



Radio Frequency Exposure Evaluation Report

FOR:
Smith & Nephew Medical, Ltd.

Model Number:
66802146

Product Description:

The VERSAJET III Hydrosurgery System is intended for applications that in the healthcare professionals' judgment, require sharp debridement.

FCC ID: 2AWH9-VJIII
IC ID: 26135-VJIII

Applied Rules and Standards:
CFR 47 Part 2.1093 and RSS-102 Issue 5
FCC KDB 447498 D01 General RF Exposure Guidance v06

Test Report #: EMC_SMITH-014-20001_FCC_ISED_SAR_EX

DATE: 2022-01-13



A2LA Accredited

IC recognized #
3462B-1

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1. Assessment

The following device meets the limits of general population uncontrolled exposure specified in CFR 47 Part 2.1093 according to SAR evaluation exclusion requirements specified in FCC regulation as listed in KDB 447498 and the relevant ISED Canada standard RSS-102, as it has been evaluated against the standards mentioned above under this section.

Responsible for Testing Laboratory:

2022-01-13	Compliance	Kevin Wang (EMC Lab Manager)	
Date	Section	Name	Signature

Responsible for the Report:

2022-01-13	Compliance	Cheng Song (EMC Engineer)	
Date	Section	Name	Signature

The test results of this test report relate exclusively to the test item specified in Section3.

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2. Administrative Data

2.1. Identification of the Testing Laboratory Issuing the Test Report

Company Name:	CETECOM Inc.
Department:	Compliance
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Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Compliance Manager:	Kevin Wang
Responsible Project Manager:	Cathy Palacios

2.2. Identification of the Client

Client's Name:	Smith & Nephew Medical, Ltd.
Street Address:	101 Hessle Road
City/Zip Code	Hull, HU3 2BN
Country	United Kingdom

2.3. Identification of the Manufacturer

Applicant's Name:	Flextronics Manufacturing (S) Pte Ltd. Singapore.
Street Address:	1 Kallang Place
City/Zip Code	339211
Country	Singapore

3. Equipment under Assessment

Model No:	66802146
Hardware Version:	121-A2-000508-A
Software Version:	121-SWE-000002-1.15.A01318
FCC ID	2AWH9-VJIII
IC ID	26135-VJIII
Product Description:	The VERSAJET III Hydrosurgery System is intended for applications that in the healthcare professionals' judgment, require sharp debridement.
Power Supply/ Rated Operating Voltage Range:	Vmin: 100 VAC, Vmax: 240 VAC
Operating Temperature Range:	Tmin: 10 °C / Tmax: 32 °C
Radios included in the device:	RFID: Texas Instruments TRF7970A
EUT Dimensions(mm):	40mm x 33mm x 17.2mm
Weight:	14 kg
Co-located Transmitters/ Antennas:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Exposure Category:	<input type="checkbox"/> Occupational/ Controlled <input checked="" type="checkbox"/> General Population/ Uncontrolled
Device Category:	<input type="checkbox"/> Fixed Installation <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Mixed Mobile and Portable
EUT Diameter	<input checked="" type="checkbox"/> < 60 cm <input type="checkbox"/> Other _____
Sample Revision	<input type="checkbox"/> Prototype Unit; <input type="checkbox"/> Production Unit; <input checked="" type="checkbox"/> Pre-Production

4. FCC Exemption Limits for Routine Evaluation

4.1. FCC SAR test exclusions are set by KDB 447498 D01 General RF Exposure Guidance v06

KDB 447498 Section: 4.3.1. Standalone SAR test exclusion considerations

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

4.2. RSS-102

ISED/C RSS-102 Section: 2.5.1 Exemption Limits for Routine Evaluation — SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1. Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power.

Table with limits for the frequencies off interest

Frequency (MHz)	d[mm]	Exemption Limits [mW]
450	5	52
835	5	17
1900	5	7
2450	5	4
3500	5	2

5. Stand-Alone SAR Evaluation Exclusion

5.1. Justification for using the 5 mm Distance

The conservative distance of 5 mm is an estimate of how close a human body can be to the device in its typical application.

5.2. SAR Exclusion Calculation Table

According to KDB 447498, SAR evaluation can be excluded if the following equation is satisfied:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR}$

FCC Standalone Transmission SAR Exclusion Calculations								
Band	Frequency (GHz)	Max.Measured Output Power(mW)	Source Based Duty	Load based	Distance(mm)	Effective Time	P1/D*SQRT(F)	1-g ≤ 3.0
RFID	0.01356	0.00	1.00	1	5	5.91562E-08	1.37772E-09	Yes

6. Revision History

Date	Template Revision	Changes to report	Prepared by
2022-01-13	EMC_SMITH-014-20001_FCCISED_SAR_EX	Initial Version	Cheng Song

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