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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

STP9040 + Car Kit

dated


15th December 2013

Document History

Issue	Date	Affected page(s)	Description of modifications	Revised by	Approved by
1	15/12/13		Initial release		
2	02/01/14	4	Corrected model No: for antenna	DB	DS

Based on report template:
v090319

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Equipment Under Test (EUT):

STP9040 + Car Kit

Test Commissioned by:

Sepura PLC
Radio House
St Andrews Road
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Cambridgeshire
CB4 1GR

Representative:

Steve Wood

Test Engineer:

Dave Smith

Date of Report:

15th December 2013

Written by: Dave Smith

Checked by: Derek Barlow

Signature:

D. A. Smith


Signature:

D. Barlow

Date: 15th December 2013

Date: 19th December 2013

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 Hand Portable .

This report covers RF Exposure Calculations when used in a Car Kit configuration.

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

Manufacturer: Sepura

Product: STP9040

Antenna 1: 9525-800-41080 7dBi Numeric Gain 5.01 Fitted to Car-Kit

Frequency (MHz)	450	470
Output Power (mW):	1800	1800
Numerical Antenna Gain:	5.01	5.01
Duty cycle (%):	25	25
Distance (cm):	25	25
Power Density (mW/cm ²):	0.287	0.287
FCC Limits: (mW/cm²)		
General limit: (f/1500)	0.30 PASS	0.31 PASS

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 25cm the maximum power density is 0.287 mW/cm² which is just below the general environment limit of 0.3 mW/cm²