	Report No: <b>R3112_RFEXP</b> Issue No: <b>1</b>	<b>FCC ID: XX6-SRG3500XB</b>	
	Test No: <b>T4354</b>	<b>Test Report</b>	Page: <b>1 of 4</b>



**dB Technology**  
|----- ( Cambridge Ltd. ) -----|

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## REPORT ON RF EXPOSURE CALCULATIONS

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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dB Technology (Cambridge) Ltd.*

	Report No: <b>R3112_RFEXP</b>	FCC ID: <b>XX6-SRG3500XB</b>	
	Issue No: <b>1</b>		
Test No: <b>T4354</b>	Test Report		Page: 2 of 4

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.**


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	Test No: <b>T4354</b>	<b>Test Report</b>	Page: <b>3 of 4</b>

## 1 EUT Details

### 1.1 General

The EUT was a TETRA Voice + Data Mobile Station.

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

	Report No: <b>R3112_RFEXP</b> Issue No: <b>1</b>	<b>FCC ID: XX6-SRG3500XB</b>	
	Test No: <b>T4354</b>	<b>Test Report</b>	Page: <b>4 of 4</b>

RF Exposure Evaluation: OET Bulletin 65 97-01 CFR 47 1.1310

Manufacturer: Sepura

Product: SRG3500

#### Numeric Gain

Antenna 1: 300-00390 5dBi 3.16 Tetra only

Antenna 3: 300-00993 0dBd 1.64 For use with DMU configuration

Frequency (MHz)	817	869
Output Power (mW):	10000	10000
Numerical Antenna Gain:	3.16	3.16
Duty cycle (%):	25	25
Distance (cm):	20	20
Power Density (mW/cm2):	1.572	1.572
FCC Limits: (mW/cm2)		
Controlled Environment: (f/300)	2.72 PASS	2.90 PASS

Output power is nominal output as specified by the manufacturer and verified in the test report.

Antenna gain is taken from the supplied data sheets.

Duty Cycle is based on Tetra System in which each channel is divided into 4 slots - with equal time allocation.

$$\text{Total Power, } P(\text{Watts}) = \text{Output Power} \times \text{Antenna Gain} \times \frac{\text{Duty Cycle}}{100}$$

$$\text{Power at a Distance, } d(\text{metres}) = \frac{P}{4 \pi d^2}$$

Conclusion:

At a distance of 20cm the maximum power density is 1.572 mW/cm2 which is comfortably below the controlled environment limit of 2.72 mW/cm2