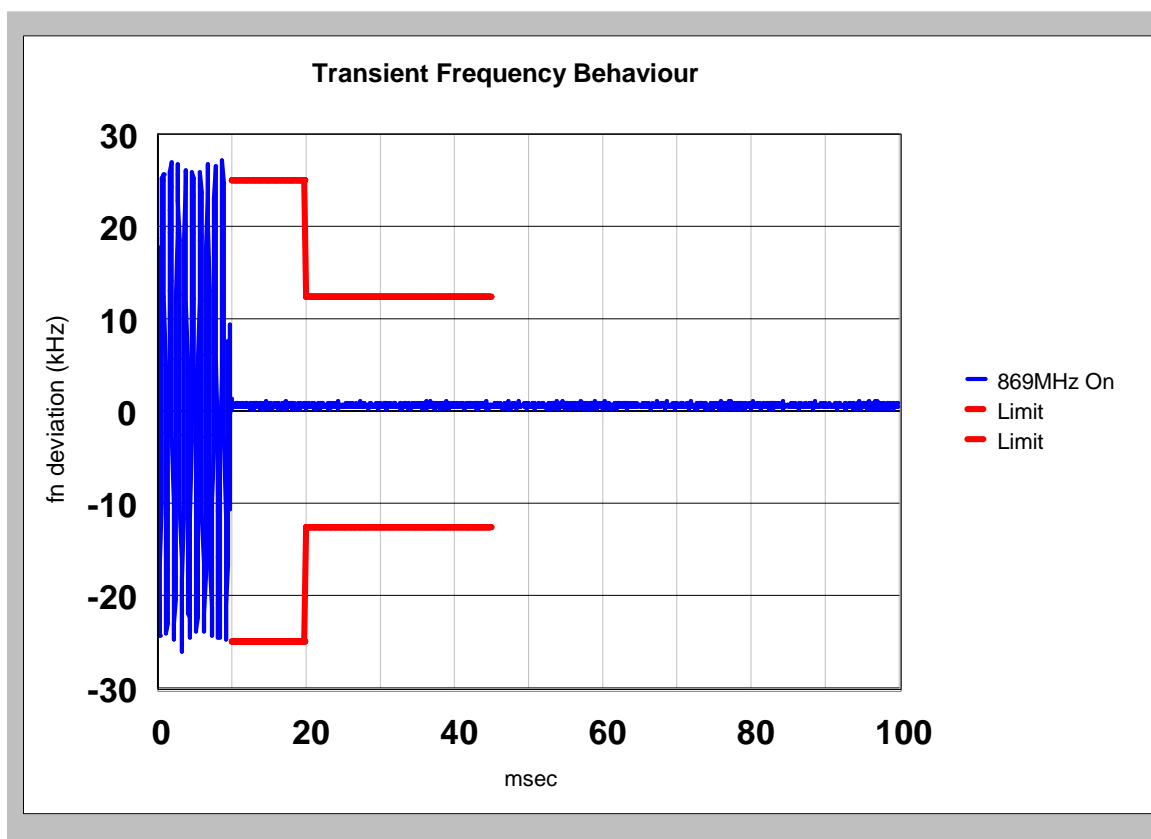
PLOT 13 Transient Frequency - 817MHz - On



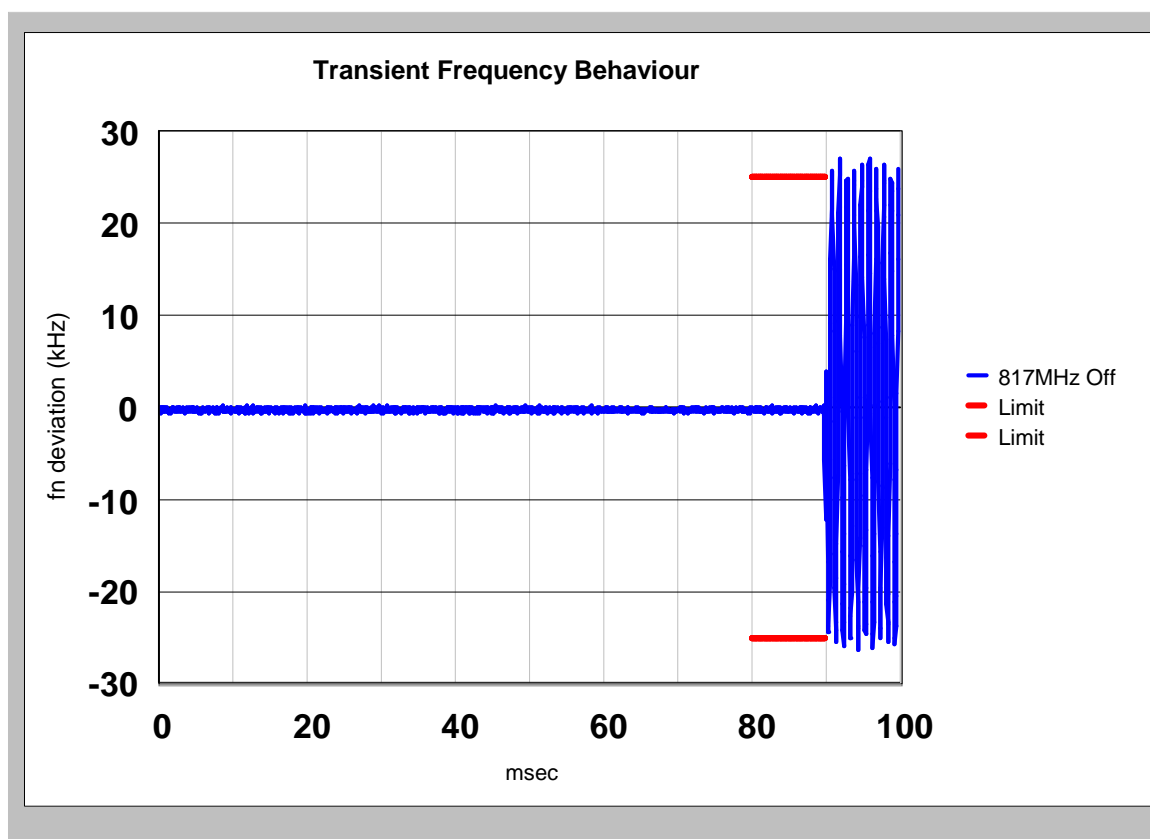
PLOT 14 Transient Frequency - 824MHz - On



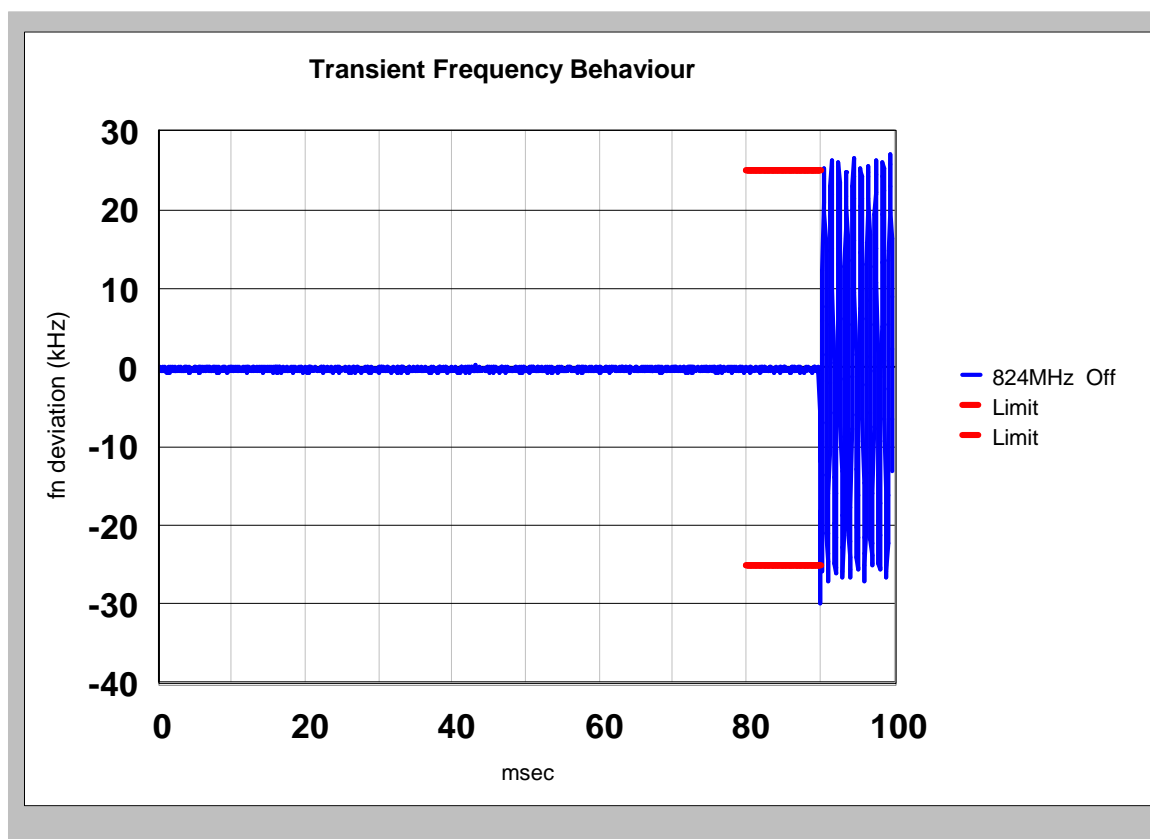
PLOT 15 Transient Frequency - 862MHz - On



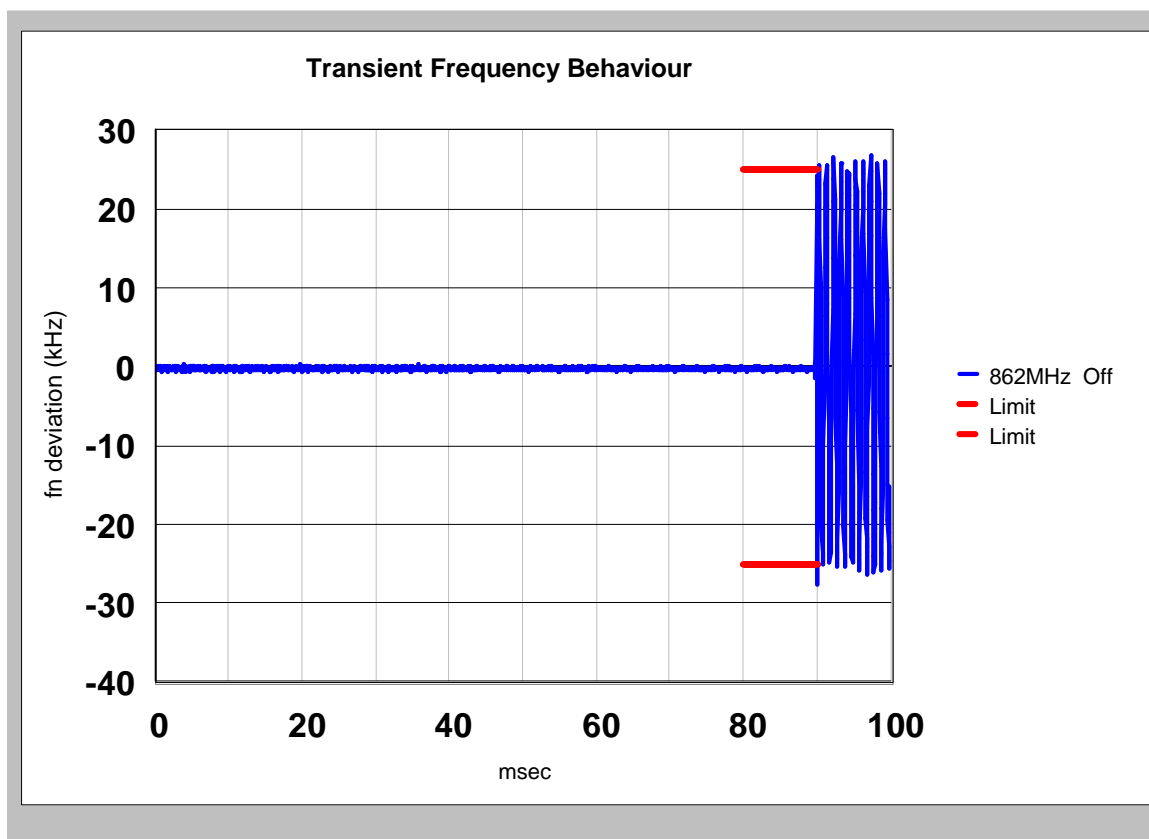
PLOT 16 Transient Frequency - 869MHz - On



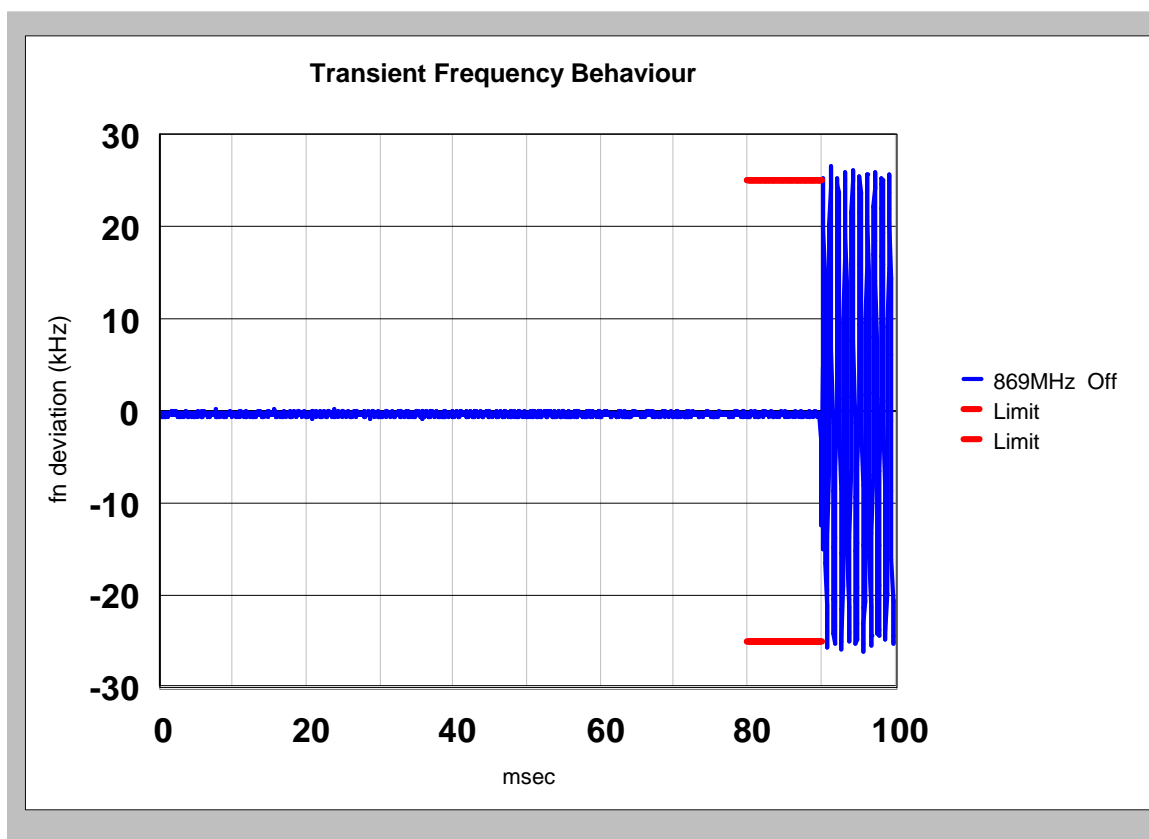
PLOT 17 Transient Frequency - 817MHz - Off




PLOT 18 Transient Frequency - 824MHz - Off

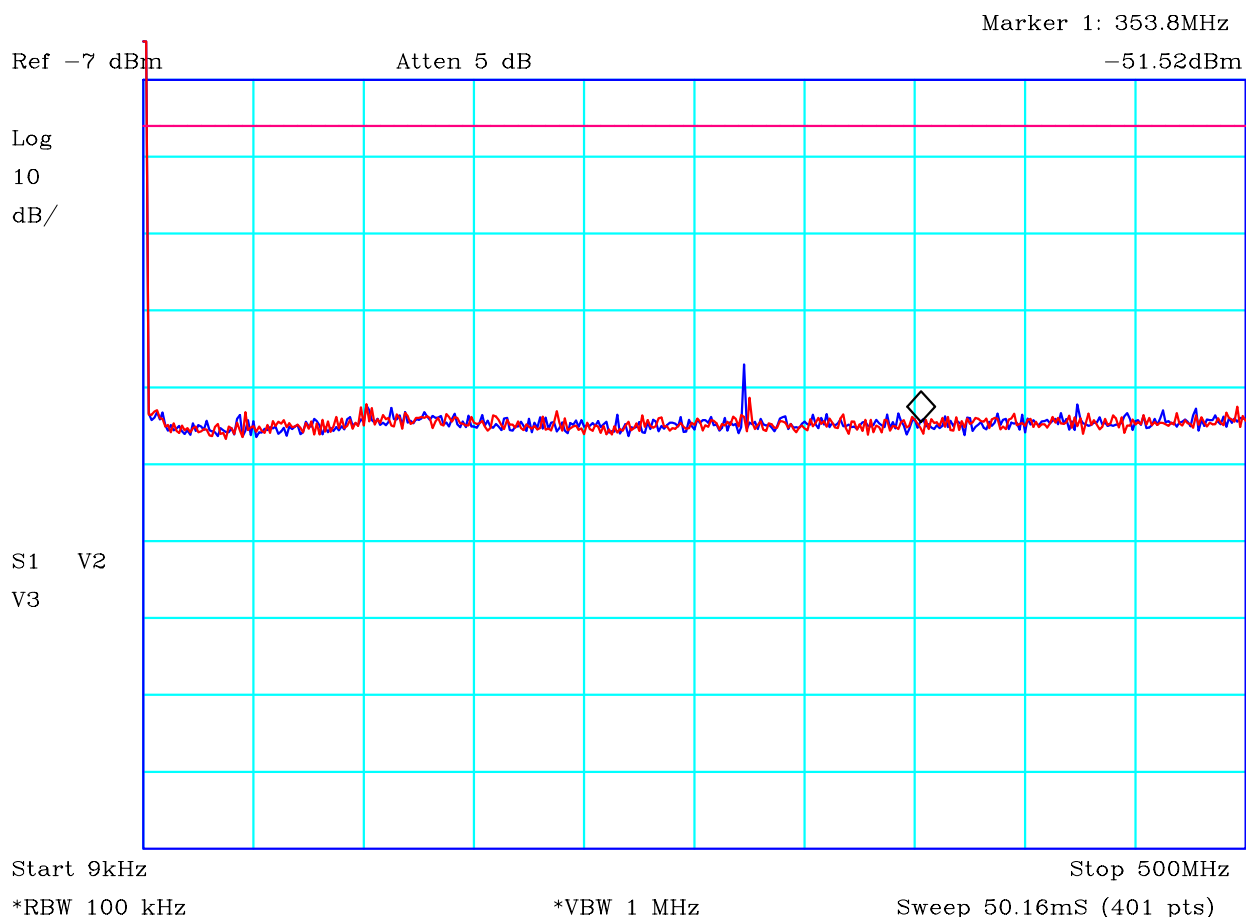


PLOT 19 Transient Frequency - 862MHz - Off



PLOT 20 Transient Frequency - 869MHz - Off


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 55 of 100

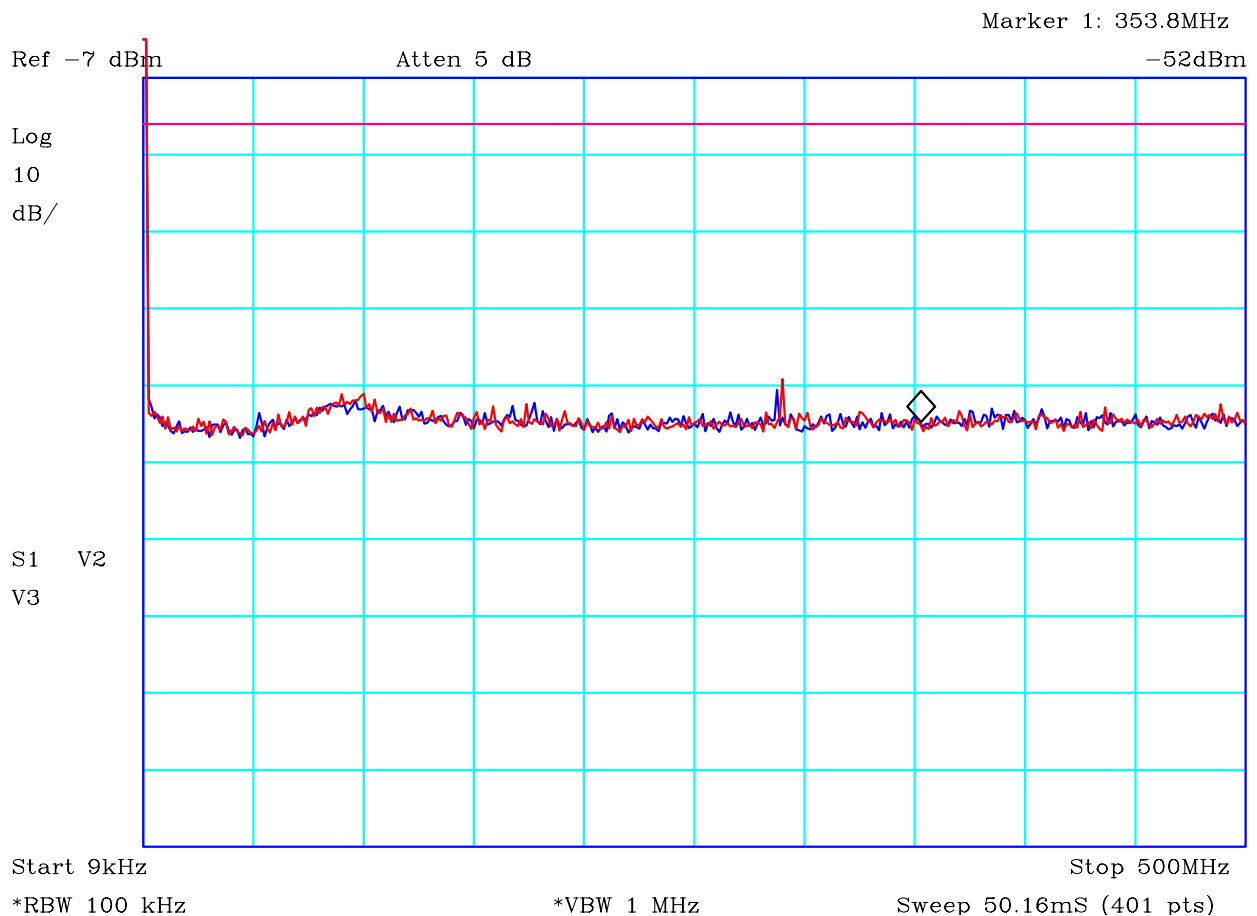


CF1:30dB pad + cable CF2:RFF17_110221

PLOT 21 Antenna Conducted Spur Emissions - 817 to 824 Band - 9kHz to 500MHz

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 817MHz Red 824MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H25076E6		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 56 of 100

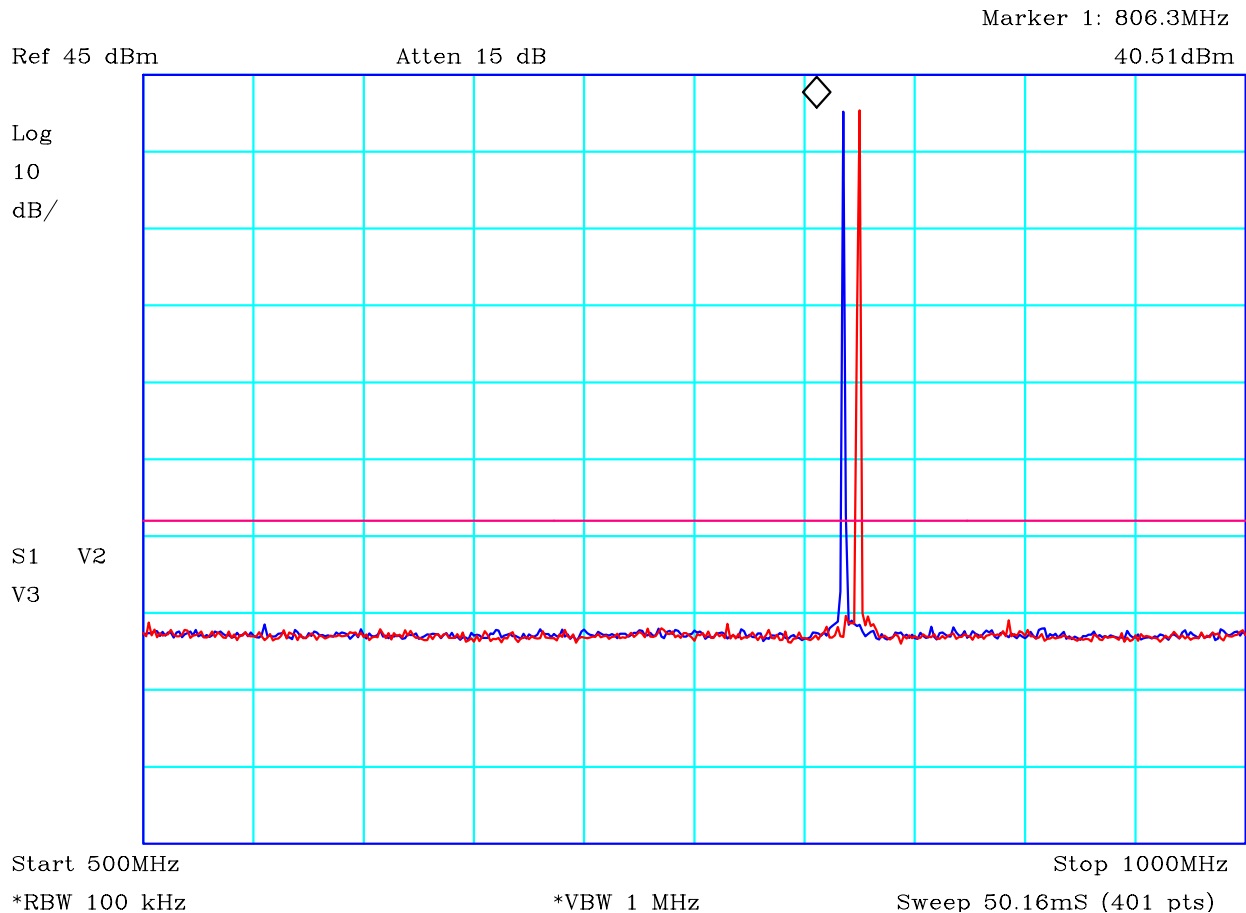


CF1:30dB pad + cable CF2:RFF17_110221

PLOT 22 Antenna Conducted Spur Emissions - 862 to 869 Band - 9kHz to 500MHz

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 862MHz Red 869MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H25076F1		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 57 of 100

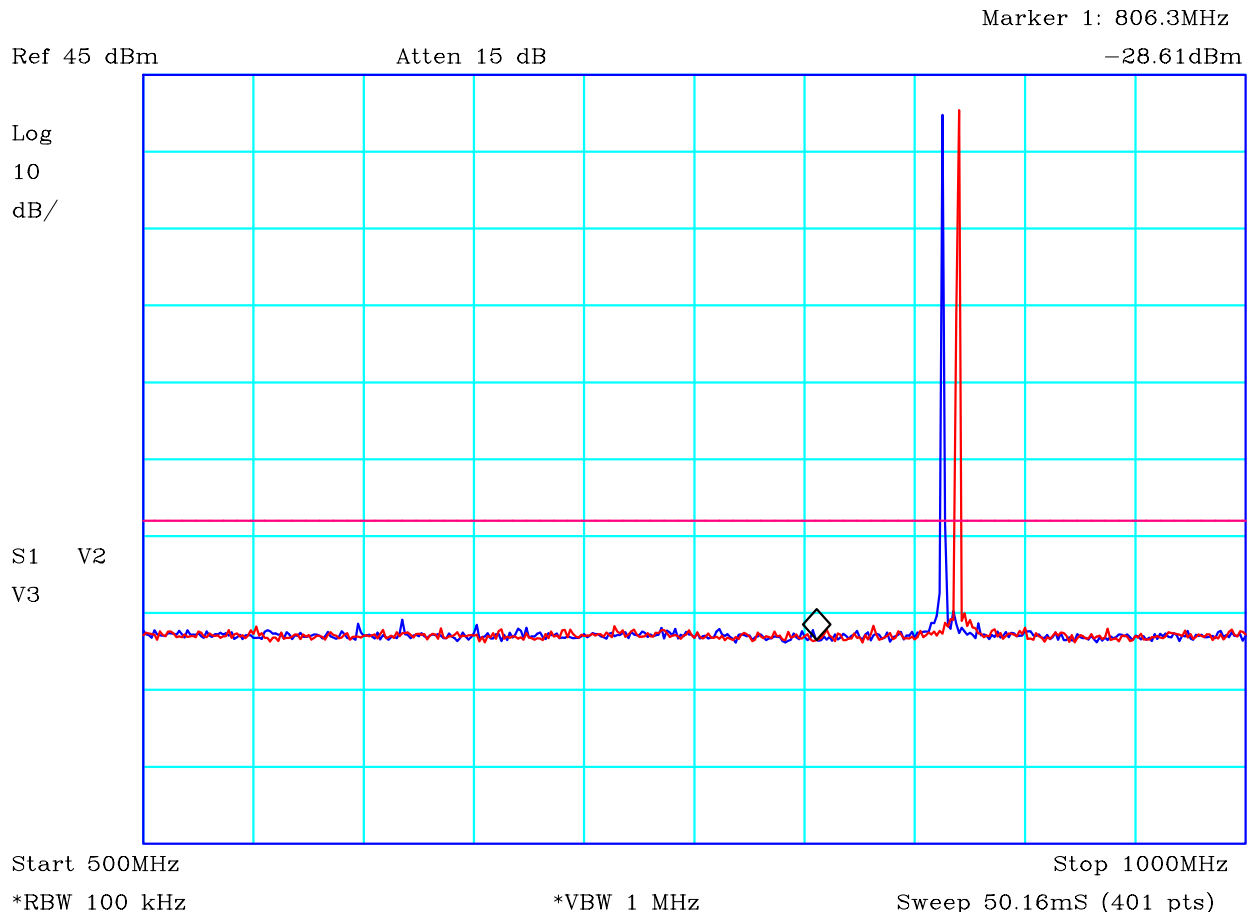


CF1:30dB pad + cable

PLOT 23 Antenna Conducted Spur Emissions - 817 to 824 Band - 500MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 817MHz Red 824MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H250771E		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 58 of 100

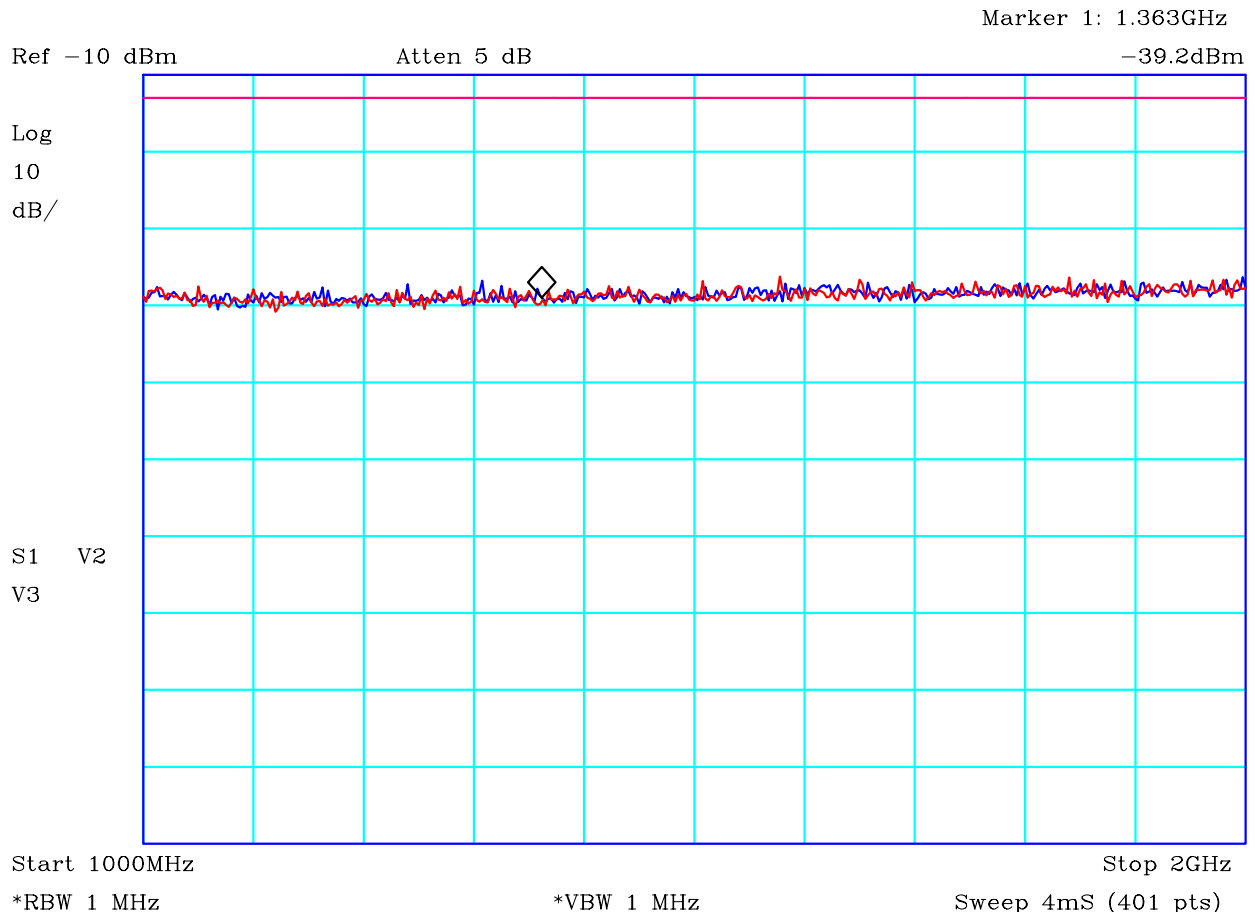


CF1:30dB pad + cable

PLOT 24 Antenna Conducted Spur Emissions - 862 to 869 Band - 500MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 862MHz Red 869MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H2507724		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 59 of 100

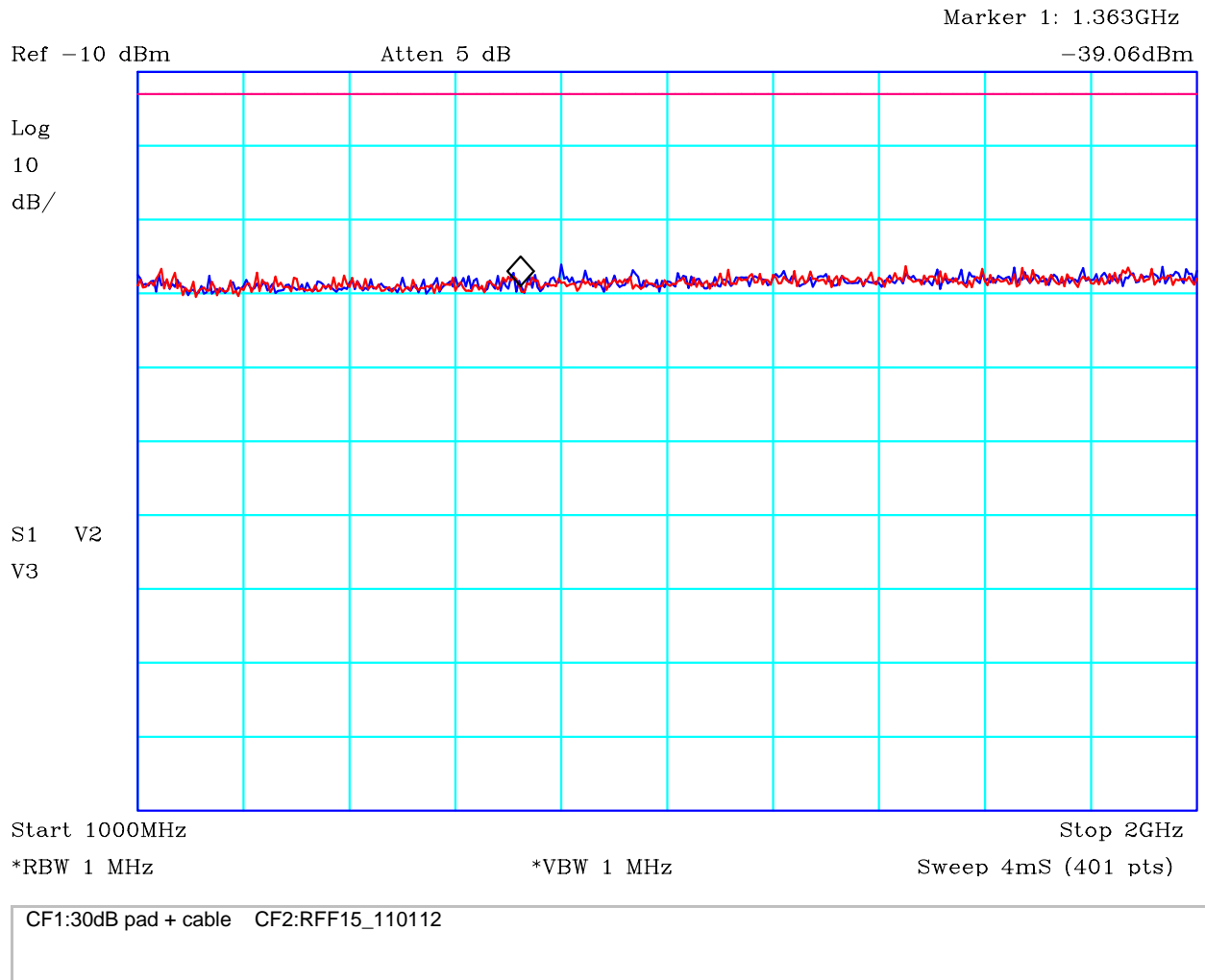


CF1:30dB pad + cable CF2:RFF15_110112

PLOT 25 Antenna Conducted Spur Emissions - 817 to 824 Band - 1GHz to 2GHz


Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 817MHz Red 824MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H250777A		

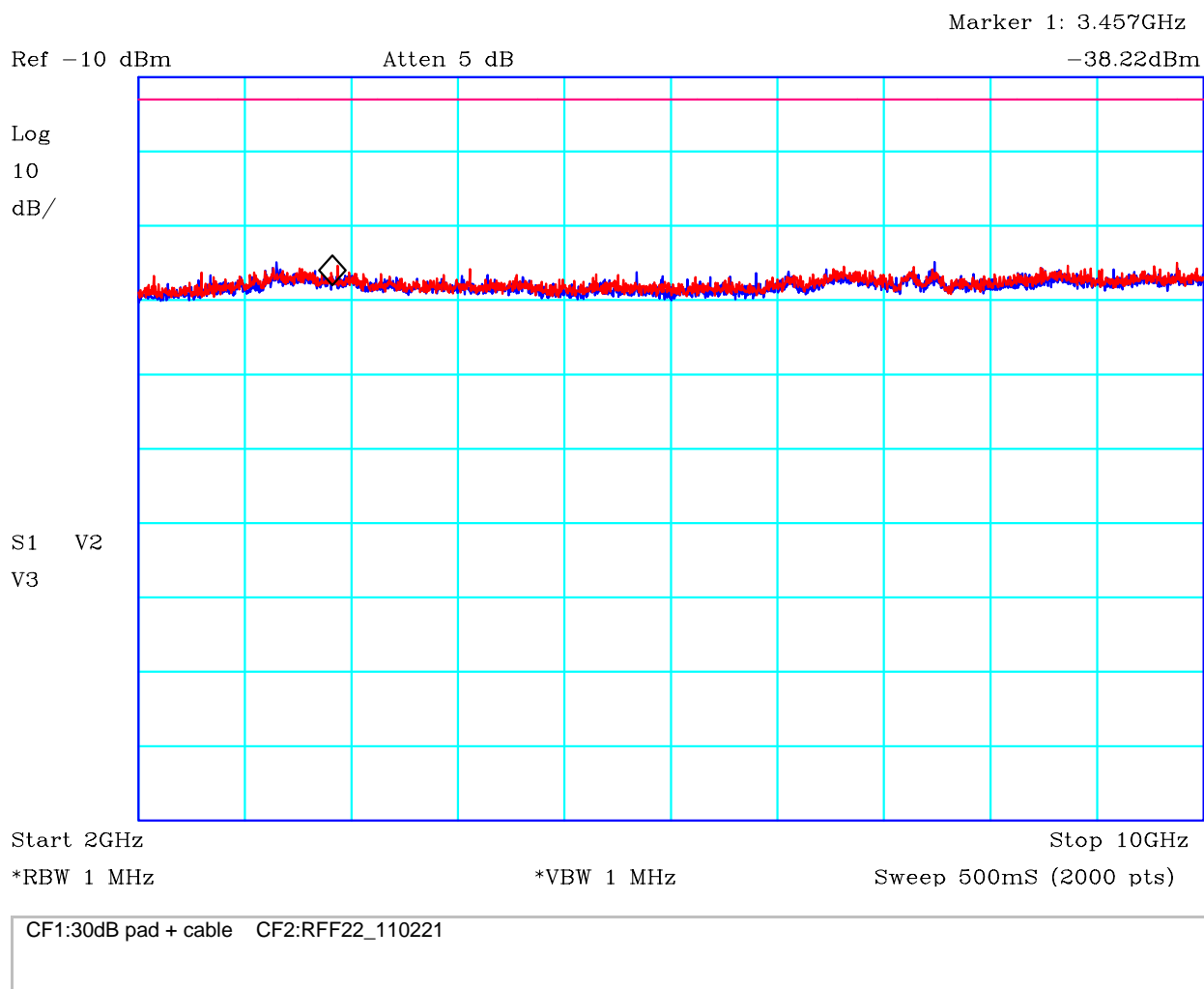
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 60 of 100



PLOT 26 Antenna Conducted Spur Emissions - 862 to 869 Band - 1GHz to 2GHz


Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 862MHz Red 869MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H2507781		

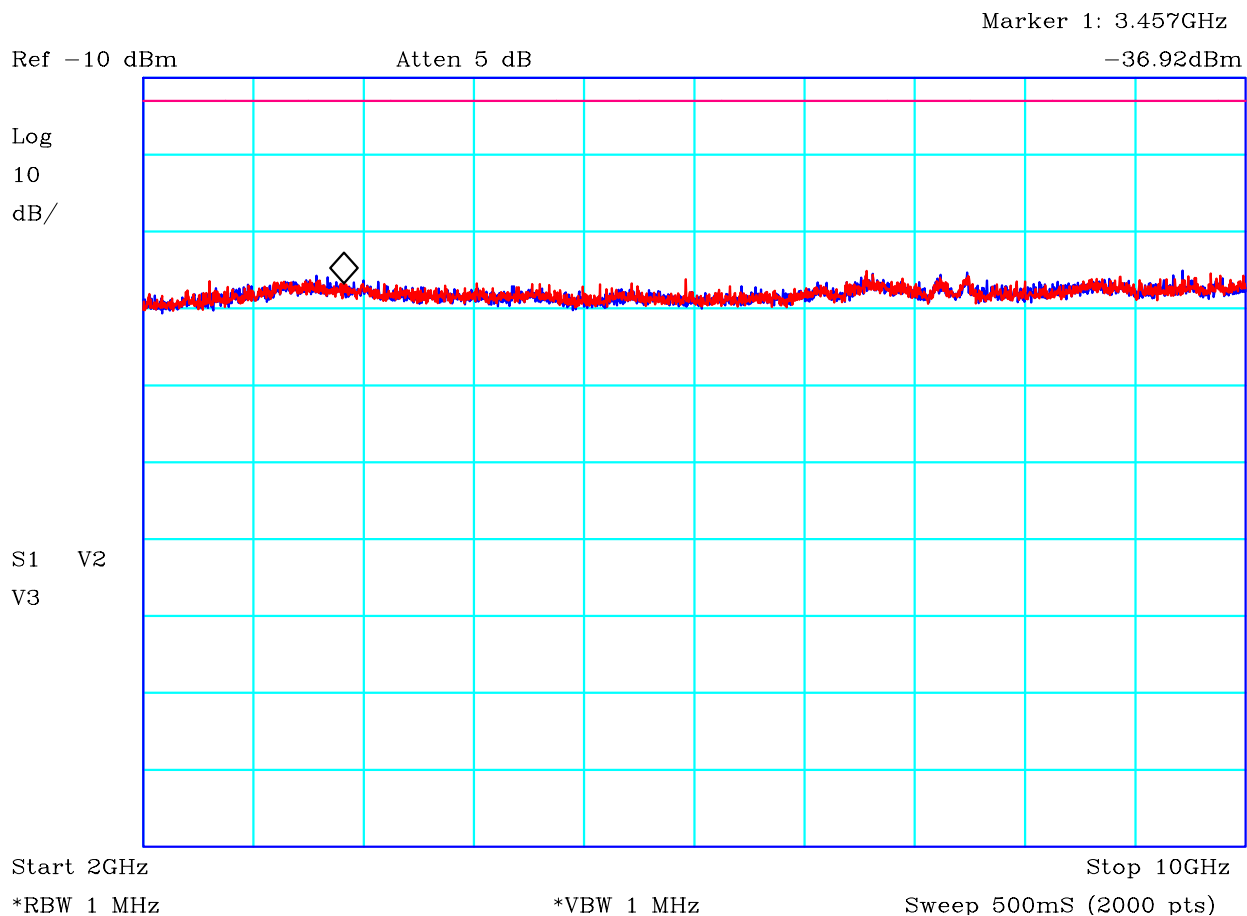
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 61 of 100



PLOT 27 Antenna Conducted Spur Emissions - 817 to 824 Band - 2GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 817MHz Red 824MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H25077B8		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 62 of 100

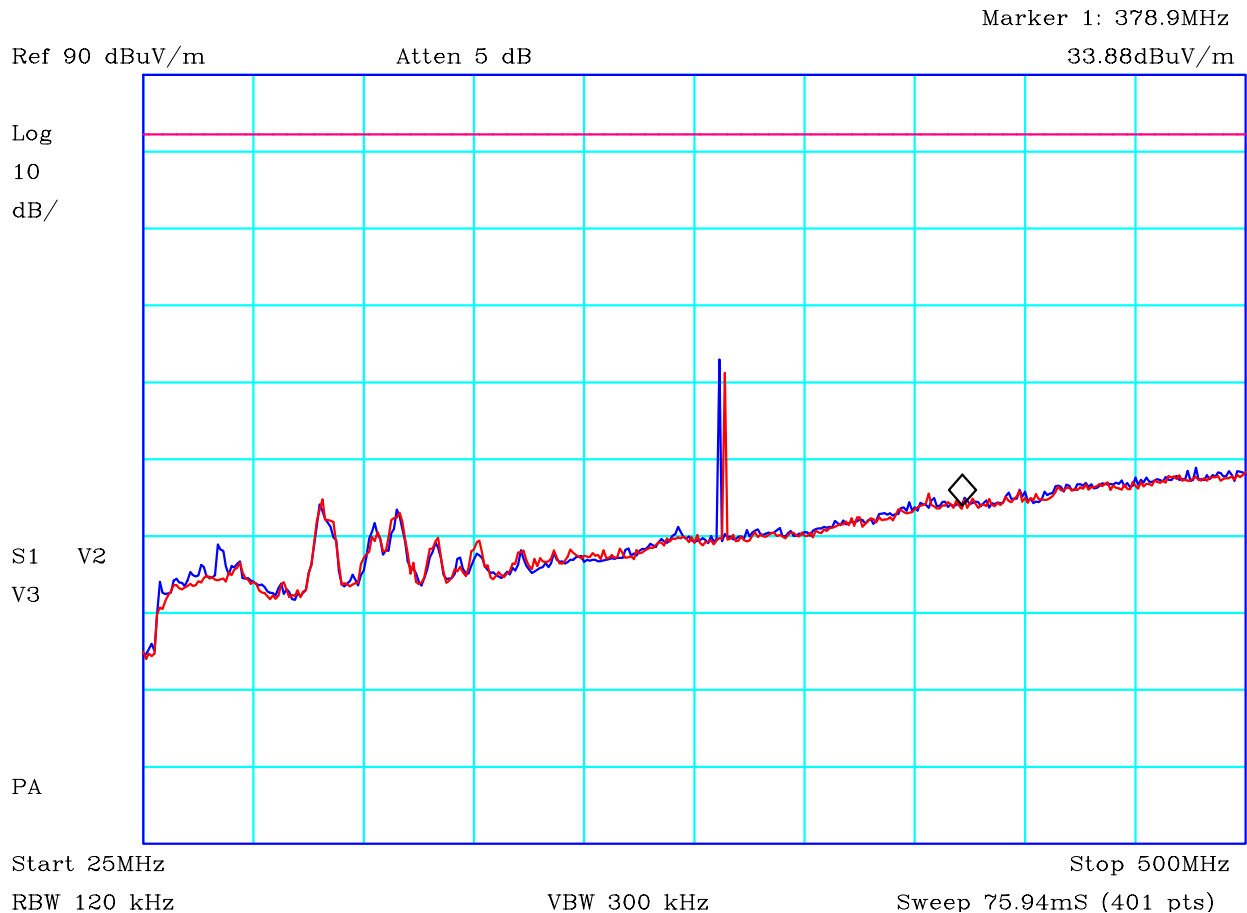


CF1:30dB pad + cable CF2:RFF22_110221

PLOT 28 Antenna Conducted Spur Emissions - 862 to 869 Band - 2GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	07/06/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	-13dBm	Limit2:	
Limit3:		Limit4:	
Blue: 862MHz Red 869MHz Limit -13dBm			
Facility:	Environ	Mode:	1
		Modification State:	0
File:	H25077C1		

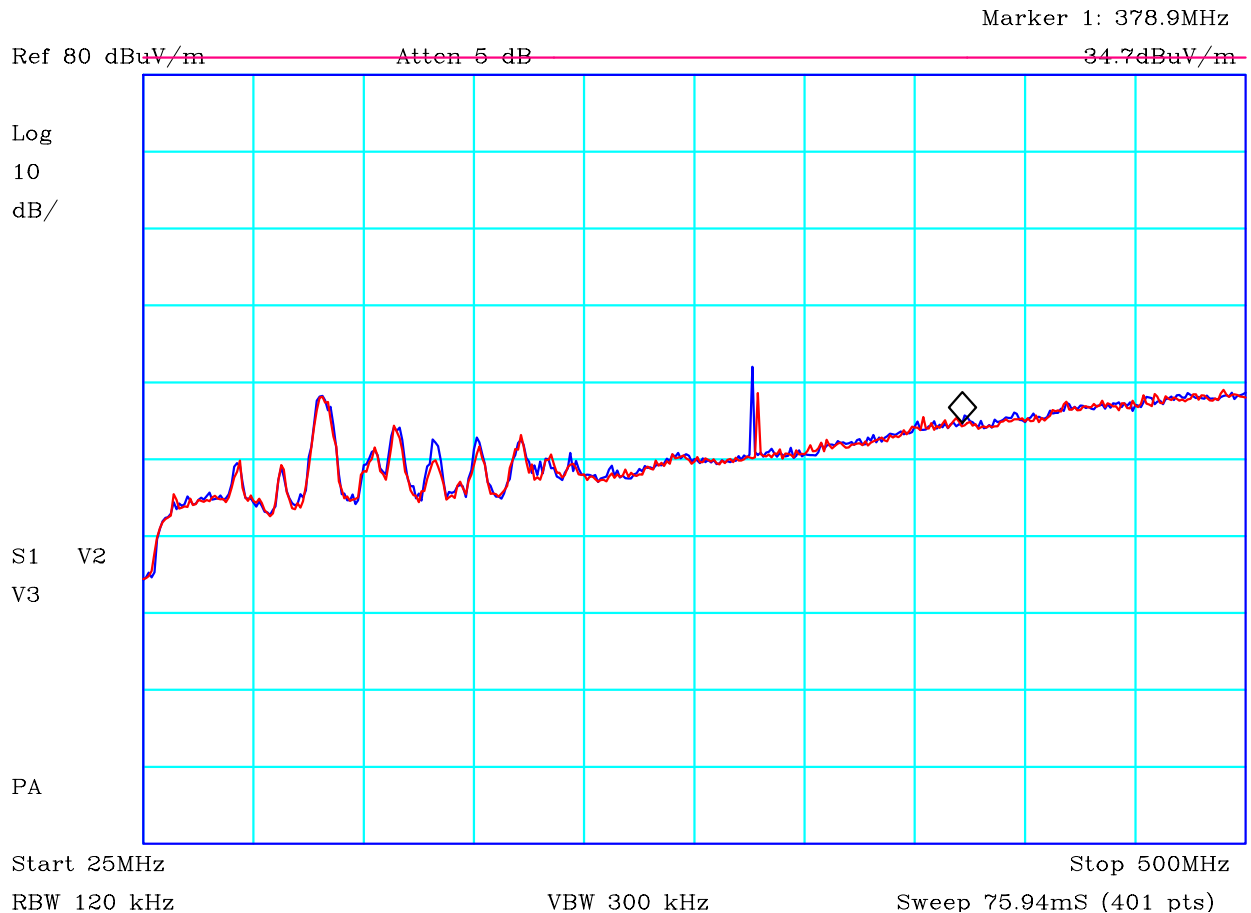
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 63 of 100



CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF17_110221

PLOT 29 Radiated Emissions - Config 1 - 817 - 824 band Tx - 25MHz to 500MHz


Company:	Sepura	Product:	SRG3500
Date:	18/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
Config 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 817MHz Red 824MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1.5
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H2418559
Mode:	1	Modification State:	0

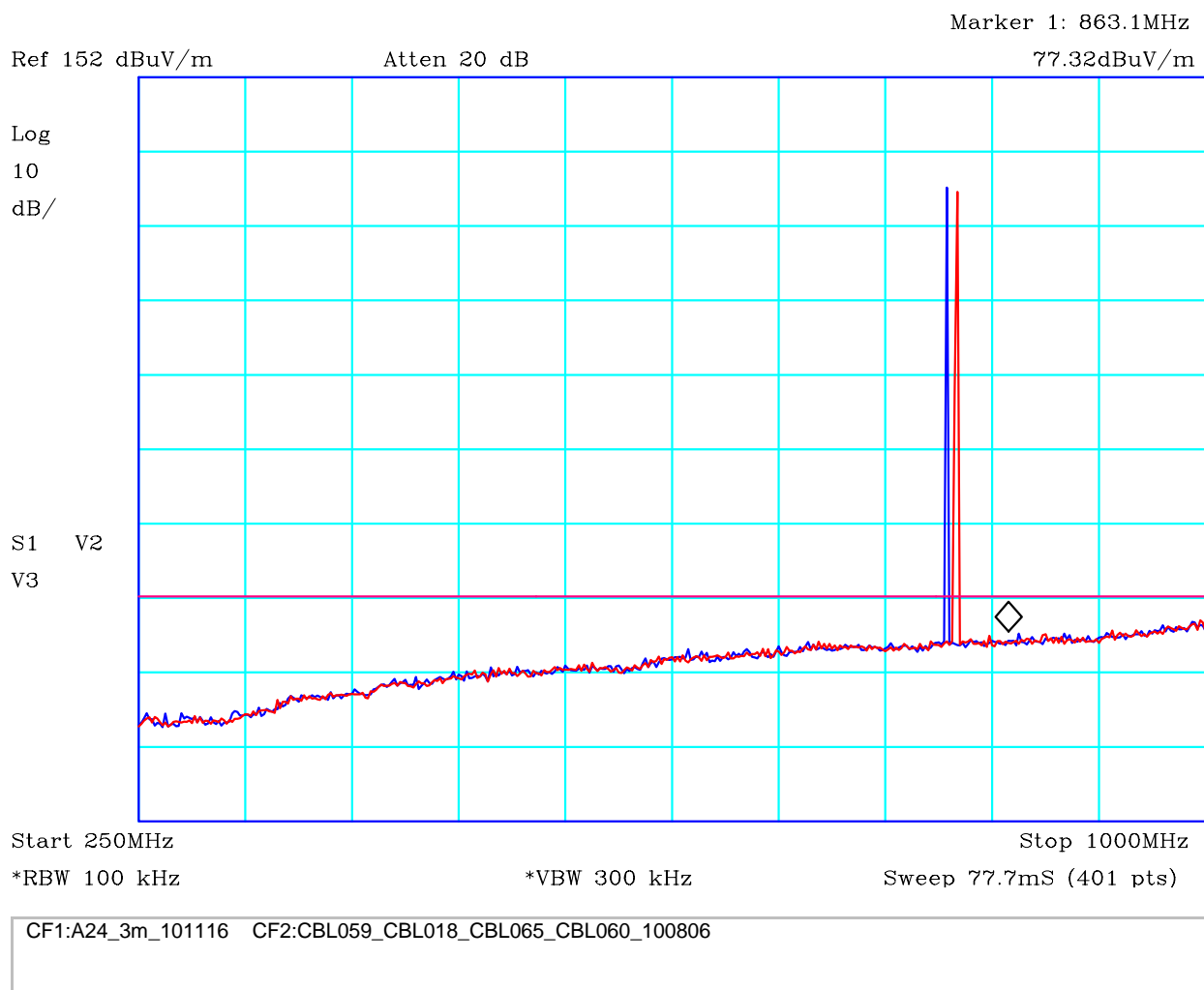


CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF17_110221

PLOT 30 Radiated Emissions - Config 1 - 862 - 869 band Tx - 25MHz to 500MHz

Company:	Sepura	Product:	SRG3500
Date:	18/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
Config 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1.5
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H2418577
		Mode:	1
		Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 65 of 100




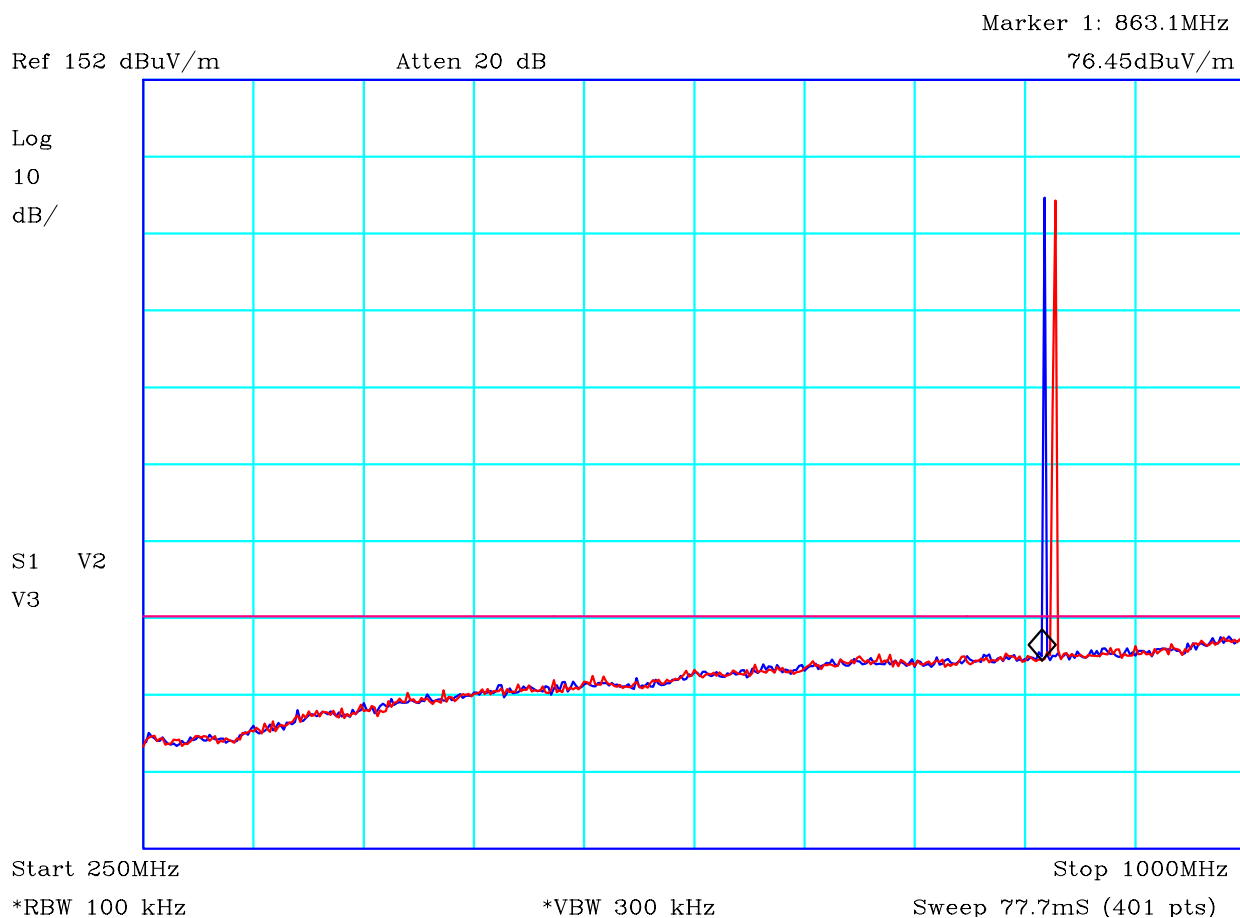
PLOT 31 Radiated Emissions - Config 1 - 817 - 824 band Tx - 250MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Configuration 1
 Transmit mode. Maximum of both horizontal and vertical.
 Blue: 817MHz
 Red 824MHz
 Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24157A3		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 66 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806

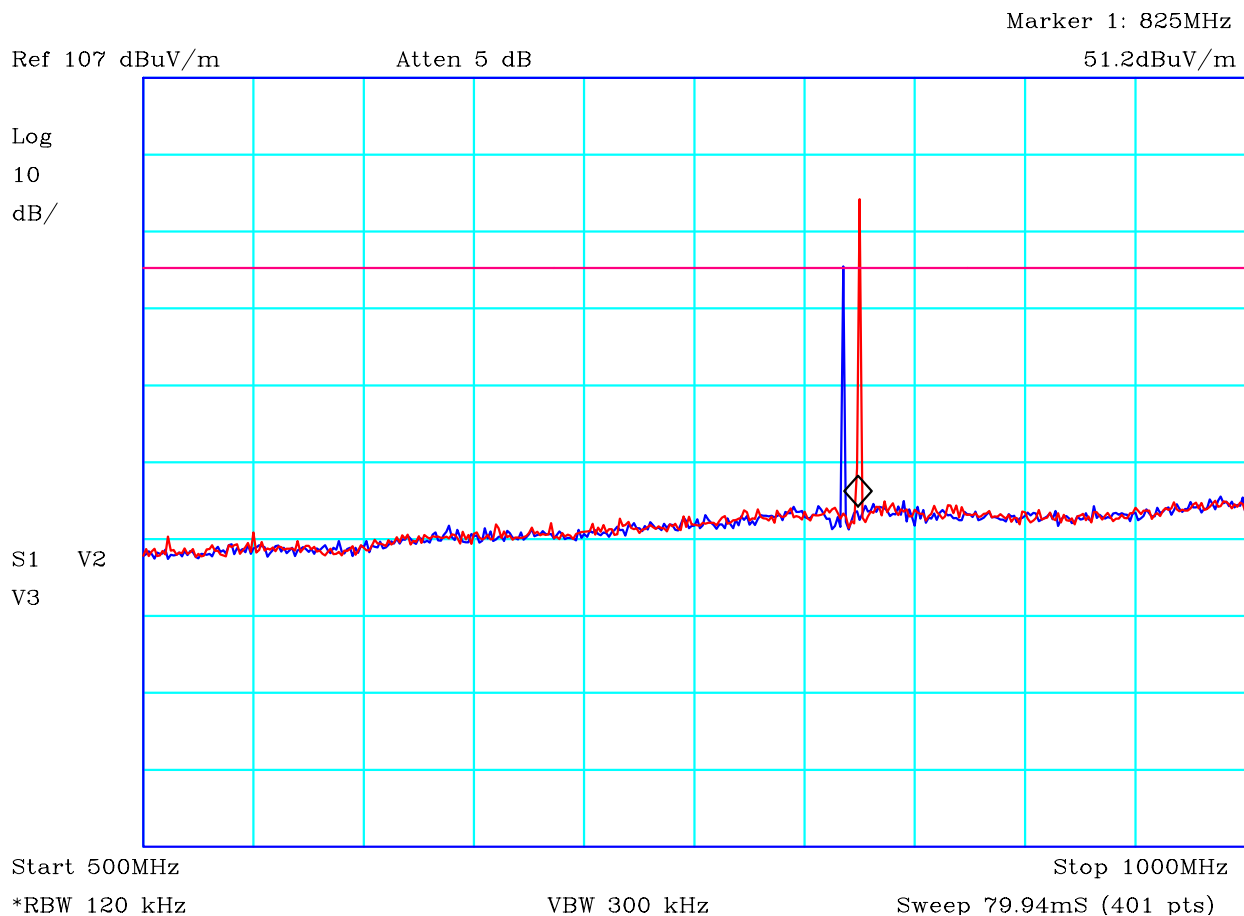
PLOT 32 Radiated Emissions - Config 1 - 862 - 869 band Tx - 250MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Configuration 1
Transmit mode. Maximum of both horizontal and vertical.
Blue: 862MHz
Red 869MHz
Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24157EE		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 67 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF16_110112

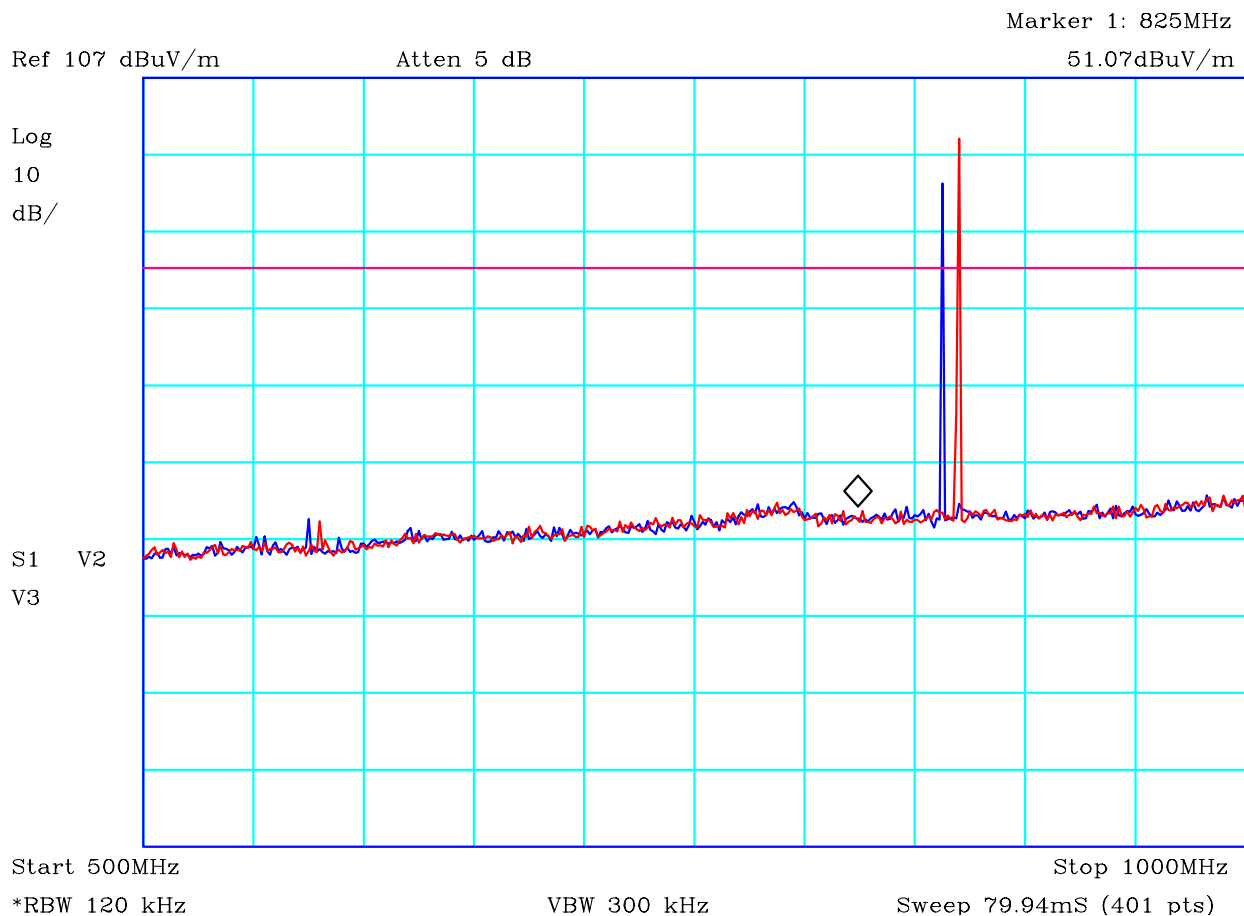
PLOT 33 Radiated Emissions - Config 1 - 817 - 824 band Tx - 500MHz to 1GHz - with notch filter

Company:	Sepura	Product:	SRG3500
Date:	18/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Config 1. Using notch filter.
Transmit mode. Maximum of both horizontal and vertical.
Blue: 817MHz
Red 824MHz
Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24185C8		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 68 of 100

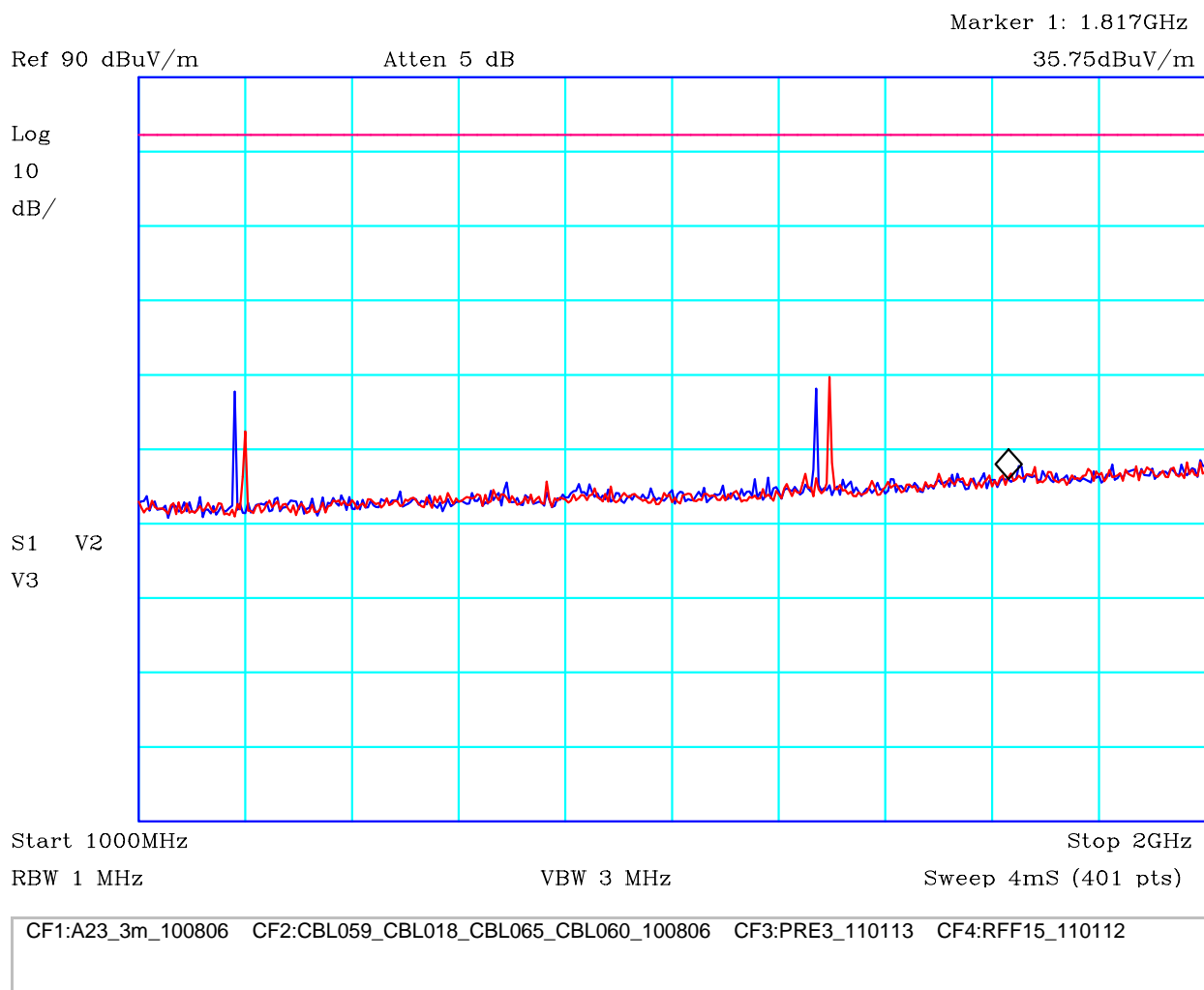


CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF16_110112

PLOT 34 Radiated Emissions - Config 1 - 862 - 869 band Tx - 500MHz to 1GHz - with notch filter


Company:	Sepura	Product:	SRG3500
Date:	18/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
Config 1. Using notch filter. Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1.5
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H24185EA
		Mode:	1
		Modification State:	0

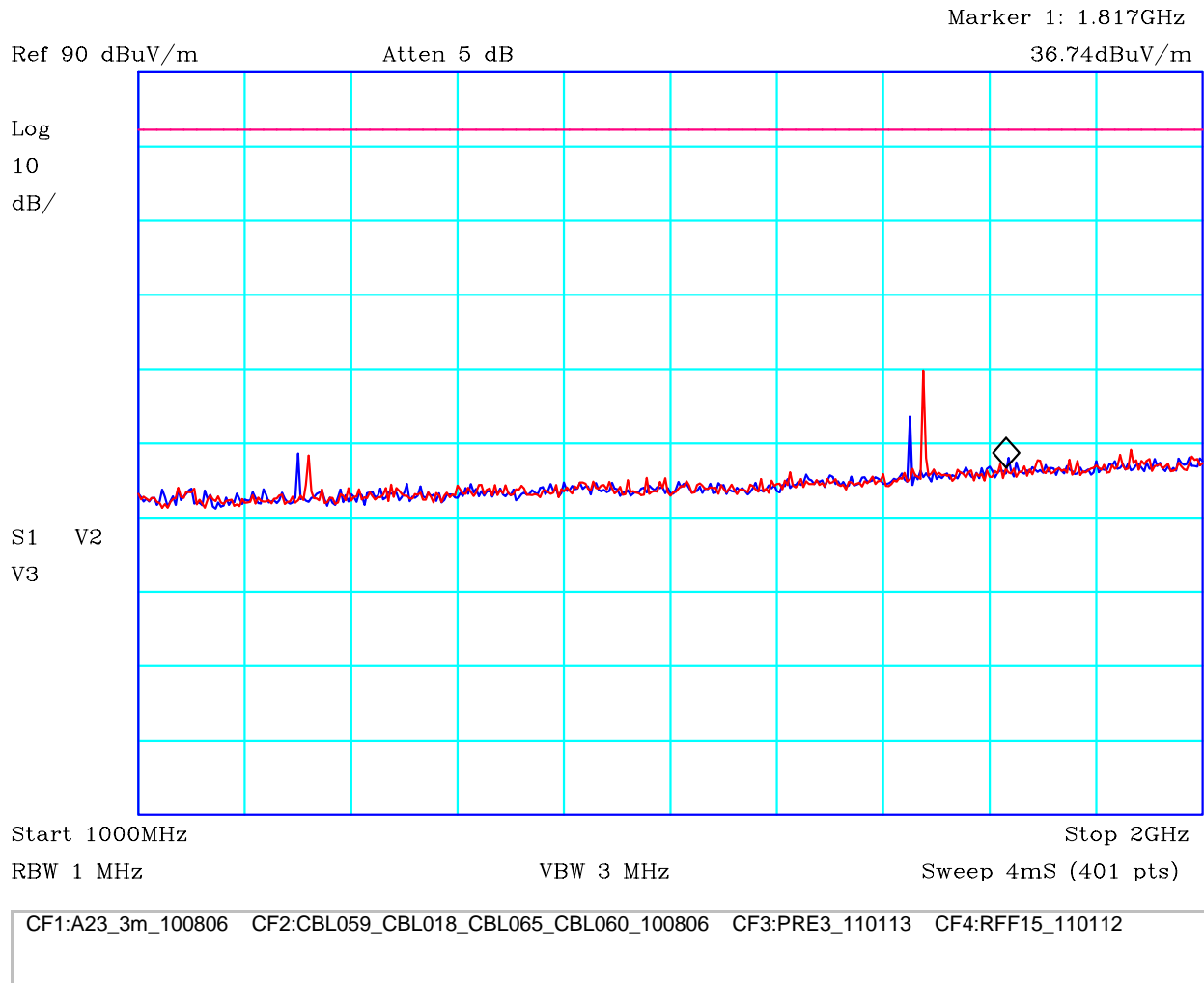
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 69 of 100



PLOT 35 Radiated Emissions - Config 1 - 817 - 824 band Tx - 1GHz to 2GHz


Company:	Sepura	Product:	SRG3500
Date:	21/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 817MHz Red 824MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H2421804
Mode:	1	Modification State:	0

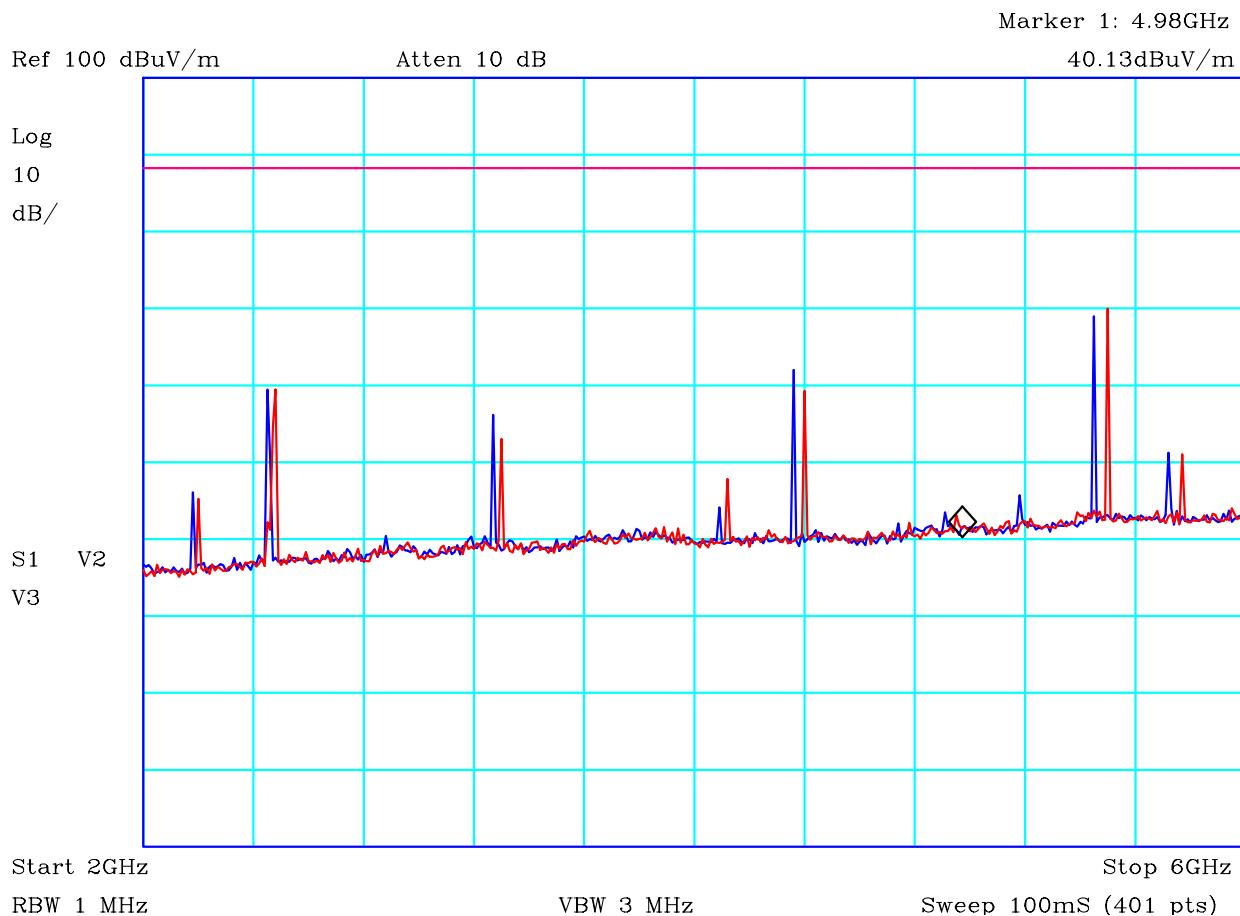
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 70 of 100



PLOT 36 Radiated Emissions - Config 1 - 862 - 869 band Tx - 1GHz to 2GHz

Company:	Sepura	Product:	SRG3500
Date:	22/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H24223CB
Mode:	1	Modification State:	0


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 71 of 100

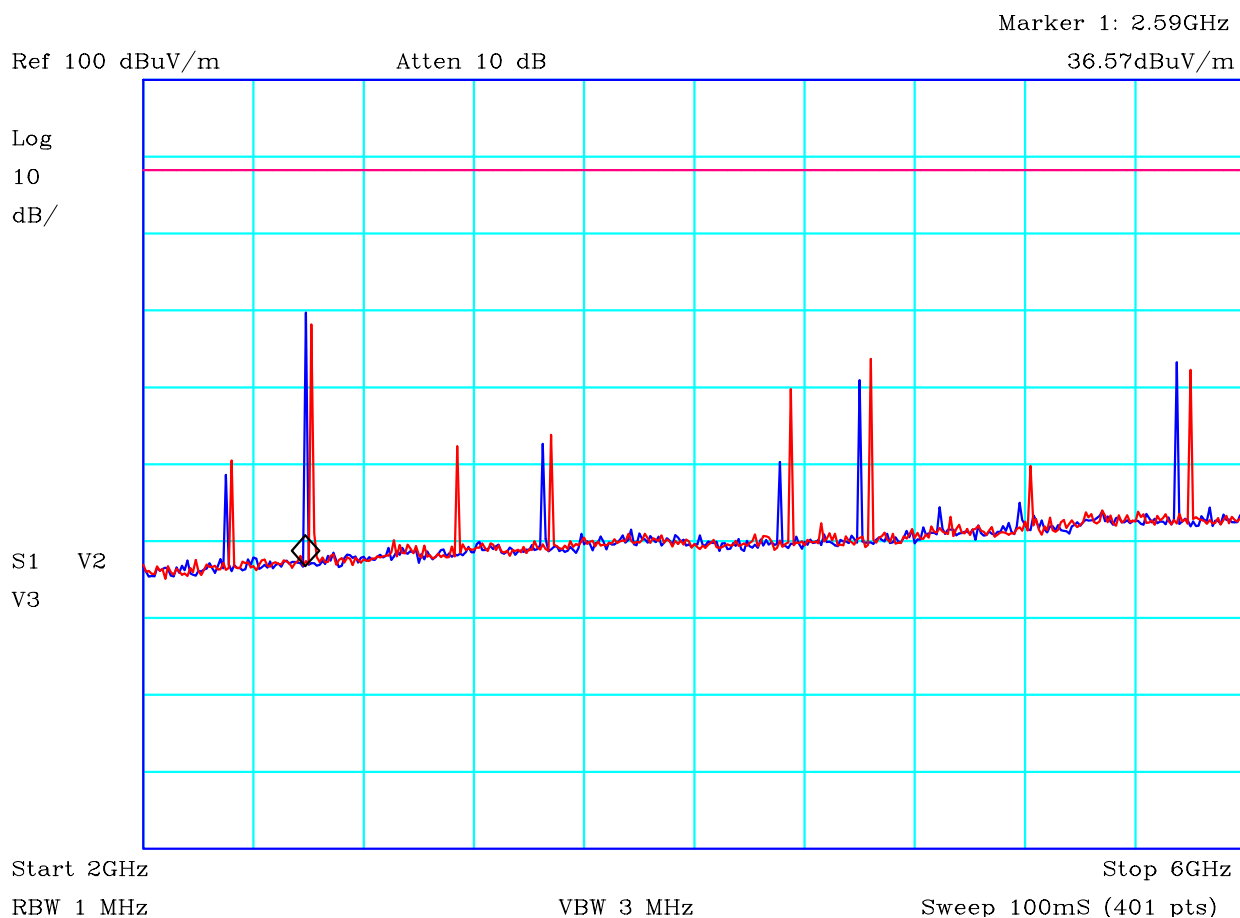


CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

PLOT 37 Radiated Emissions - Config 1 - 817 - 824 band Tx- 2GHz to 6GHz

Company:	Sepura	Product:	SRG3500
Date:	22/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 817MHz Red 824MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H24254BD
		Mode:	1
		Modification State:	0


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 72 of 100



CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

PLOT 38 Radiated Emissions - Config 1 - 862 - 869 band Tx- 2GHz to 6GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBc			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H2425598
		Mode:	1
		Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 73 of 100

Marker 1: 5.737GHz

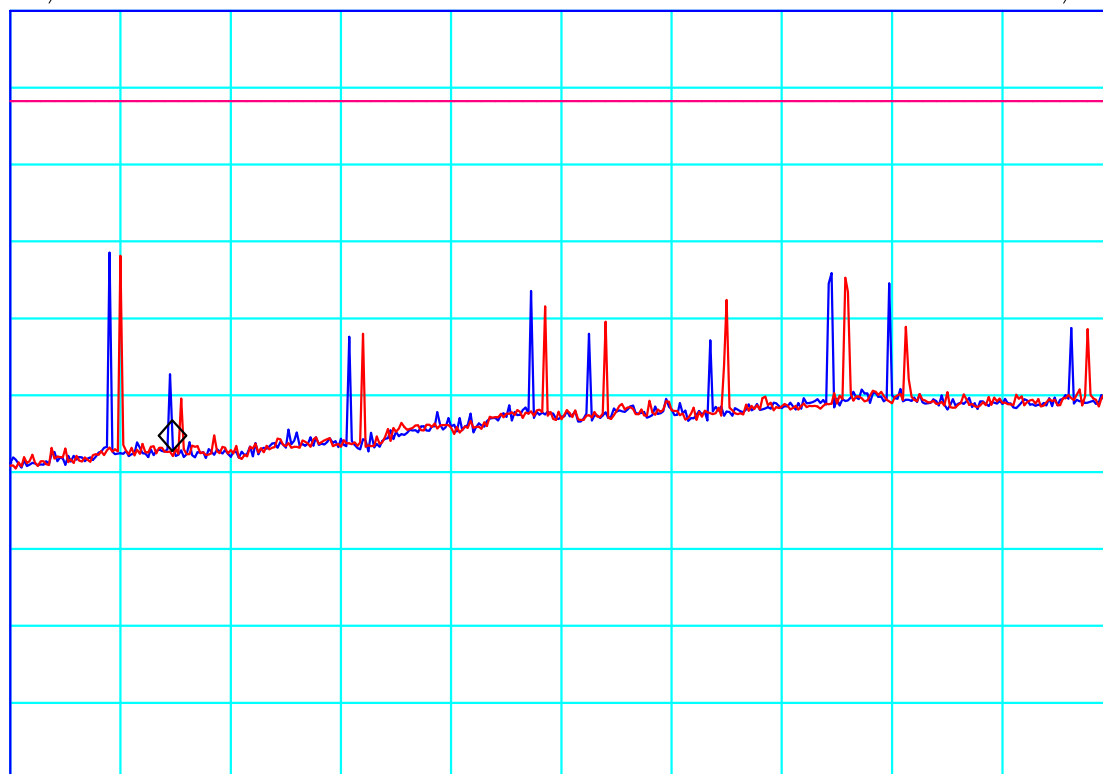
Ref 100 dBuV/m

Atten 10 dB

42.69dBuV/m

Log
10
dB/

S1 V2
V3



Start 5GHz

Stop 10GHz

RBW 1 MHz


VBW 3 MHz

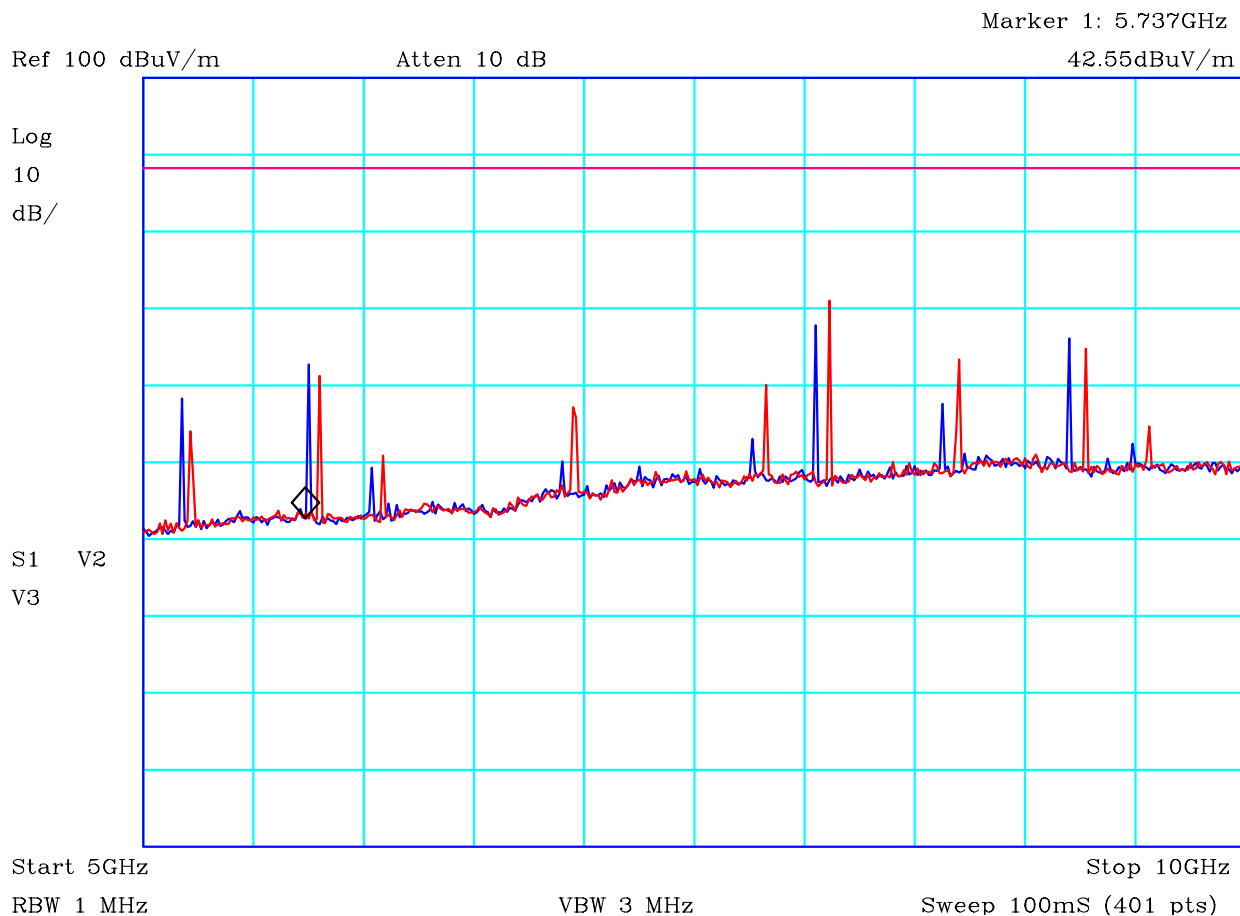
Sweep 100mS (401 pts)

CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

PLOT 39 Radiated Emissions - Config 1 - 817 - 824 band Tx- 5GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 817MHz Red 824MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H24255B0
		Mode:	1
		Modification State:	0


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 74 of 100

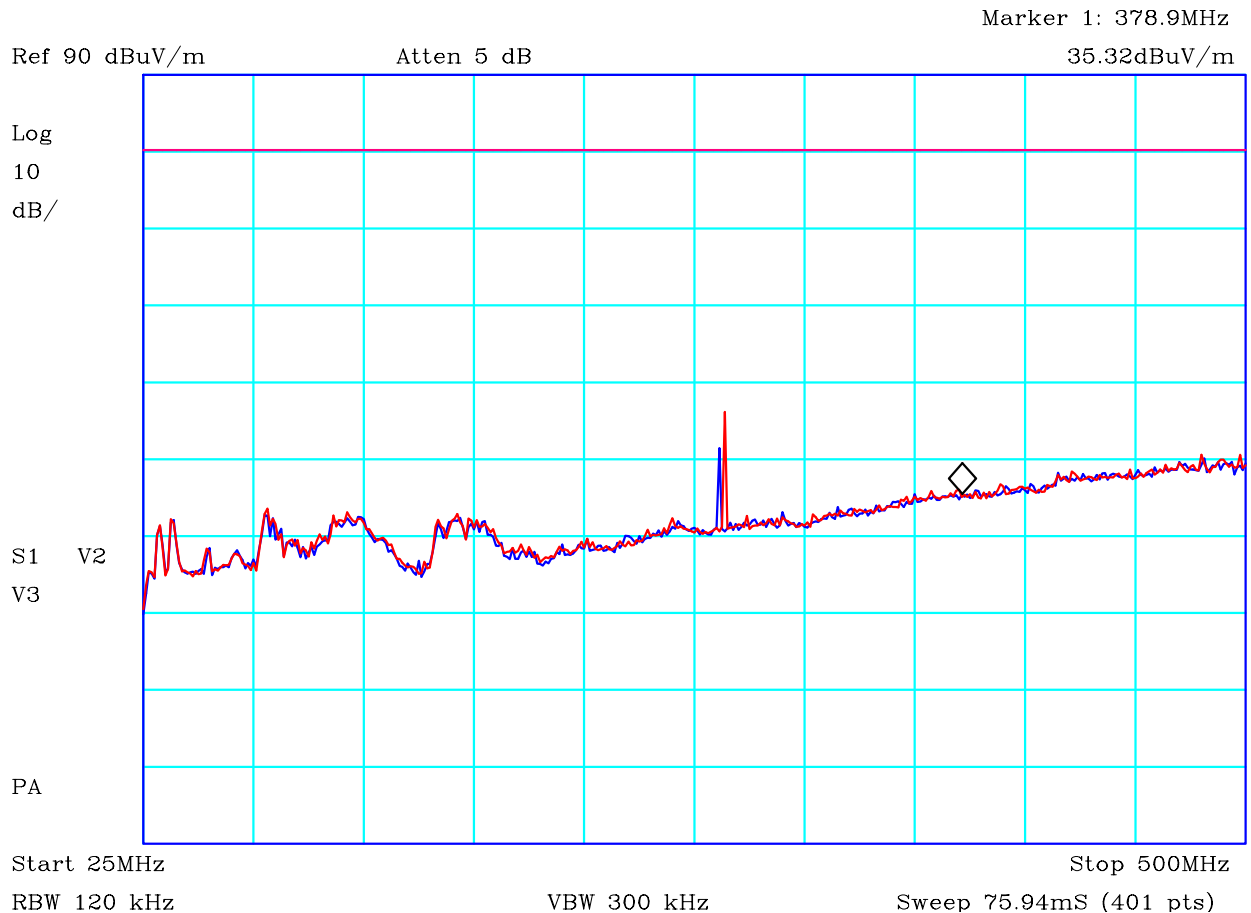


CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

PLOT 40 Radiated Emissions - Config 1 - 862 - 869 band Tx- 5GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H24255CE
		Mode:	1
		Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 75 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF17_110221

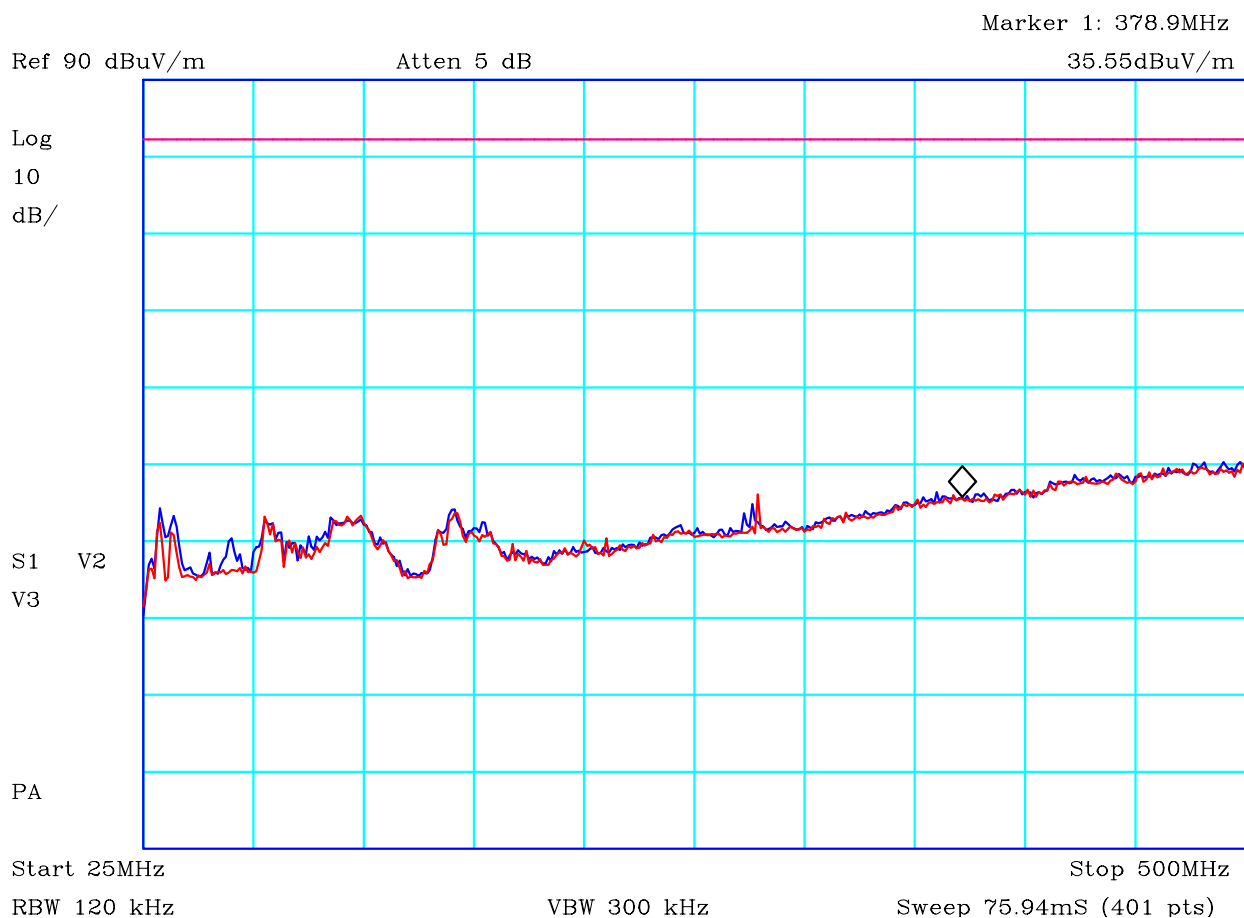
PLOT 41 Radiated Emissions - DMU - 817 - 824 band Tx - 25MHz to 500MHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	Mask Y @3m	Limit2:	
Limit3:		Limit4:	

DMU
Transmit mode. Maximum of both horizontal and vertical.
Blue: 817MHz
Red 824MHz
Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24156F4		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 76 of 100



CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF17_110221

PLOT 42 Radiated Emissions - DMU - 862 - 869 band Tx - 25MHz to 500MHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

DMU


Transmit mode. Maximum of both horizontal and vertical.

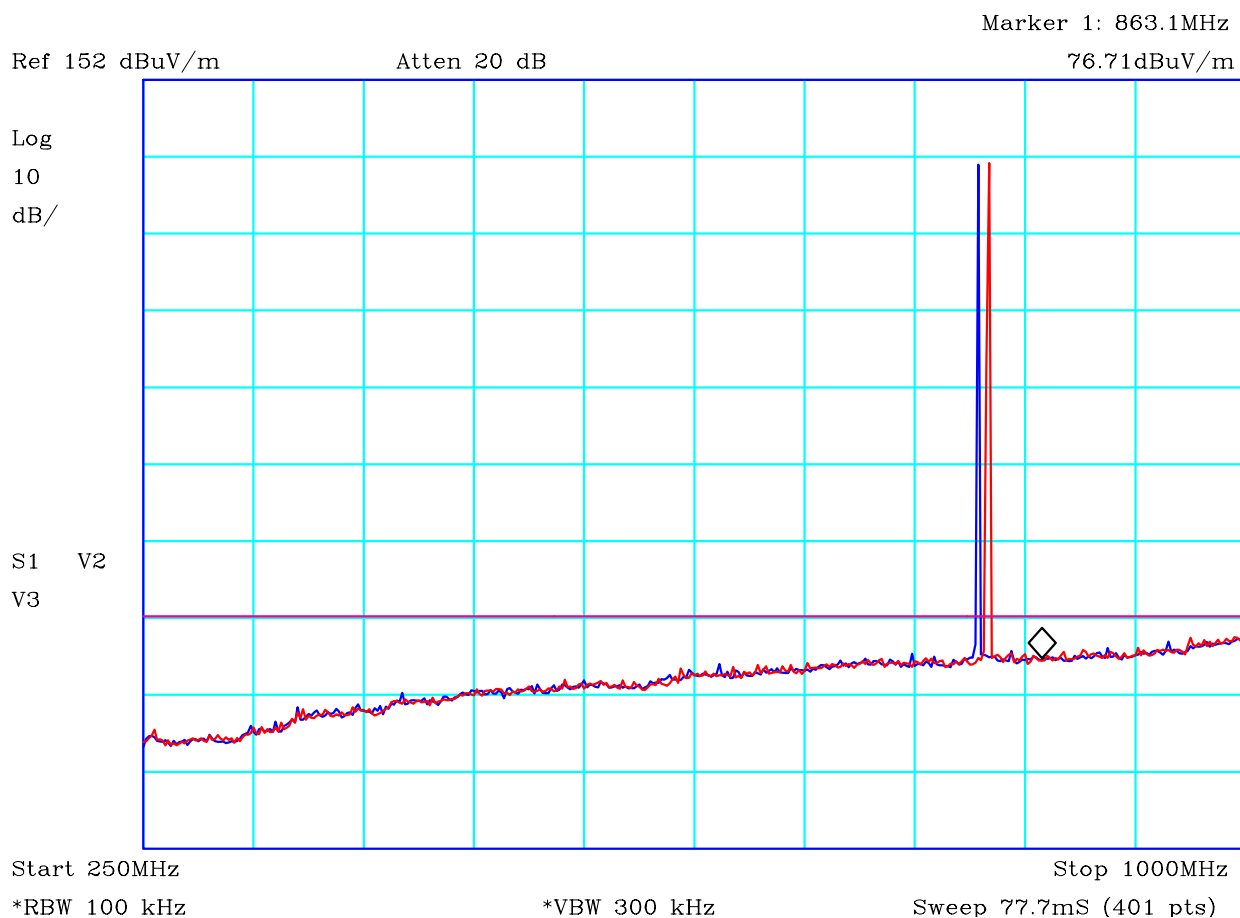
Blue: 862MHz

Red 869MHz

Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H241574D		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 77 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806

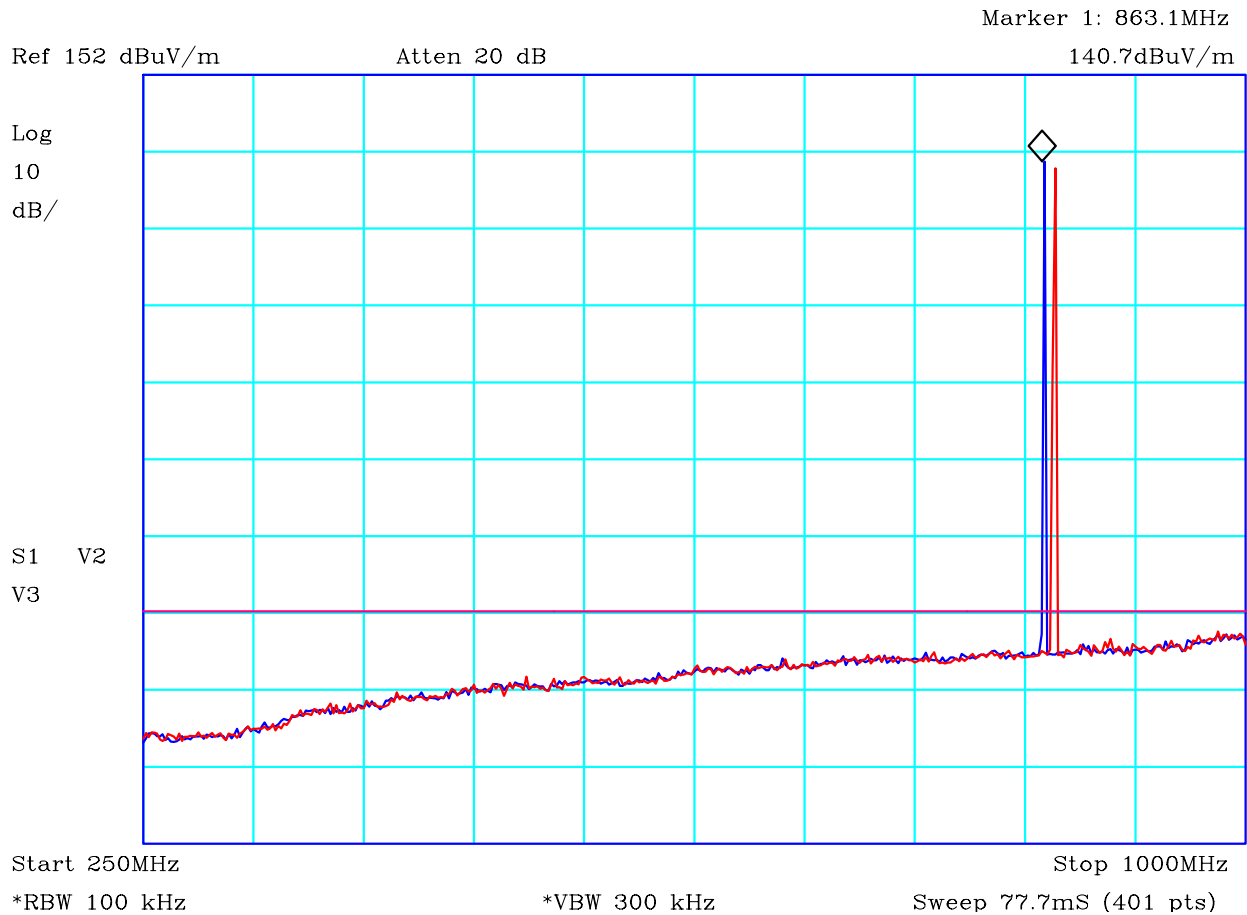
PLOT 43 Radiated Emissions - DMU - 817 - 824 band Tx - 250MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

DMU
Transmit mode. Maximum of both horizontal and vertical.
Blue: 817MHz
Red 824MHz
Limit is approximate field strength correlation to -57dBc

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H2415516		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 78 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806

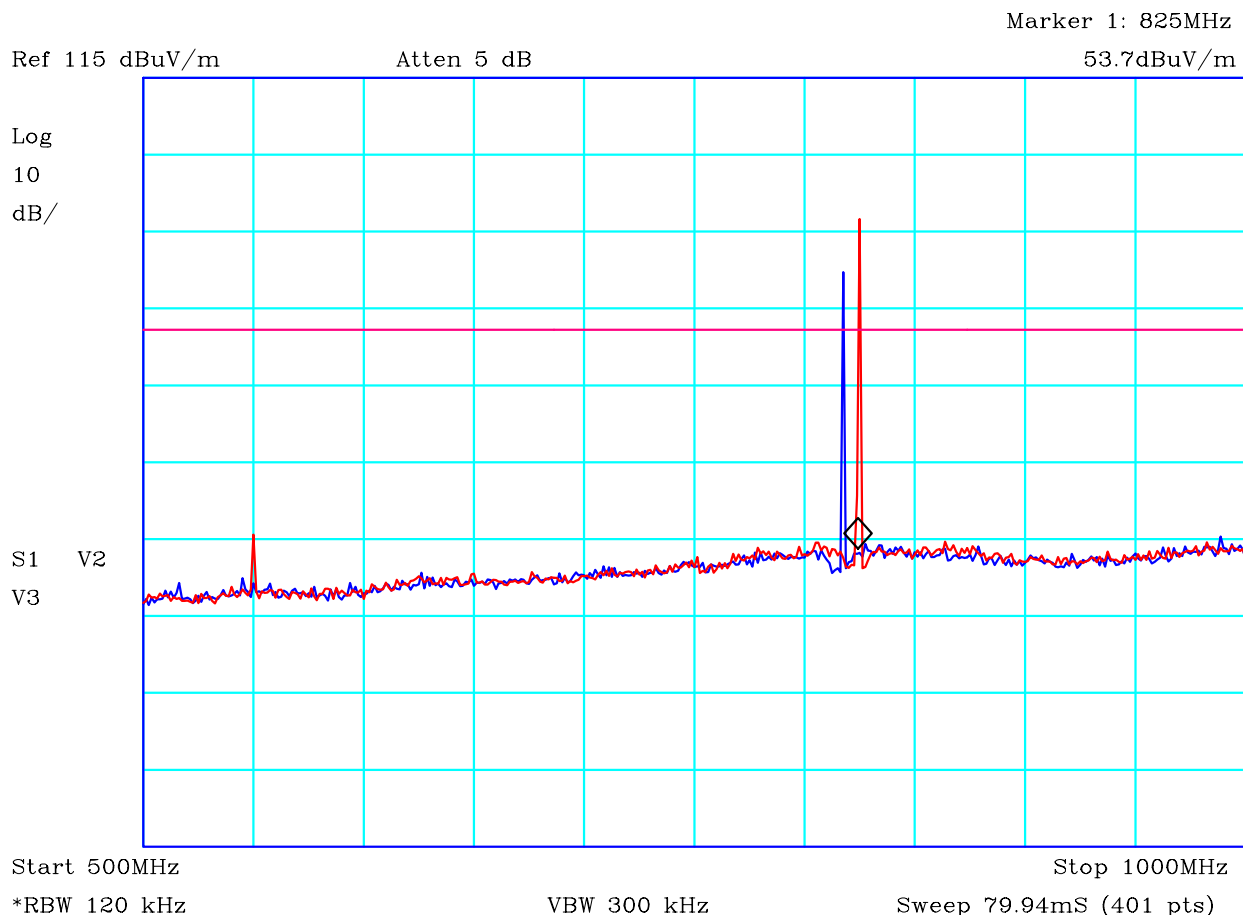
PLOT 44 Radiated Emissions - DMU - 862 - 869 band Tx - 250MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

DMU
Transmit mode. Maximum of both horizontal and vertical.
Blue: 862MHz
Red 869MHz
Limit is approximate field strength correlation to -13dBc

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24154E6		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 79 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF16_110112

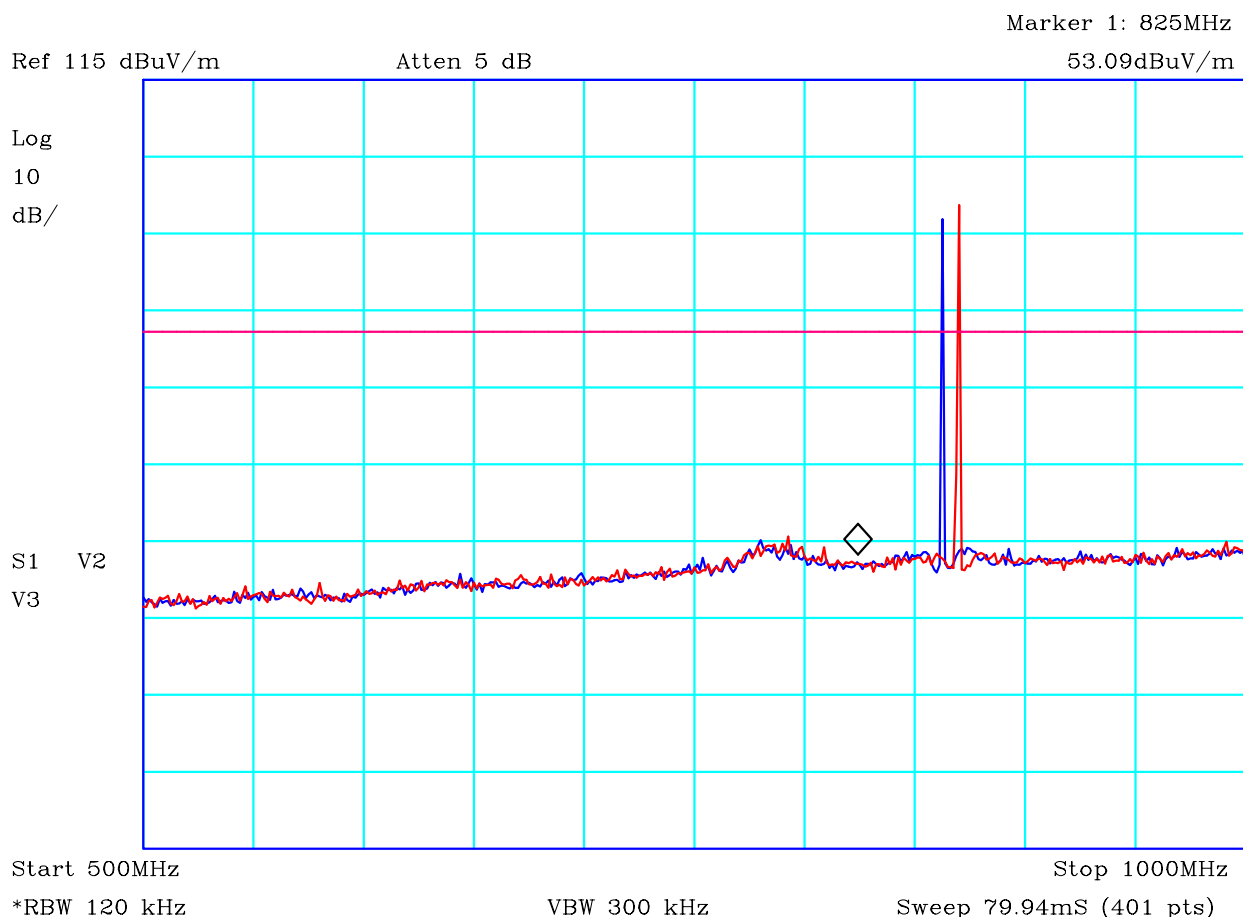
PLOT 45 Radiated Emissions - DMU - 817 - 824 band Tx - 500MHz to 1GHz - with notch filter

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

DMU. Using notch filter.
Transmit mode. Maximum of both horizontal and vertical.
Blue: 817MHz
Red 824MHz
Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H241553F		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 80 of 100




CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF16_110112

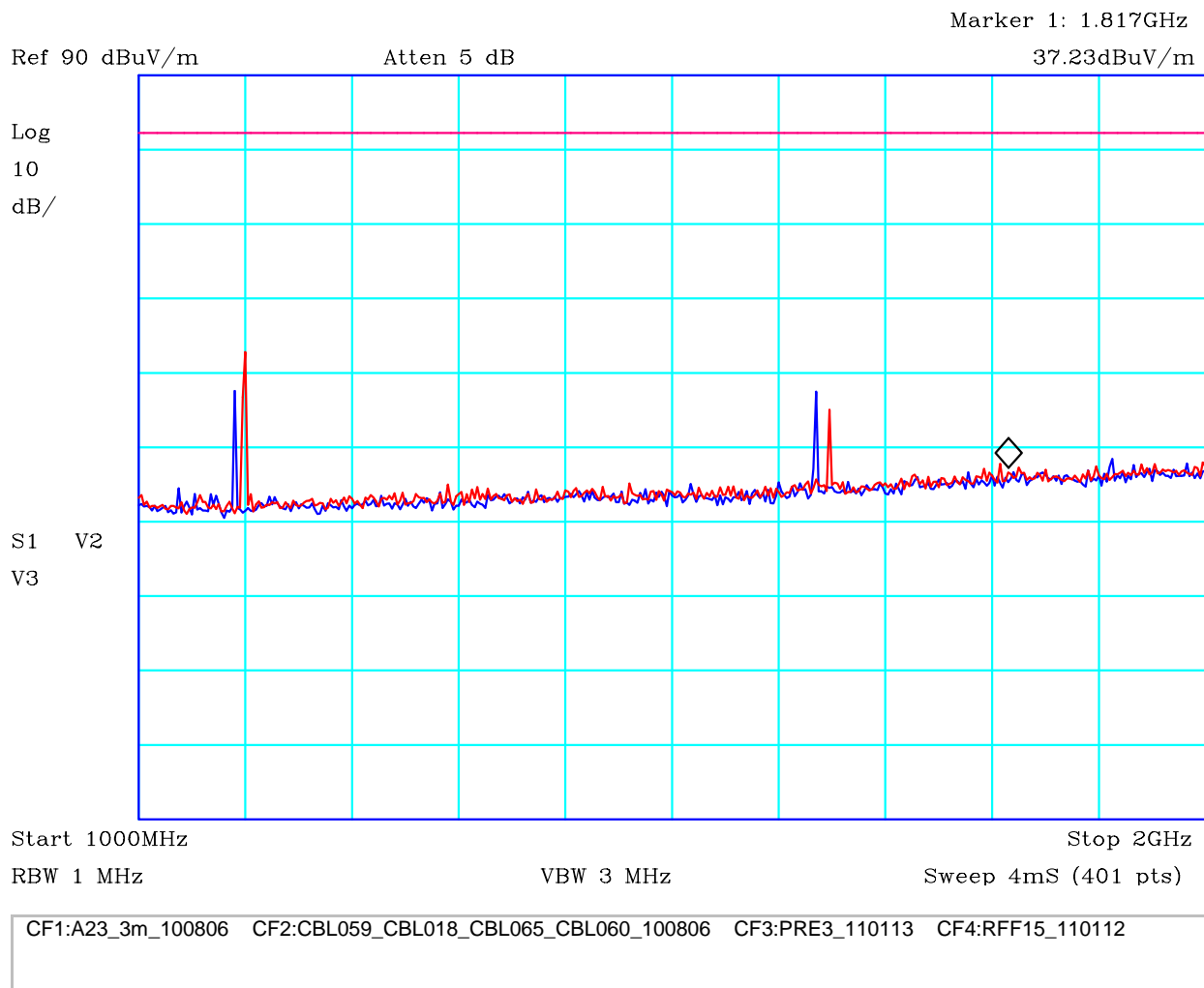
PLOT 46 Radiated Emissions - DMU - 862 - 869 band Tx - 500MHz to 1GHz - with notch filter

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

DMU. Using notch filter.
Transmit mode. Maximum of both horizontal and vertical.
Blue: 862MHz
Red 869MHz
Limit is approximate field strength correlation to -13dBm


Facility:	Anech_2	Height	1.5	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H2415567		

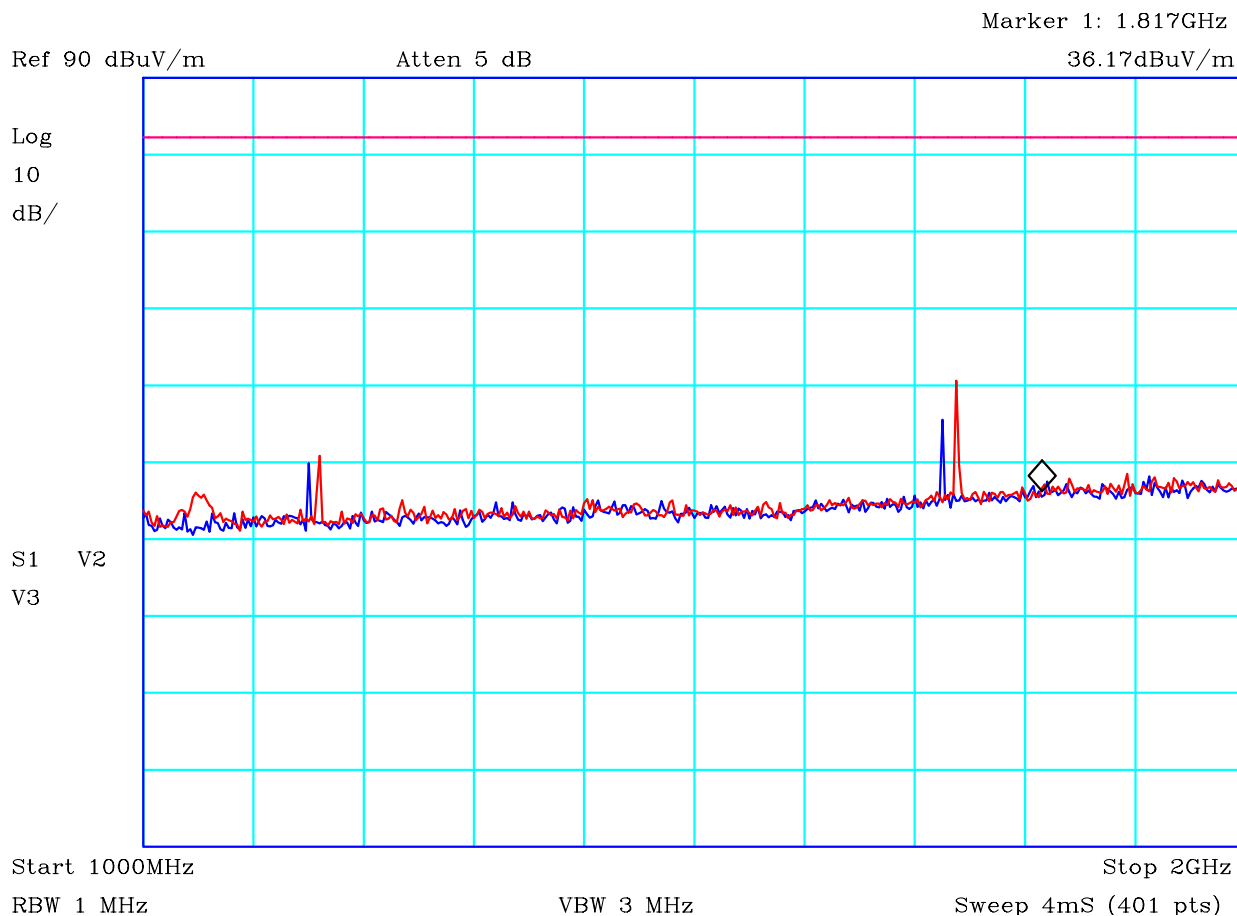
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 81 of 100



PLOT 47 Radiated Emissions - DMU - 817 - 824 band Tx - 1GHz to 2GHz

Company:	Sepura	Product:	SRG3500
Date:	22/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
DMU Transmit mode. Maximum of both horizontal and vertical. Blue: 817MHz Red 824MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H2422422
Mode:		1	
Modification State:		0	


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

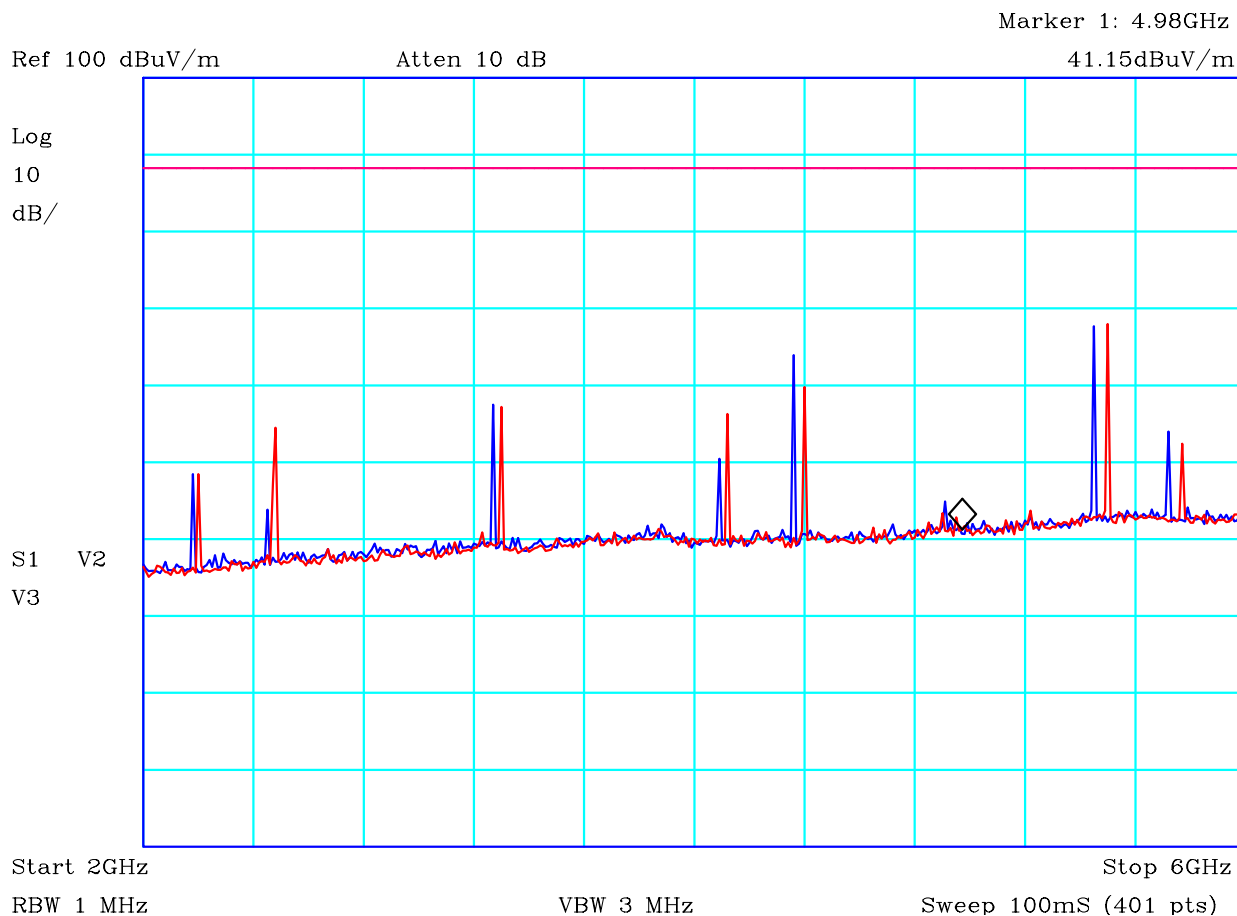


CF1:A23_3m_100806 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:PRE3_110113 CF4:RFF15_110112

PLOT 48 Radiated Emissions - DMU - 862 - 869 band Tx - 1GHz to 2GHz

Company:	Sepura	Product:	SRG3500
Date:	22/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	
DMU Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H242245C
		Mode:	1
		Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 83 of 100




CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

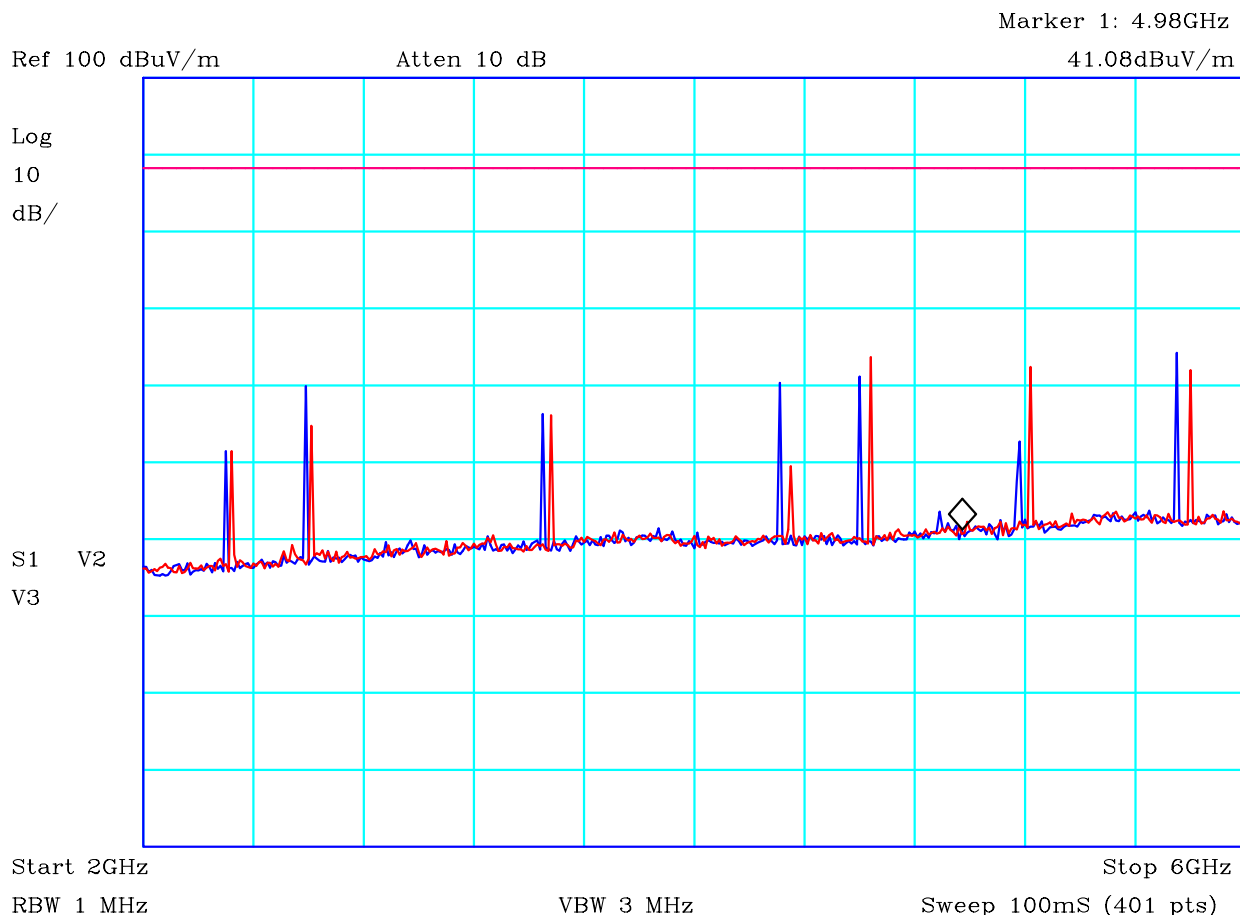
PLOT 49 Radiated Emissions - DMU - 817 - 824 band Tx- 2GHz to 6GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

DMU
Transmit mode. Maximum of both horizontal and vertical.
Blue: 817MHz
Red 824MHz
Limit is approximate field strength correlation to -13dBm

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24254BA		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 84 of 100




CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

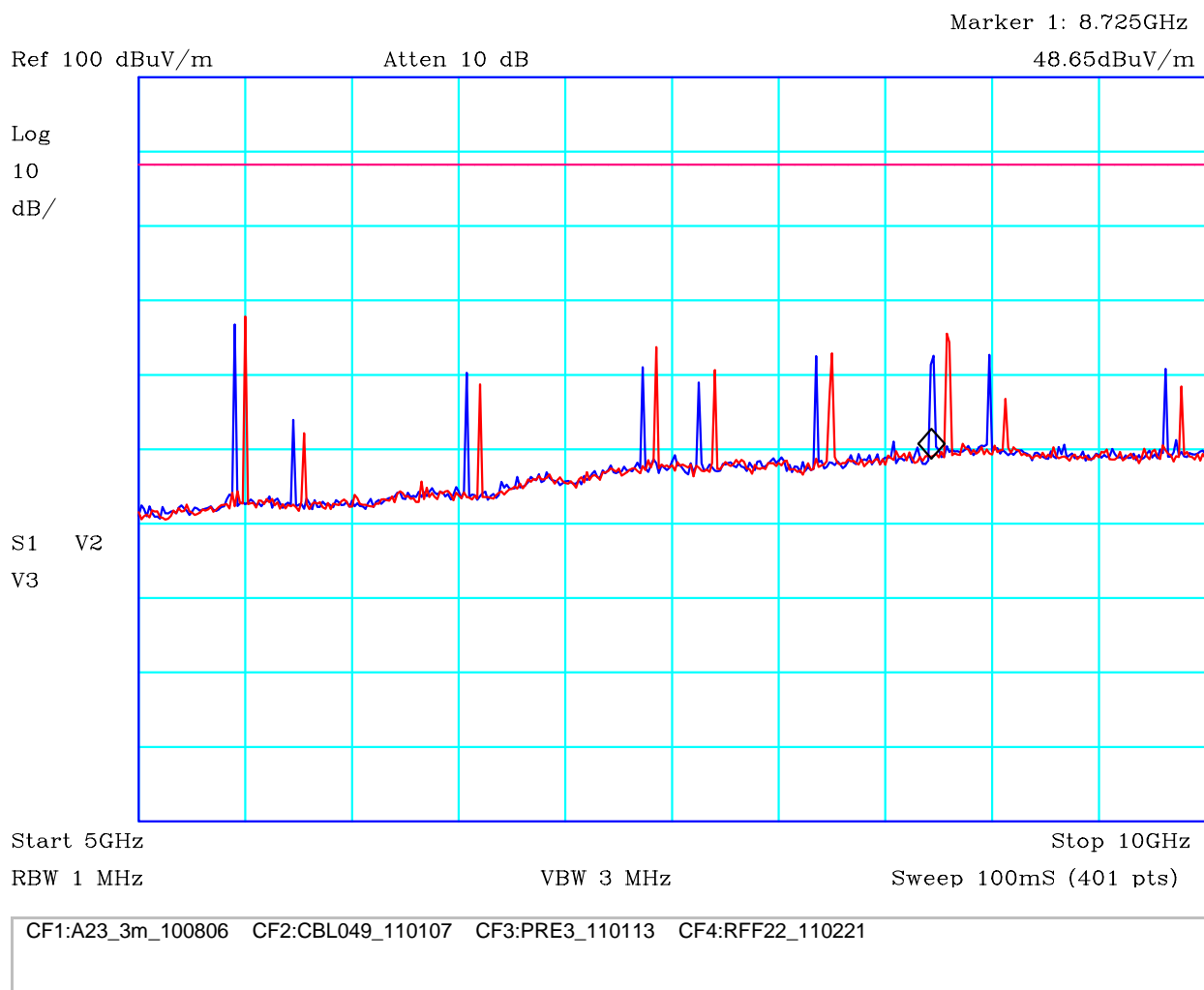
PLOT 50 Radiated Emissions - DMU - 862 - 869 band Tx- 2GHz to 6GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

DMU
Transmit mode. Maximum of both horizontal and vertical.
Blue: 862MHz
Red 869MHz
Limit is approximate field strength correlation to -13dBm


Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24254D8		

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 85 of 100



PLOT 51 Radiated Emissions - DMU - 817 - 824 band Tx- 5GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	
DMU Transmit mode. Maximum of both horizontal and vertical. Blue: 817MHz Red 824MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H242550C
Mode:	1	Modification State:	0

	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

Marker 1: 8.725GHz

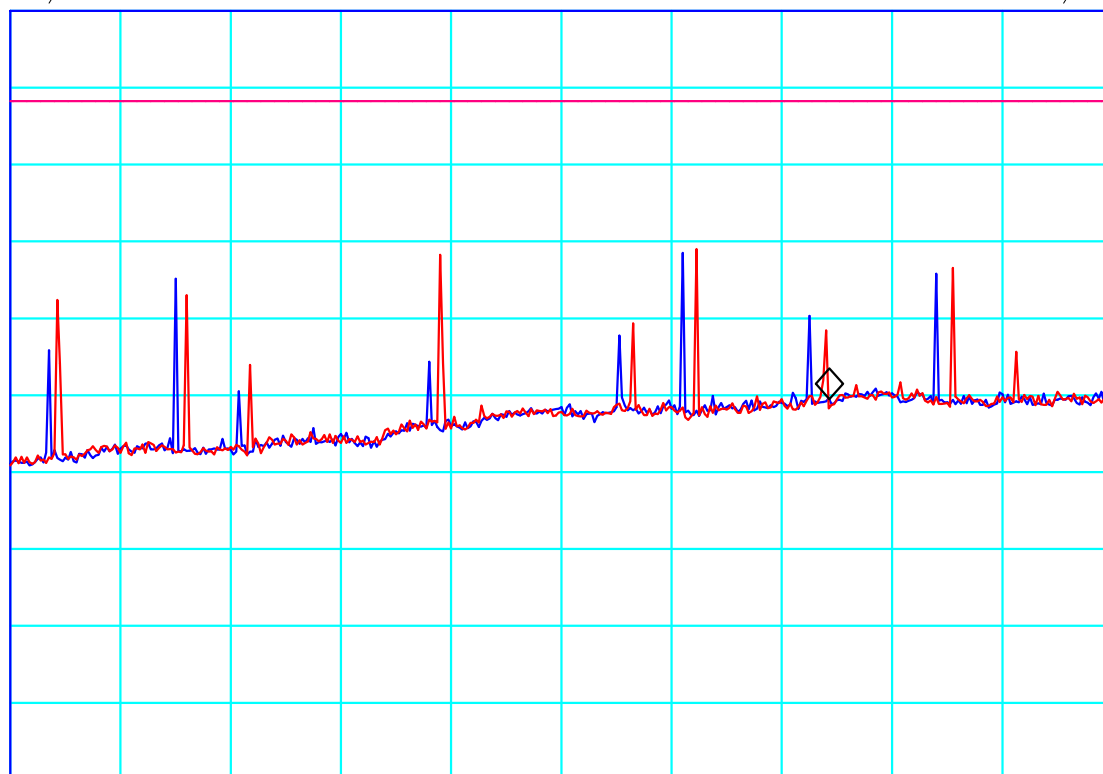
Ref 100 dBuV/m

Atten 10 dB

49.45dBuV/m

Log
10
dB/

S1 V2
V3



Start 5GHz

Stop 10GHz

RBW 1 MHz

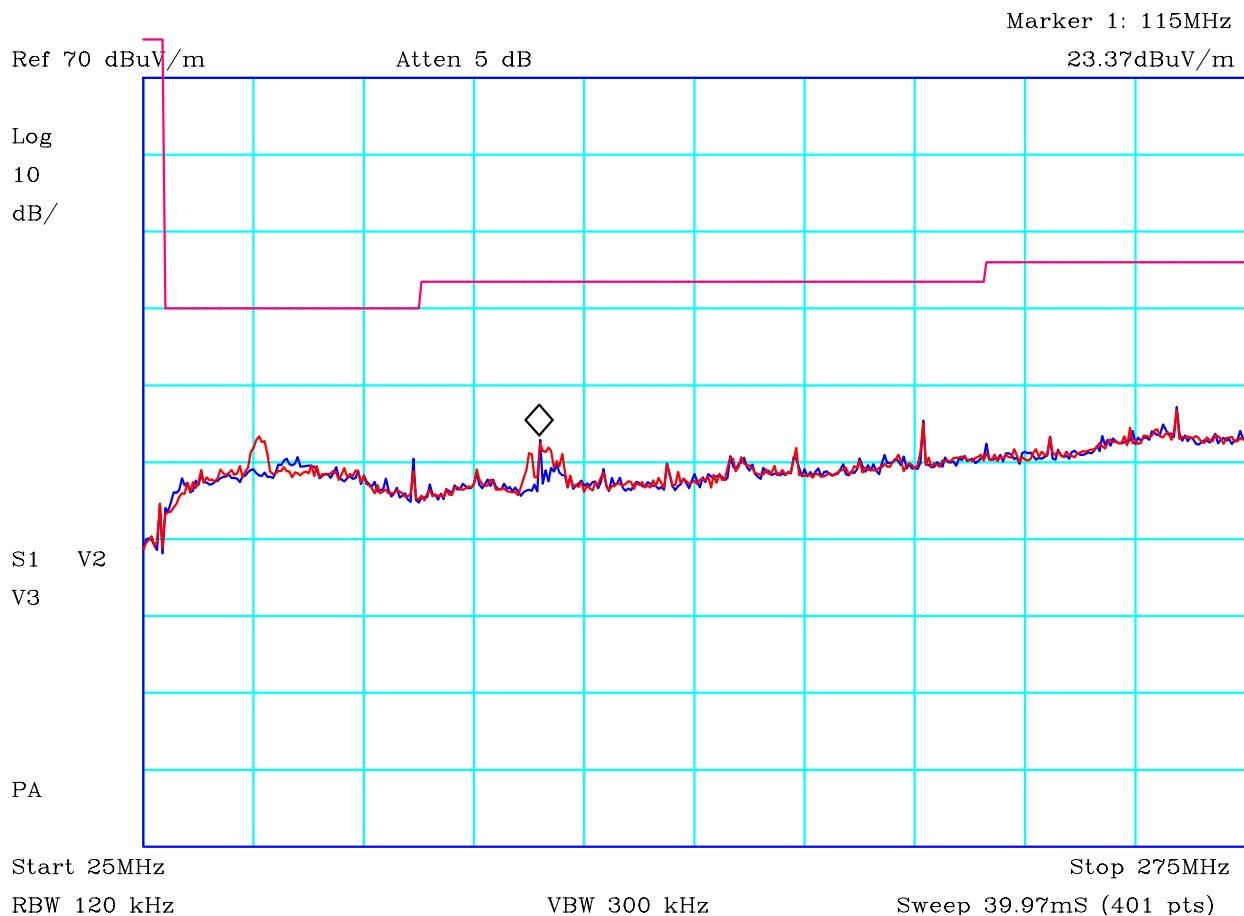
VBW 3 MHz

Sweep 100mS (401 pts)

CF1:A23_3m_100806 CF2:CBL049_110107 CF3:PRE3_110113 CF4:RFF22_110221

PLOT 52 Radiated Emissions - DMU - 862 - 869 band Tx- 5GHz to 10GHz


Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	FCC part 90	Method:	
Limit1:(VIO)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	
DMU Transmit mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz Limit is approximate field strength correlation to -13dBm			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H242553A
		Mode:	1
		Modification State:	0

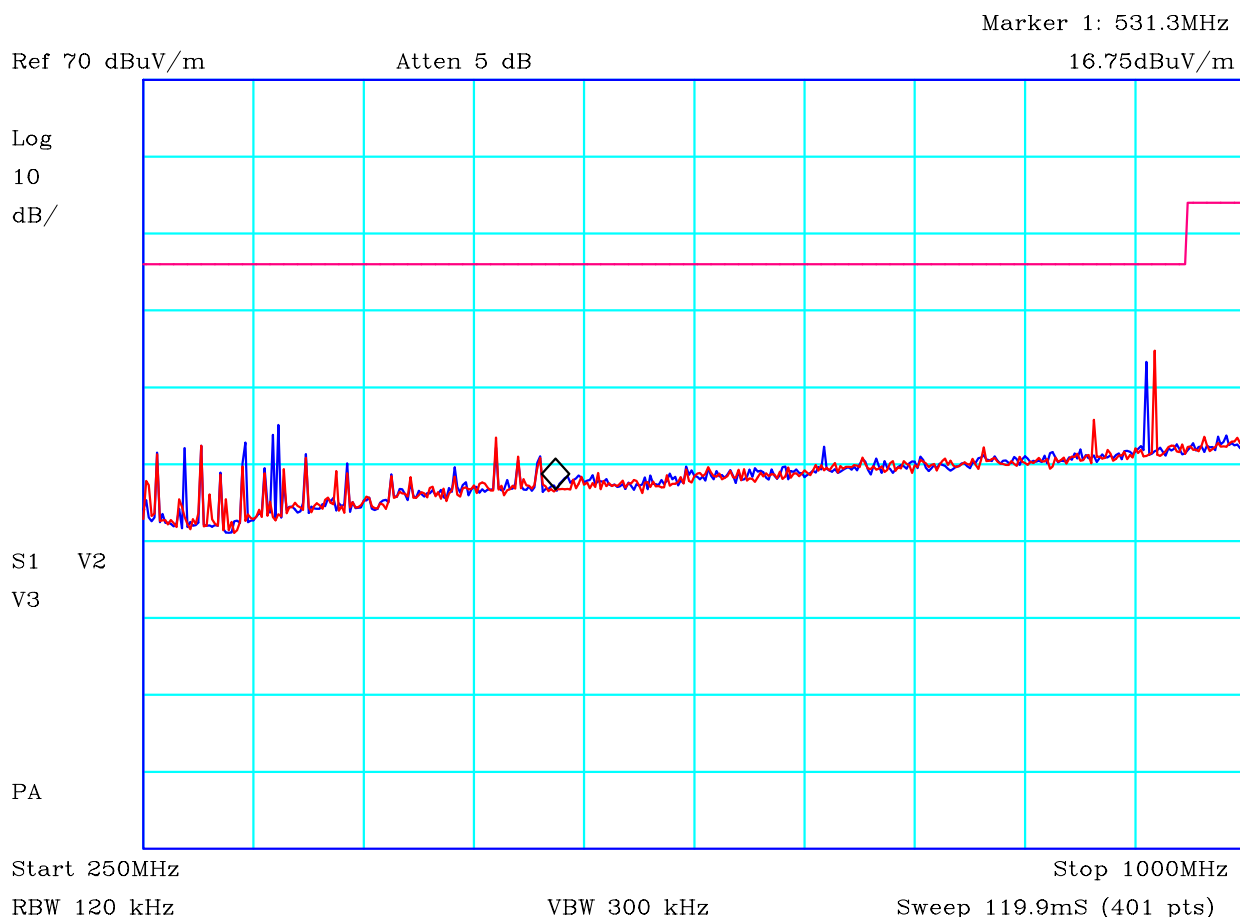


CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806

PLOT 53 Radiated Emissions - Config 1 - Rx - 25MHz to 275MHz

Company:	Sepura	Product:	SRG3500
Date:	18/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@3m	Limit2:	
Limit3:		Limit4:	
Config 1 Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1.5
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H24185AE
		Mode:	2
		Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 88 of 100



CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:PRE7_110112

PLOT 54 Radiated Emissions - Config 1 - Rx - 250MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@3m	Limit2:	
Limit3:		Limit4:	


Config 1

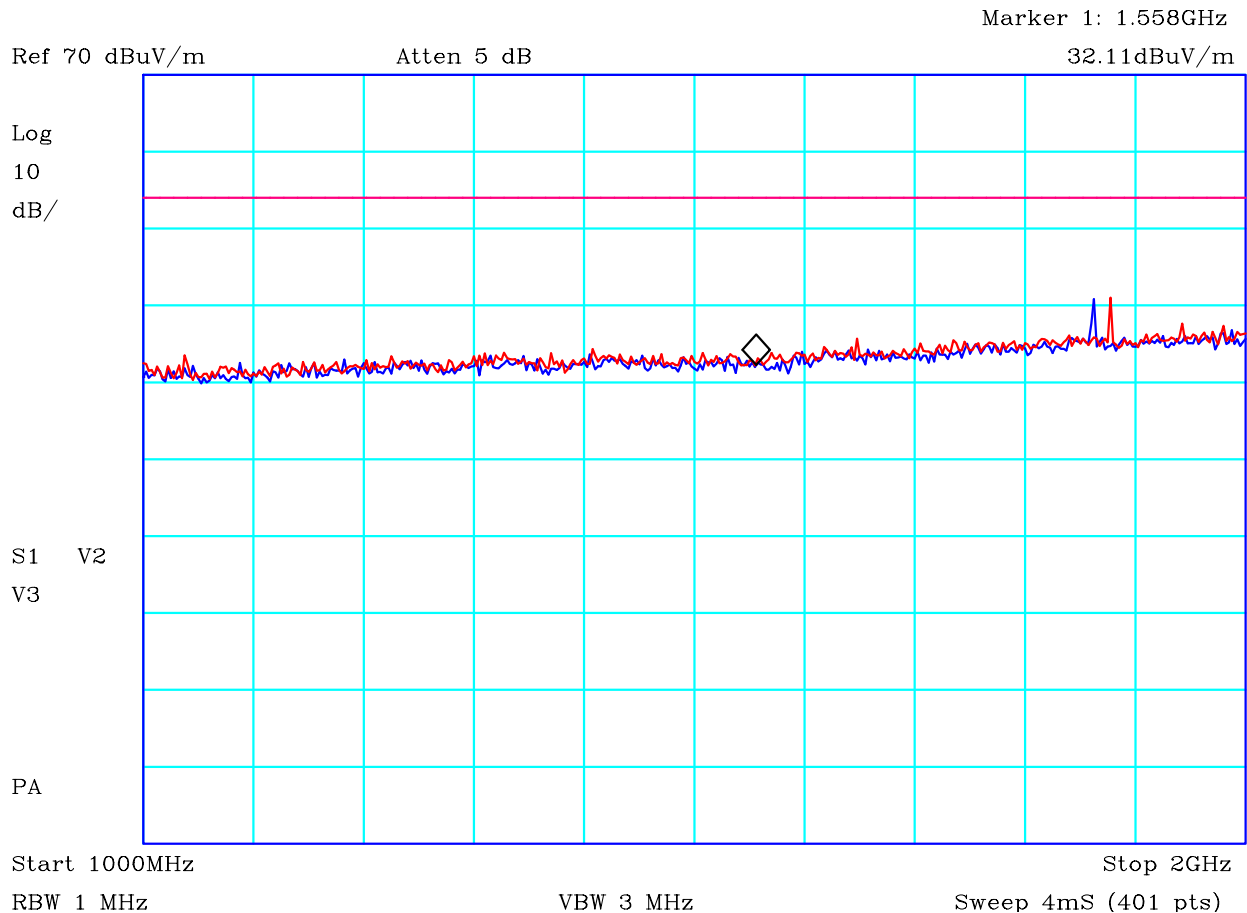
Receive mode. Maximum of both horizontal and vertical.

Blue: 862MHz

Red 869MHz

Facility:	Anech_2	Height	1.5	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H24157CC		


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 89 of 100

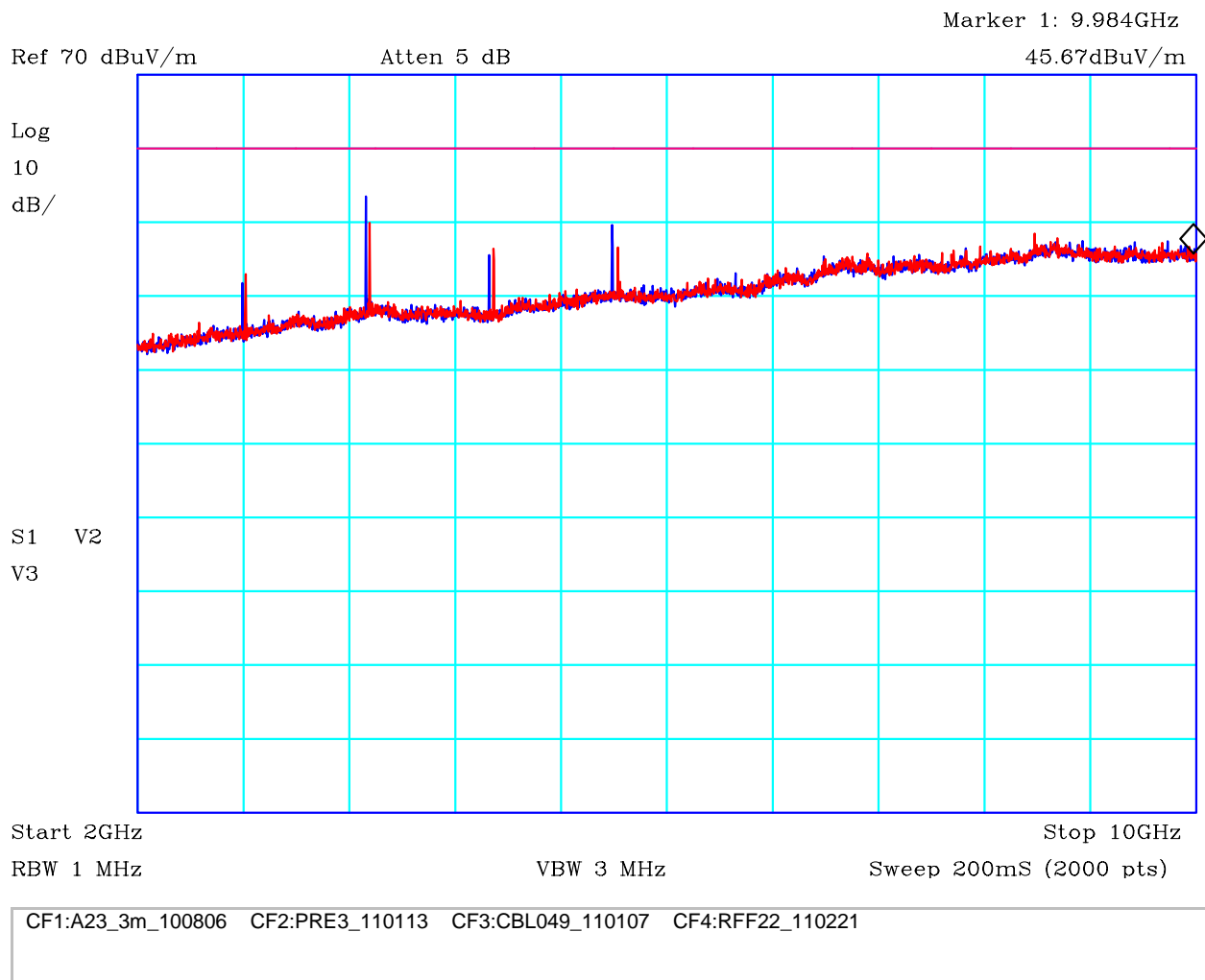


CF1:A23_3m_100806 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:PRE3_110113 CF4:RFF15_110112

PLOT 55 Radiated Emissions - Config 1 - Rx - 1GHz to 2GHz


Company:	Sepura	Product:	SRG3500
Date:	21/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@3m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1m
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H24217D8
		Mode:	2
		Modification State:	0

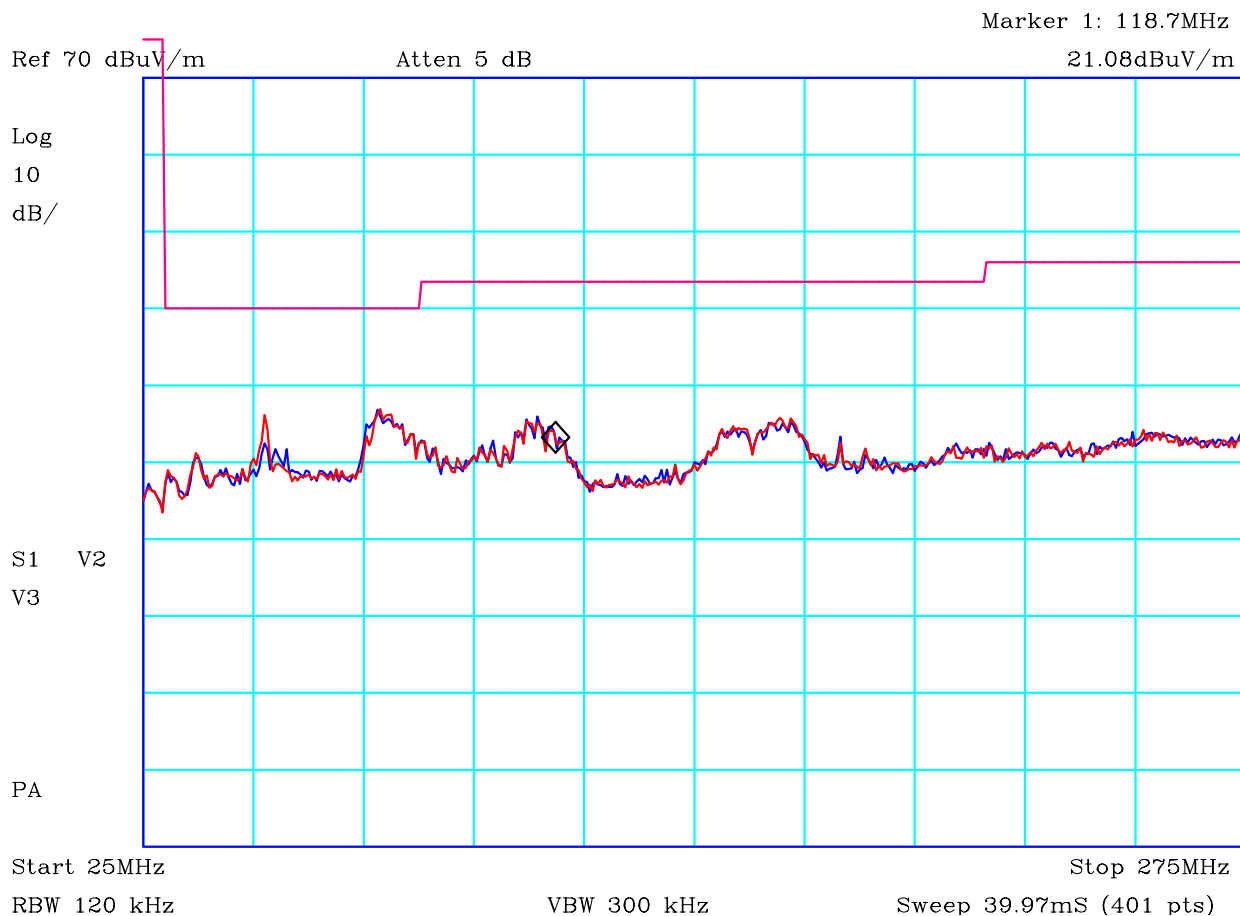
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 90 of 100



PLOT 56 Radiated Emissions - Config 1 - Rx - 2GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	22/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@1.5m	Limit2:	
Limit3:		Limit4:	
Configuration 1 Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H2422779
		Mode:	2
		Modification State:	0


	Report No: R3112 Issue No: 1	FCC ID: XX6-SRG3500XB	
	Test No: T4354		Test Report

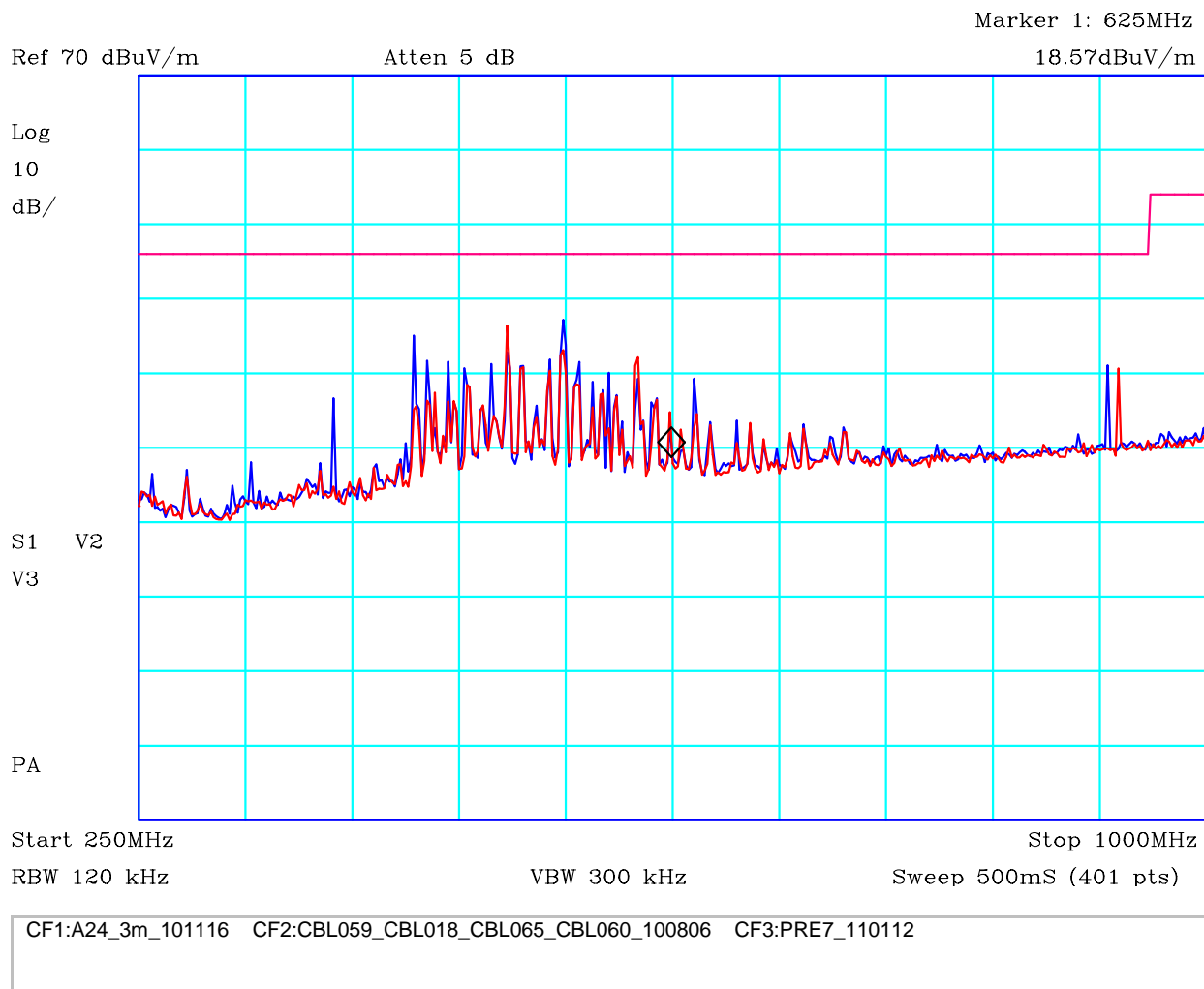


CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806

PLOT 57 Radiated Emissions - DMU - Rx - 25MHz to 275MHz


Company:	Sepura	Product:	SRG3500
Date:	14/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@3m	Limit2:	
Limit3:		Limit4:	
DMU Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1.5
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H24155C0
		Mode:	2
		Modification State:	0

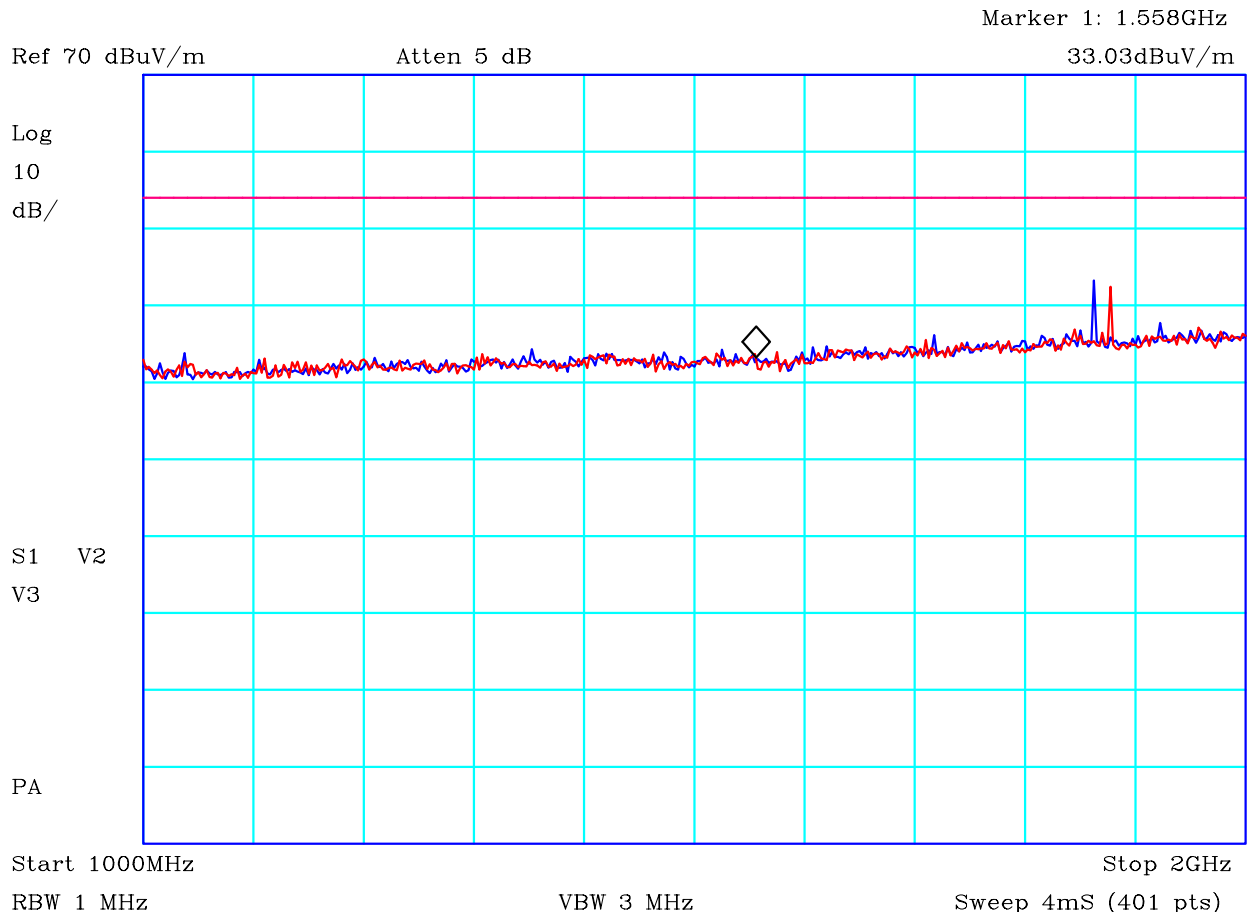
	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 92 of 100



PLOT 58 Radiated Emissions - DMU - Rx - 250MHz to 1GHz

Company:	Sepura	Product:	SRG3500
Date:	18/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_Bx@3m	Limit2:	
Limit3:		Limit4:	
DMU Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1.5
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H24184DF
		Mode:	2
		Modification State:	0


	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
Test No: T4354	Test Report		Page: 93 of 100

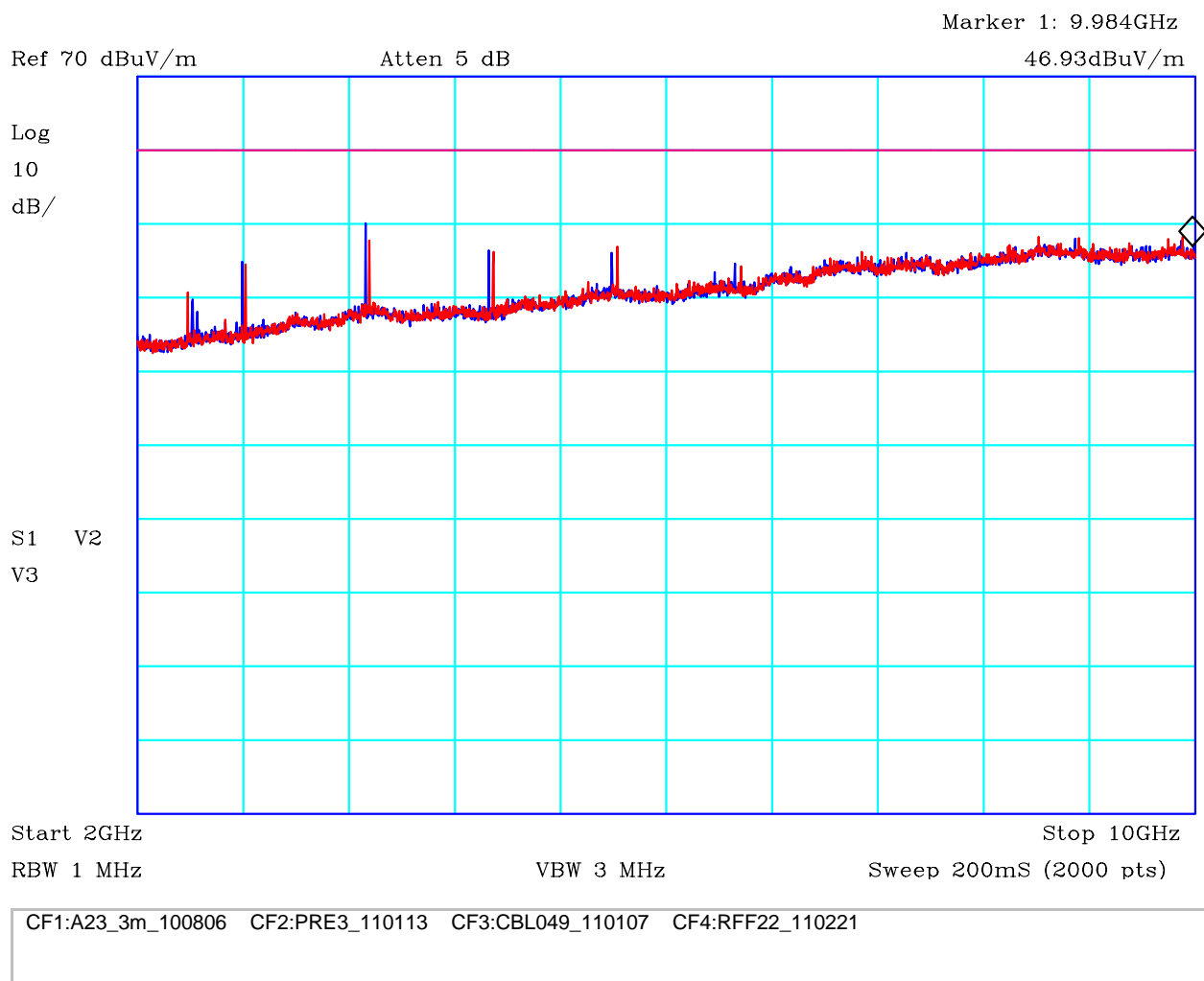


CF1:A23_3m_100806 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:PRE3_110113 CF4:RFF15_110112

PLOT 59 Radiated Emissions - DMU - Rx - 1GHz to 2GHz


Company:	Sepura	Product:	SRG3500
Date:	22/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@3m	Limit2:	
Limit3:		Limit4:	
DMU Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1m
Distance	3m	Polarisation	V+H
Angle	0-360	File:	H2422484
Mode:	2	Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 94 of 100



PLOT 60 Radiated Emissions - DMU - Rx - 2GHz to 10GHz

Company:	Sepura	Product:	SRG3500
Date:	25/05/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC_B@1.5m	Limit2:	
Limit3:		Limit4:	
DMU Receive mode. Maximum of both horizontal and vertical. Blue: 862MHz Red 869MHz			
Facility:	Anech_2	Height	1m
Distance	1.5m	Polarisation	V+H
Angle	0-360	File:	H2425553
		Mode:	2
		Modification State:	0

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 95 of 100

Chase EMS 6.21

Notes

Analyse 120608 C1N Tx 817MHz

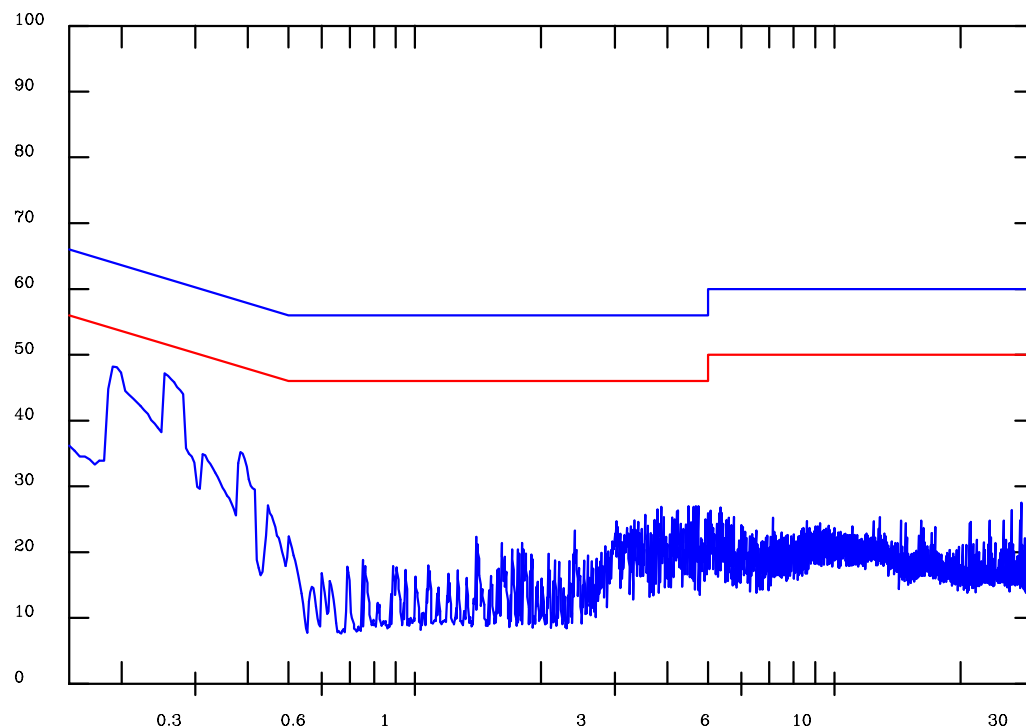
Test: 150kHz-30MHz (L1+CSET001) dBuV

RF level

dBuV

120608 C1N T

Quasi-peak



Log Freq. (0.15 - 30)MHz

Limit CISPR22B (AV) AC POWER

PLOT 61 Conducted Emissions - Transmit Mode (817MHz) - Neutral Line

Company:	Sepura	Product:	SRG3500
Date:	08 Jun 12	Test Engineer:	Dave Smith
Test:	ANSI C63.4	Limit:	Class B
Notes:			
Transmit 817MHz			
115V, Dummy load on antenna port.			
L1 R1			
Line:	Neutral	Attenuator:	10dB PAD
Detector:	QuasiPeak	Operating Mode:	1
LISN:	EMCO	Mod. State:	0
Filename:	C26086A9.plt		

Frequency List (MHz)

Chase EMS 6.21

Notes

Analyse 120608 C2L Tx 817MHz

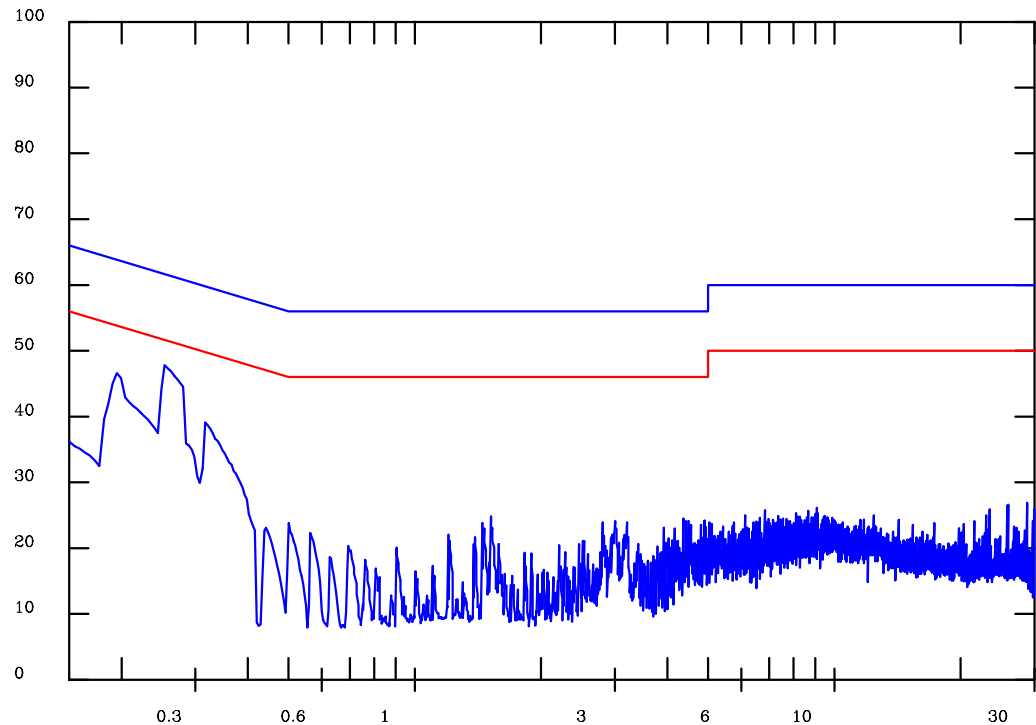
Test: 150kHz-30MHz (L1+CSET001) dBuV

RF level

dBuV

120608 C2L T

Quasi-peak




Log Freq. (0.15 - 30)MHz

Limit CISPR22B (AV) AC POWER

PLOT 62 Conducted Emissions - Transmit Mode (817MHz) - Live Line

Company:	Sepura	Product:	SRG3500
Date:	08 Jun 12	Test Engineer:	Dave Smith
Test:	ANSI C63.4	Limit:	Class B
Notes:			
Transmit 817MHz			
115V, Dummy load on antenna port.			
L1 R1			
Line:	Live	Attenuator:	10dB PAD
Detector:	QuasiPeak	Operating Mode:	1
LISN:	EMCO	Mod. State:	0
		Filename:	C26086B6.plt

Frequency List (MHz)

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 97 of 100

Chase EMS 6.21

Notes

Analyse 120608 C3L Tx 862MHz

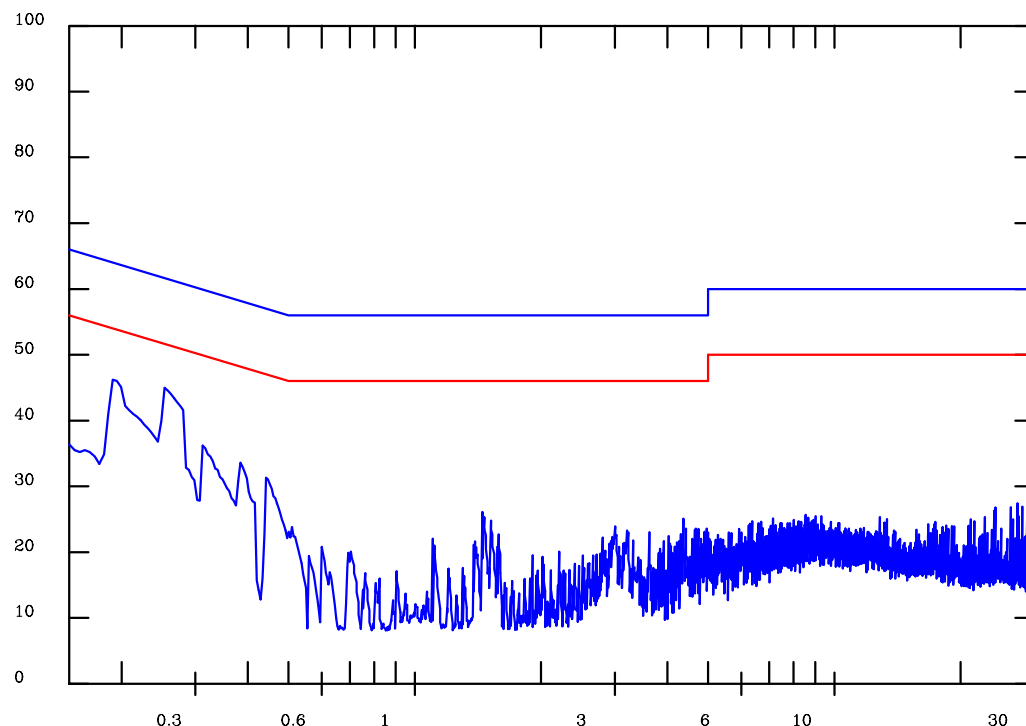
Test: 150kHz-30MHz (L1+CSET001) dBuV

RF level

dBuV

120608 C3L T

Quasi-peak




Log Freq. (0.15 - 30)MHz

Limit CISPR22B (AV) AC POWER

PLOT 63 Conducted Emissions - Transmit Mode (862MHz) - Live Line

Company:	Sepura	Product:	SRG3500
Date:	08 Jun 12	Test Engineer:	Dave Smith
Test:	ANSI C63.4	Limit:	Class B
Notes:			
Transmit 862MHz			
115V, Dummy load on antenna port.			
L1 R1			
Line:	Live	Attenuator:	10dB PAD
Detector:	QuasiPeak	Operating Mode:	1
LISN:	EMCO	Mod. State:	0
Filename:	C26086C2.plt		

Frequency List (MHz)

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 98 of 100

Chase EMS 6.21

Notes

Analyse 120608 C4N Tx 862MHz

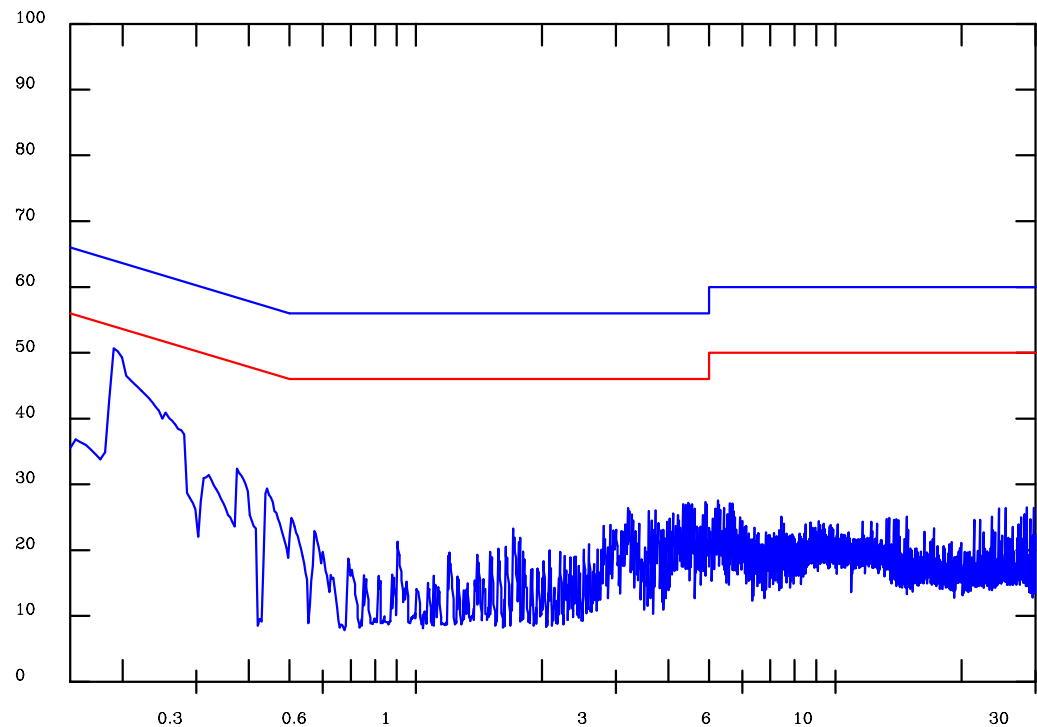
Test: 150kHz-30MHz (L1+CSET001) dBuV

RF level

dBuV

120608 C4N T

Quasi-peak




Log Freq. (0.15 - 30)MHz

Limit CISPR22B (AV) AC POWER

PLOT 64 Conducted Emissions - Transmit Mode (862MHz) - Neutral Line

Company:	Sepura		Product:	SRG3500	
Date:	08 Jun 12		Test Engineer:	Dave Smith	
Test:	ANSI C63.4		Limit:	Class B	
Notes:					
Transmit 862MHz					
115V, Dummy load on antenna port.					
L1 R1					
Line:	Neutral	Attenuator:	10dB PAD	Operating Mode:	1
Detector:	QuasiPeak			Mod. State:	0
LISN:	EMCO	Filename:	C26086CA.plt		

Frequency List (MHz)

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 99 of 100

Chase EMS 6.21

Notes

Analyse 120608 C5N Rx 862MHz

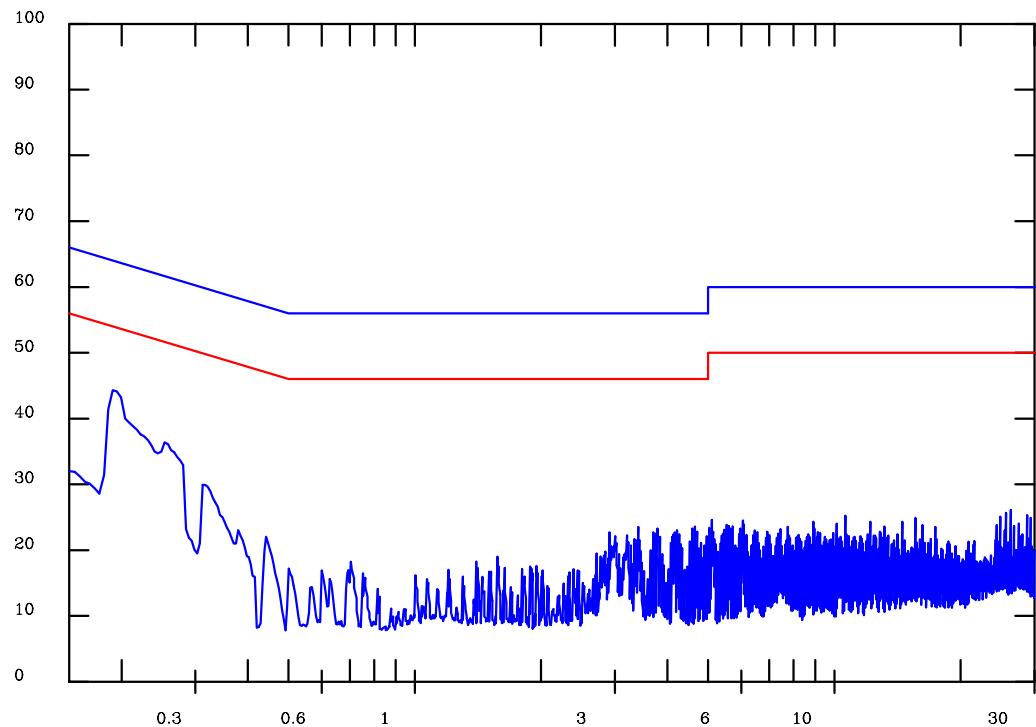
Test: 150kHz-30MHz (L1+CSET001) dBuV

RF level

dBuV

120608 C5N R

Quasi-peak




Log Freq. (0.15 - 30)MHz

Limit CISPR22B (AV) AC POWER

PLOT 65 Conducted Emissions - Receive Mode Neutral Line

Company:	Sepura	Product:	SRG3500
Date:	08 Jun 12	Test Engineer:	Dave Smith
Test:	ANSI C63.4	Limit:	Class B
Notes:			
Receive 862MHz			
115V, Dummy load on antenna port.			
L1 R1			
Line:	Neutral	Attenuator:	10dB PAD
Detector:	QuasiPeak	Operating Mode:	2
LISN:	EMCO	Mod. State:	0
Filename:	C26086D5.plt		

Frequency List (MHz)

	Report No: R3112	FCC ID: XX6-SRG3500XB	
	Issue No: 1		
	Test No: T4354	Test Report	Page: 100 of 100

Chase EMS 6.21

Notes

Analyse 120608 C6L Rx 862MHz

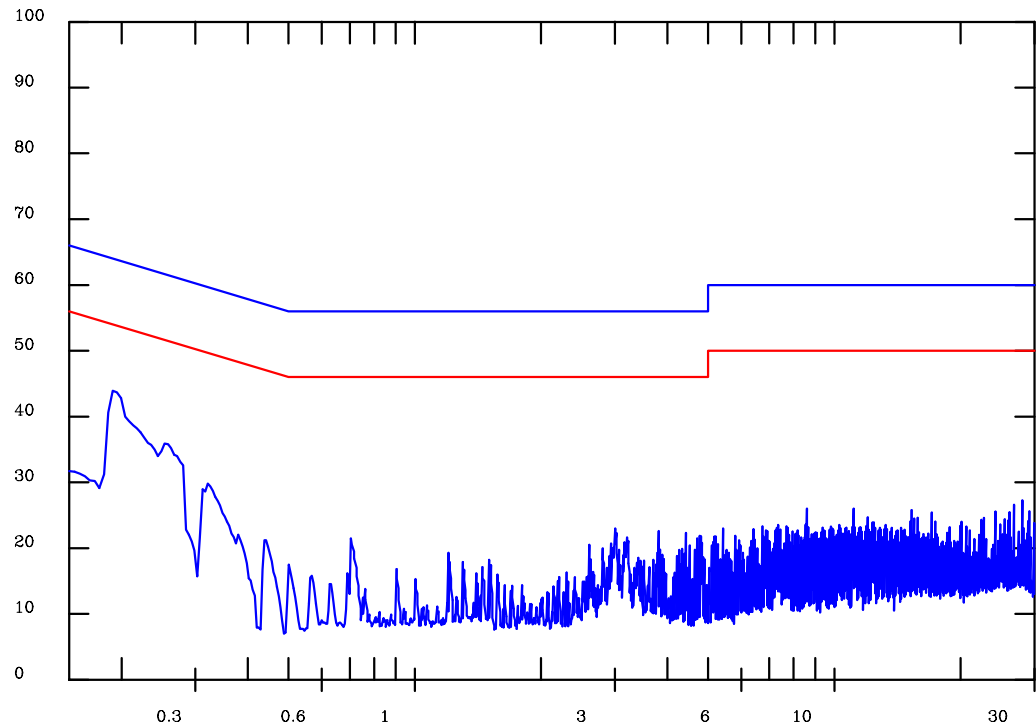
Test: 150kHz-30MHz (L1+CSET001) dBuV

RF level

dBuV

120608 C6L R

Quasi-peak



Log Freq. (0.15 - 30)MHz

Limit CISPR22B (AV) AC POWER

PLOT 66 Conducted Emissions - Receive Mode - Live Line

Company:	Sepura	Product:	SRG3500
Date:	08 Jun 12	Test Engineer:	Dave Smith
Test:	ANSI C63.4	Limit:	Class B
Notes:			
Receive 862MHz			
115V, Dummy load on antenna port.			
L1 R1			
Line:	Live	Attenuator:	10dB PAD
Detector:	QuasiPeak	Operating Mode:	2
LISN:	EMCO	Mod. State:	0
Filename:	C26086E1.plt		

Frequency List (MHz)
