	Report No: R3051_RFEXP Issue No: 2	FCC IDs: XX6STP8040 / XX6STP8140 / XX6STP8240	
	Test No: T4204	Test Report	Page: 1 of 4



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

EMC
Testing

EMC
Consultancy

EMC
Training

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 RF EXPOSURE CALCULATIONS

Performed at:
TWENTY PENCE TEST SITE

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

on

Sepura PLC

STP8040/STP8140/STP8240 + Car Kit

dated


28th August 2012

Document History

Issue	Date	Affected page(s)	Description of modifications	Revised by	Approved by
1	14/03/12		Initial release		
2	28/08/12	4	Changed to General Limits	DS	DB

Based on report template:
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	Report No: R3051_RFEXP Issue No: 2	FCC IDs: XX6STP8040 / XX6STP8140 / XX6STP8240	
	Test No: T4204	Test Report	Page: 2 of 4

Equipment Under Test (EUT): STP8040/STP8140/STP8240 + Car Kit

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

Representative: Bob Allen

Test Engineer: Dave Smith

Date of Report: 28th August 2012

Written by: Dave Smith

Checked by: Derek Barlow


Signature: 

Signature: 

Date: 28th August 2012

Date: 28th August 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.


	Report No: R3051_RFEXP Issue No: 2	FCC IDs: XX6STP8040 / XX6STP8140 / XX6STP8240	
	Test No: T4204	Test Report	Page: 3 of 4

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.

	Report No: R3051_RFEXP Issue No: 2	FCC IDs: XX6STP8040 / XX6STP8140 / XX6STP8240	
	Test No: T4204	Test Report	Page: 4 of 4

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

Manufacturer: Sepura

Product: STP8040 / STP8041 / STP8240

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