	Report No: Issue No:	R3413_RFEXP 2	FCC ID: XX6-SRG3900XN		
	Test No:	T5507	Test Report	Page:	1 of 5



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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** 

# **SRG3900 XN**

#### dated

## 3rd November 2014

#### **Document History**

Issue	Date	Affected page(s)	Description of modifications	Revised by	Approved by
1	3/11/14		Initial release		
2	11/12/14	All	Added calculations for lower gain antenna	DS	DB

Based on report template: v090319

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(dB)	Test No:	T5507		Test Report		Page:	2 of 5	
Equi	pment Und	ler Test (EUT):		SRG3900 XN	J			
Test	Commissi	oned by:		Sepura PLC Radio House St Andrews F Cambridge Cambridgeshi CB4 1GR	Road ire			
Repr	esentative	:		Steve Wood				
Test	Started:			27th August 2014				
Test	Complete	d:		30th October 2014				
Test	Engineer:			Dave Smith				
Date	e of Report	:		3rd Novembe	er 2014			
Writ	ten by: _	Dave	Smith					
Sign	ature:	D-A	Smith					
Date	e:	3rd Nover	nber 2014					

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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## 1 EUT Details

#### 1.1 General

The EUT was a TETRA Voice + Data Mobile Station.

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

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(dB)	Test No:	T5507		Test Report	Page:	4 of 5
RF Exposu	re Evaluatio	n: OET E	Bulletin 65 97-01	CFR 47 1.1310		
Manufactu	irer: Sepur	a				
Product:	SRG3	900XN				
			Numeric G	ain		
Antenna 1	: 300-	00390 5dBi	3.16	Tetra only		

Frequency (MHz)	809	869
Output Power (mW):	10000	10000
Numerical Antenna Gain:	3.16	3.16
Duty cycle (%):	25	25
Distance (cm):	35	35
Power Density (mW/cm2):	0.513	0.513
FCC Limits: (mW/cm2)		
General:(f/1500)	0.54 PA	SS 0.58 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.

Total Power, 
$$P(Watts) = Output Power \times Antenna Gain \times \frac{Duty Cycle}{100}$$
  
Power at a Distance,  $d(metres) = \frac{P}{4 \Pi d^2}$ 

Conclusion:

At a distance of 35cm the maximum power density is 0.513 mW/cm2 which is below the general environment limit of 0.54 mW/cm2

	Report No: <b>R341</b> Issue No:	3_RFEXP 2	FCC	ID: XX6-SRG3900XN		
(dB)	Test No: T	5507		Test Report	Page:	5 of 5
RF Exposu	re Evaluation:	OET Bullet	tin 65 97-01	CFR 47 1.1310		
Manufactu	rer: Sepura					
Product:	SRG3900XN					
			Numeric Gain			
Antenna 2	: 300-00993	OdBd	1.64	For use with DMU configuration	on	

-

Frequency (MHz)	809		869	
Output Power (mW):	10000		10000	
Numerical Antenna Gain:	1.64		1.64	
Duty cycle (%):	25		25	
Distance (cm):	35		35	
Power Density (mW/cm2):	0.266		0.266	
FCC Limits: (mW/cm2)				
General:(f/1500)	0.54	PASS	0.58	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.

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

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

Conclusion:

At a distance of 35cm the maximum power density is 0.266 mW/cm2 which is below the general environment limit of 0.54 mW/cm2