

Test report No:
NIE: 57186RAN.002A1

Assessment report

RF EXPOSURE REPORT ACCORDING TO

FCC 47 CFR Part 2.1093
ISED RSS-102 Issue 5:2015
ISED RSS-102-SPR-002 Issue 1:2016
IEEE Std C95.3-2002

Identification of item tested	General Medical Devices (Bone anchored sound processor).	
Trademark	Cochlear	
Model and /or type reference	Osia 2 Sound Processor	
Other identification of the product	FCC ID: QZ3OSIA2 IC: 8039C-OSIA2 HW Version: EP4 SW Version: Osia2-NPC.0.8.5	
Features	Bluetooth LE, Proprietary protocol 2.4 GHz ISM band, SRD 5 MHz.	
Manufacturer	COCHLEAR LIMITED 1 University Avenue, Macquarie University, NSW, 2109, Australia	
Test method requested, standard	FCC 47 CFR Part 2.1093. Radiofrequency radiation exposure evaluation: portable devices. ISED RSS-102 Issue 5 (2015-03) – Radio Frequency Exposure Compliance of Radiocommunication Apparatus RSS-102-SPR-002 Issue 1 (2016-09). – Supplementary Procedure for Assessing Compliance with RSS-102 Nerve Stimulation Exposure Limits (3kHz a 10MHz) IEEE Std C95.3-2002: “IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz–300 GHz”.	
Summary	IN COMPLIANCE	
Approved by (name / position & signature)	Miguel Lacave Antennas Lab Manager	 MIGUEL LACAVE GARCÍA 2019.08.29 11:04:18 +02'00'
Date of issue	2019-08-29	
Report template No	FAN24_01	

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Competences and guarantees

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Assessment Report apply only to the particular item under test established in this document.

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General conditions

1. This report is only referred to the item that has undergone the assessment.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
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4. This assessment report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA and the Accreditation Bodies.

Uncertainty

Uncertainty (factor $k=2$) was calculated according to the DEKRA internal document PODT000.

Data provided by the client

The Cochlear Osia System uses bone conduction to transmit sounds to the cochlear (inner ear) with the purpose of enhancing hearing. The Osia 2 Sound Processor is intended to be used as a part of the Cochlear Osia System to pick up surrounding sound and transfer it to the implant through a digital inductive link.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples under test have been selected by: the Client.

Sample M/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
57186B/001	General Medical Devices (Bone anchored sound processor)	Osia 2 Sound Processor	1170020010597	2018/11/19

1. Sample M/01 has undergone the test(s) specified in subclause "Test method requested".

Test sample description

The test sample consists of a bone anchored sound processor, which uses bone conduction to transmit sounds to the cochlea (inner ear) with the purpose of enhancing hearing.

Identification of the client

COCHLEAR BONE ANCHORED SOLUTIONS AB
Konstruktionsvägen 14, 43533 Mölnlycke, SWEDEN

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2019-01-30
Date (finish)	2019-01-30

Document history

Report number	Date	Description
57186RAN.002	2019-01-30	First release
57186RAN.002A1	2019-08-29	Second release. Corrected typo in cover page related to FCC standard name

Environmental conditions

The following limits were not exceeded during the tests:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 60 %

Used instrumentation

		Last Cal. date	Cal. due date
1.	PMM Magnetic and Electromagnetic field meter 8051	2018/02	2020/02
2.	PMM Magnetic Field Probe BA04	2018/02	2020/02
2.	Lumiloop GMBH LSProbe 1.2	2017/09	2019/09
3.	Low Dielectric Tripod Manfrotto H-491009-01	-	-

General description of the device under evaluation

The test sample consists of a bone anchored sound processor, which uses bone conduction to transmit sounds to the cochlea (inner ear) with the purpose of enhancing hearing. It supports Bluetooth Low Energy, Proprietary protocol in 2.4 GHz ISM band and SRD 5 MHz.

According to the manufacturer, during its normal use, the separation distance between the device and the body of nearby users will be 0 cm.

The equipment specifications for Bluetooth LE and Proprietary 2.4 GHz declared by the manufacturer are:

Frequency (MHz)	Technology	Max. RF output power (dBm)	Max. Antenna gain (dBi)	Maximum E.I.R.P. (dBm)
2402-2480	Bluetooth LE	0.0	-1.7	-1.7
2402-2480	Proprietary	0.0	-1.7	-1.7

Table 1: Equipment specifications

The equipment also supports SRD at 5 MHz, which needs field testing as part of the RF Exposure assessment. See test results in Appendix A and B of this document.

Assessment summary

Radiofrequency radiation exposure limits			
FCC 47 CFR § 2.1093 & ISED RSS -102 Issue 5:2015			
Band (MHz)	Technology	Band	VERDICT (Pass/Fail)
5.0	SRD	LF Band	Pass
2450	Bluetooth LE	ISM	Pass
2450	Proprietary	ISM	Pass

Table 2: Assessment summary

Appendix A: FCC RF Exposure

FCC SAR test exclusion considerations

As stated by the FCC (47 CFR §2.1093), human exposure to RF emissions from portable devices, which are defined as transmitting devices to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user, must be evaluated with respect to the FCC-adopted limits for SAR.

According to FCC OET KDB 447498 D01 General RF Exposure Guidance:

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition is satisfied.

- For distances ≤ 50 mm

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

Where

- f(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 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 is applied to determine SAR test exclusion.

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table:

MHz	5	10	15	20	25	30	35	40	45	50	mm
150	39	77	116	155	194	232	271	310	349	387	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	164	192	219	246	274	
450	22	45	67	89	112	134	157	179	201	224	
835	16	33	49	66	82	98	115	131	148	164	
900	16	32	47	63	79	95	111	126	142	158	
1500	12	24	37	49	61	73	86	98	110	122	
1900	11	22	33	44	54	65	76	87	98	109	
2450	10	19	29	38	48	57	67	77	86	96	
3600	8	16	24	32	40	47	55	63	71	79	
5200	7	13	20	26	33	39	46	53	59	66	
5400	6	13	19	26	32	39	45	52	58	65	
5800	6	12	19	25	31	37	44	50	56	62	

Table 3: SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

- For distances > 50 mm

For 100 MHz to 6 GHz frequencies and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:

1) [Power allowed at numeric threshold for 50 mm in table 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz

2) [Power allowed at numeric threshold for 50 mm in table 1) + (test separation distance - 50 mm)·10] mW, at > 1500 MHz and ≤ 6 GHz

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table

MHz	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	SAR Test Exclusion Threshold (mW)
150	387	397	407	417	427	437	447	457	467	477	487	497	507	517	527	
300	274	294	314	334	354	374	394	414	434	454	474	494	514	534	554	
450	224	254	284	314	344	374	404	434	464	494	524	554	584	614	644	
835	164	220	275	331	387	442	498	554	609	665	721	776	832	888	943	
900	158	218	278	338	398	458	518	578	638	698	758	818	878	938	998	
1500	122	222	322	422	522	622	722	822	922	1022	1122	1222	1322	1422	1522	
1900	109	209	309	409	509	609	709	809	909	1009	1109	1209	1309	1409	1509	
2450	96	196	296	396	496	596	696	796	896	996	1096	1196	1296	1396	1496	
3600	79	179	279	379	479	579	679	779	879	979	1079	1179	1279	1379	1479	
5200	66	166	266	366	466	566	666	766	866	966	1066	1166	1266	1366	1466	
5400	65	165	265	365	465	565	665	765	865	965	1065	1165	1265	1365	1465	
5800	62	162	262	362	462	562	662	762	862	962	1062	1162	1262	1362	1462	

Table 4: SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and > 50 mm

- For frequencies below 100 MHz

The following may be considered for SAR test exclusion:

1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by [1 + log(100/f(MHz))]

2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by ½

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table

MHz	< 50	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	237	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	mW
50	308	617	625	634	643	651	660	669	677	686	695	703	712	721	729	738	
10	474	948	961	975	988	1001	1015	1028	1041	1055	1068	1081	1095	1108	1121	1135	
1	711	1422	1442	1462	1482	1502	1522	1542	1562	1582	1602	1622	1642	1662	1682	1702	
0.1	948	1896	1923	1949	1976	2003	2029	2056	2083	2109	2136	2163	2189	2216	2243	2269	
0.05	1019	2039	2067	2096	2125	2153	2182	2211	2239	2268	2297	2325	2354	2383	2411	2440	
0.01	1185	2370	2403	2437	2470	2503	2537	2570	2603	2637	2670	2703	2737	2770	2803	2837	

Table 5: SAR Test Exclusion Thresholds for frequencies < 100 MHz

FCC RF Exposure evaluation

According to §1.1310 Radiofrequency radiation exposure limits, paragraph (e), the limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields are:

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	* 100	6
3.0–30	1842/f	4.89/f	* 900/f ²	6
30–300	61.4	0.163	1.0	6
300–1,500			f/300	6
1,500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	* 100	30
1.34–30	824/f	2.19/f	* 180/f ²	30
30–300	27.5	0.073	0.2	30
300–1,500			f/1500	30
1,500–100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m according to KDB 680106 D01.

FCC Evaluation Results

1. Bluetooth and Proprietary 2.4 GHz Evaluation

The equipment specifications declared by the manufacturer for the Bluetooth Low Energy and Proprietary technologies are:

Mode	Frequency (MHz)	Max. declared output power (dBm)	Max. declared output power (mW)
Bluetooth LE / Proprietary	2402-2480	0.0	1.0

Table 6: Declared output power and antenna gain values

The evaluation according to a minimum intended use distance of 5 mm will be as follow:

Technology	Max Declared Output Power (dBm)		Min. Test Distance (mm)	Freq. (GHz)	Result	Test Exclusion
	(dBm)	(mW)				
Bluetooth	0.0	1.0	5	2.48	0.31	Pass
Proprietary	0.0	1.0	5	2.48	0.31	Pass

Table 7: FCC Evaluation Result

The computed 0.31 is < 3.0, so according to KDB 447498 D01 – General RF Exposure Guidance, this mode qualifies for Standalone SAR test exclusion for 1-g SAR and 10-g Extremity SAR.

As stated into FCC KDB 447498 D01 General RF Exposure Guidance, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[$\sqrt{f(\text{GHz})/x}$ W/kg for test separation distances ≤ 50 mm; where x = 7.5 for 1-g SAR and x= 18,75 for 10-g extremity SAR.

When the min. test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion:

Estimated SAR					
Protocol	Max. Output Power		Min. separation distance (mm)	Freq. (GHz)	Estimated 1-g SAR
	(dBm)	(mW)			
Bluetooth / Proprietary	0.0	1.0	5	2.48	0.042

Table 8: Estimated SAR

The Estimated 1-g SAR value is 0.042 W/kg. According to FCC “§2.1093 Radiofrequency radiation exposure evaluation: portable devices”, the limit for 1-g SAR is 1.6 W/kg.

2. 5MHz SRD Evaluation

Measurements of external H and E fields have been performed from each device side, using the equipment listed in the “Used Instrumentation” paragraph of this document. A test separation distance of 0 cm was set for the measurements using a commercial sample provided by the manufacturer:

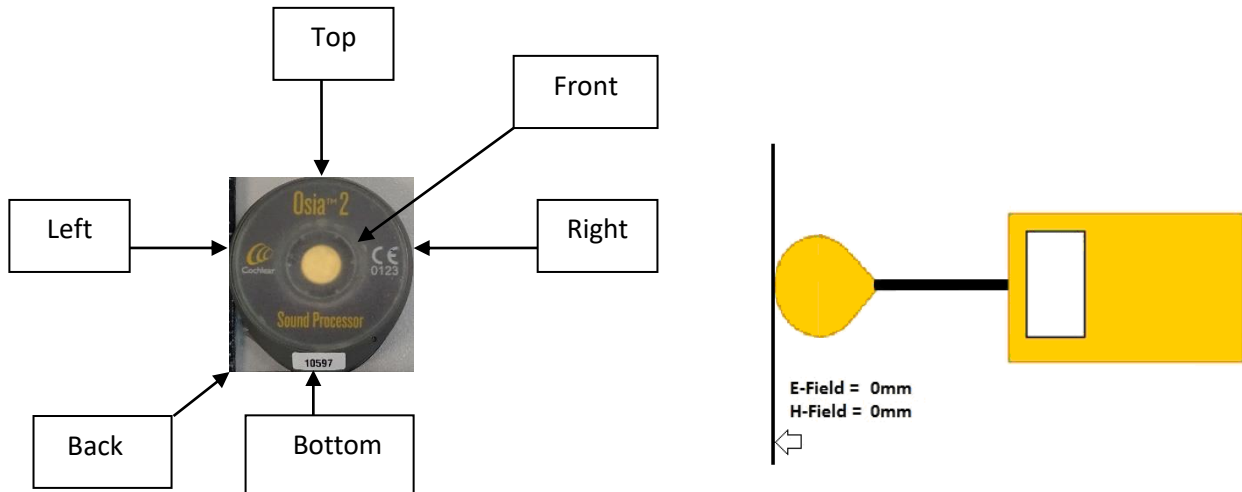


Figure 9: Measurement setup

The maximum measured values for this transmitting technology are listed in the following tables:

Frequency (MHz)	H-Field measurements [A/m]						Max [A/m]	Limit [A/m]	% Limit	Verdict
	Top	Bottom	Left	Right	Front	Back				
5.0	0.010	0.000	0.010	0.000	0.125	0.075	0.125	0.978	13.29	Pass

Table 10: H-field measurement values

Frequency (MHz)	E-Field measurements [V/m]						Max [V/m]	Limit [V/m]	% Limit	Verdict
	Top	Bottom	Left	Right	Front	Back				
5.0	2.12	2.46	1.88	2.32	4.34	7.19	7.19	368.40	1.95	Pass

Table 11: E-field measurements values

All H-Field and E-Field values are in compliance to values shown into §1.1310, paragraph (e), “Table 1: limits for Maximum Permissible Exposure (MPE).

3. Multiple frequencies assessment

When multiple sources are introduced into an environment, it becomes necessary to address the sources interdependently, since each source will contribute some percentage of the maximum exposure toward the total exposure. The sum of the ratios of the exposure from each source to the corresponding maximum exposure for the frequency of each source must be evaluated.

The exposure complies with the maximum permissible exposure if the sum of the ratios is less than unity:

$$\sum_{i=1}^n \frac{Exp_i}{Limit_i} < 1$$

Where

Exp_i is the measured/calculated exposure value of each source;

$Limit_i$ is the applicable limit of each source.

The device under evaluation is able to transmit simultaneously using SRD 5 MHz and Bluetooth LE / Proprietary 2.4 GHz, therefore the worst case multiple frequencies calculation will be as follow:

$$\frac{0.042}{1.6} + \frac{0.125}{0.978} = 0.026 + 0.128 = 0.154 < 1 \text{ Limit}$$

Appendix B: ISED RF Exposure

ISED SAR test exclusion considerations

According to “RSS-102 Issue 5 (2015-03) – Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)”, paragraph “2.5.1 Exemption Limits for Routine Evaluation – SAR Evaluation”, the device operates below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1:

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance^{4,5}

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

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. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

ISED RF Exposure evaluation

According to RSS-102 Issue 5, Paragraph "4. Exposure Limits", Industry of Canada has adopted the RF field strength limits established in Health Canada's RF exposure guideline, Safety code 6:

**Table 4: RF Field Strength Limits for Devices Used by the General Public
(Uncontrolled Environment)**

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10 ²¹	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ $f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	58.07/ $f^{0.25}$	0.1540/ $f^{0.25}$	8.944/ $f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 $f^{0.3417}$	0.008335 $f^{0.3417}$	0.02619 $f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ $f^{1.2}$
150000-300000	0.158 $f^{0.5}$	4.21 x 10 ⁻⁴ $f^{0.5}$	6.67 x 10 ⁻⁵ f	616000/ $f^{1.2}$
Note: f is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

ISED Evaluation results

1. Bluetooth and Proprietary 2.4 GHz Evaluation

According to paragraph “2.5.1 Exemption Limits for Routine Evaluation – SAR Evaluation”, the exemption limits for the applicable separation distance have been calculated by linear interpolation for the following operating frequencies:

Frequency (MHz)	Distance (mm)	Exemption Limits (mW)
2402	5	4.26
2440	5	4.05
2480	5	3.95

Table 12: ISED Exemption Limits

The device has a transmitting antenna with a negative gain; therefore, the maximum output power has been used for the evaluation as a worst-case condition. For an intended use distance of 5 mm, the evaluation for the applicable output power levels and exemption limits for each operating frequency will be as follow:

Technology	Frequency (MHz)	Max. Declared Output Power (dBm)	Max. Declared Output Power (mW)	ISED Exemption Limits (mW)	Verdict
Bluetooth	2402	0.0	1.0	4.26	Pass
	2440	0.0	1.0	4.05	Pass
	2480	0.0	1.0	3.95	Pass

Table 13: ISED Evaluation Result

As all operating frequencies comply with SAR Test Exclusion Thresholds, according to the standard “ISED RSS-102 Issue 5 (2015-03)”, SAR testing is not required.

Using FCC KDB 447498 D01 General RF Exposure Guidance (see page 11 of this document), the estimated 1-g SAR value is 0.042 W/kg. According to “RSS-102, Table 3: SAR Limits for Devices Used by the General Public”, the 1-g SAR limit for localized limbs is 1.6 W/kg.

2. 5MHz SRD Nerve Stimulation evaluation

According to RSS-102 Issue 5, Nerve Stimulation exposure limits shall be evaluated for transmission into the frequency range from 0.003 to 10 MHz. Supplementary Procedure SPR-002, Issue 1, for Radio Standards Specification RSS-102 sets out the general test methods to be followed when carrying out an assessment to the nerve stimulation exposure requirements of RSS-102 Issue 5.

Measurements have been performed installing the device at the edge of an 80 cm tall and non-metallic constructed table, placing the measurement probe at a compliance distance of 0 cm between the probe edge and each device side that can be used to install the device, as specified into Supplementary Procedure SPR-002, “Annex E – E.1.1. Passively Used Table-Top Devices”, using the equipment listed in the “Used Instrumentation” paragraph of this document, and following the measurement method shown in paragraph 6.6.1.1 of “Supplementary Procedure for Assessing Compliance with RSS-102 Nerve Stimulation Exposure Limits SPR-002”:

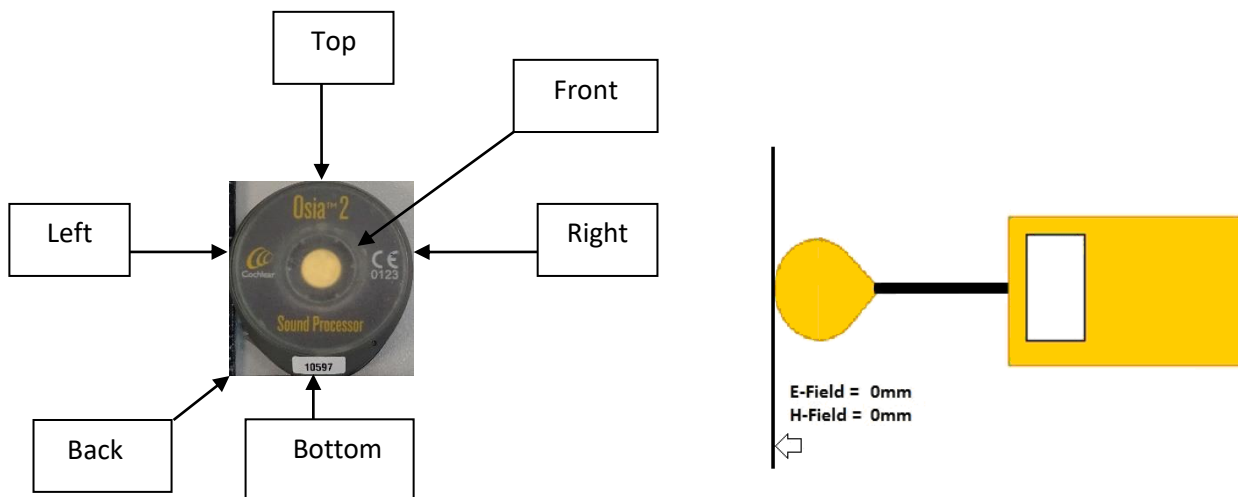


Figure 14: Measurement setup

The maximum measured values for this transmitting technology are listed in the following tables:

Frequency (MHz)	H-Field measurements [A/m]						Max [A/m]	Limit [A/m]	% Limit	Verdict
	Top	Bottom	Left	Right	Front	Back				
5.0	0.010	0.000	0.010	0.000	0.125	0.075	0.125	90	0.14	Pass

Table 15: H-field measurement values

Frequency (MHz)	E-Field measurements [V/m]						Max [V/m]	Limit [V/m]	% Limit	Verdict
	Top	Bottom	Left	Right	Front	Back				
5.0	7,19	3,02	2,40	2,94	5,33	9,59	9.59	83.0	11.55	Pass

Table 16: E-field measurements values

All H-Field and E-Field values are in compliance to values shown into “Table 4: RF Field Strength Limits for Devices Used by the General Public” for the frequency range used by the device.

1. Multiple frequencies assessment

When multiple sources are introduced into an environment, it becomes necessary to address the sources interdependently, since each source will contribute some percentage of the maximum exposure toward the total exposure. The sum of the ratios of the exposure from each source to the corresponding maximum exposure for the frequency of each source must be evaluated.

The exposure complies with the maximum permissible exposure if the sum of the ratios is less than unity:

$$\sum_{i=1}^n \frac{Exp_i}{Limit_i} < 1$$

Where

Exp_i is the measured/calculated exposure value of each source;

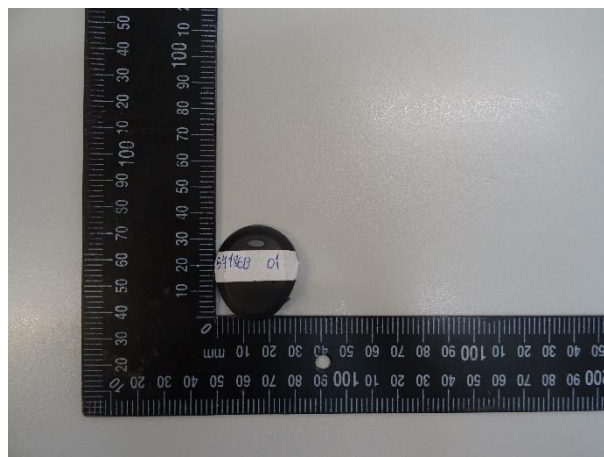
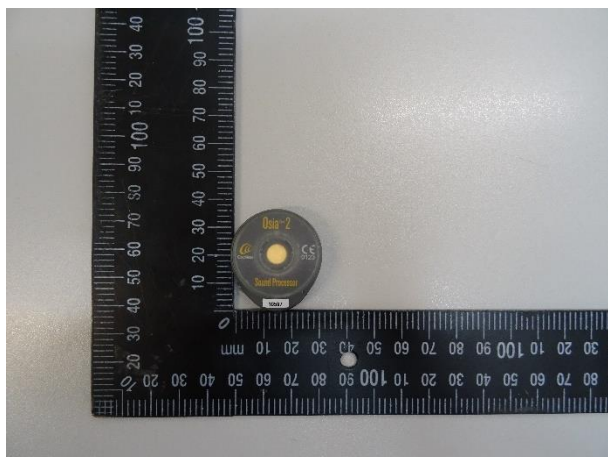
$Limit_i$ is the applicable limit of each source.

The device under evaluation is able to transmit simultaneously using SRD 5 MHz and Bluetooth LE / Proprietary 2.4 GHz, therefore the worst case multiple frequencies calculation will be as follow:

$$\frac{0.042}{1.6} + \frac{9.59}{83} = 0.026 + 0.114 = 0.152 < 1 \text{ Limit}$$

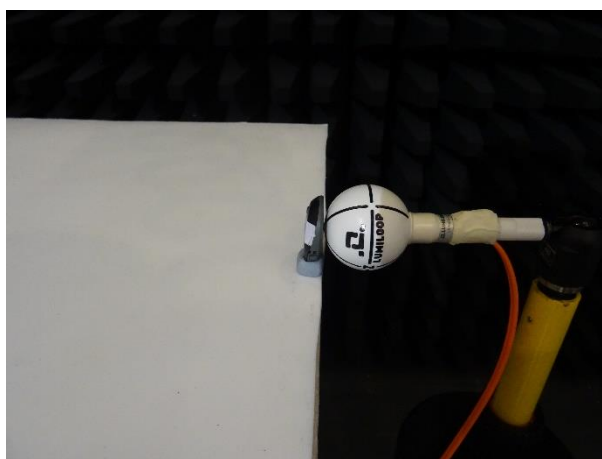
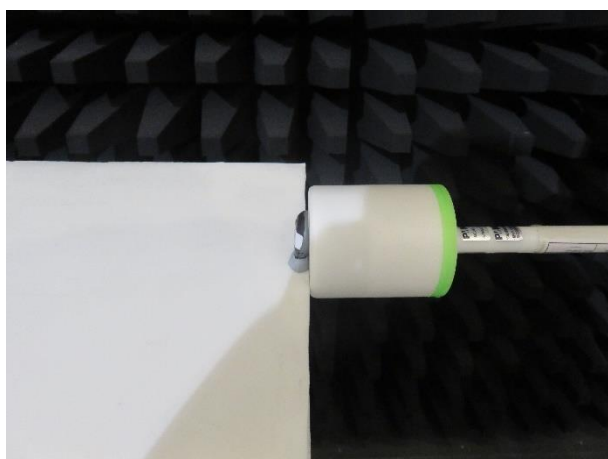
Appendix C: Photographs

Equipment view

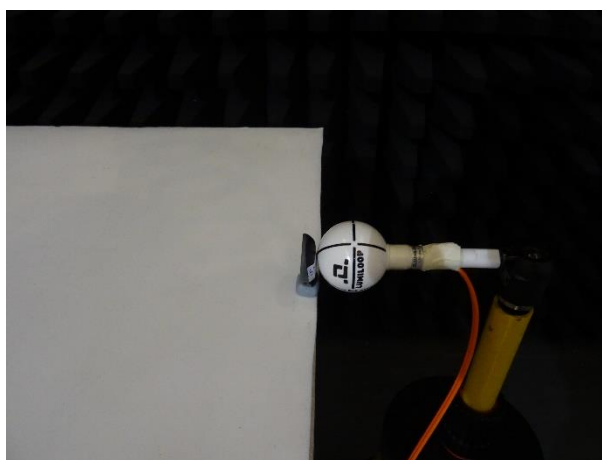
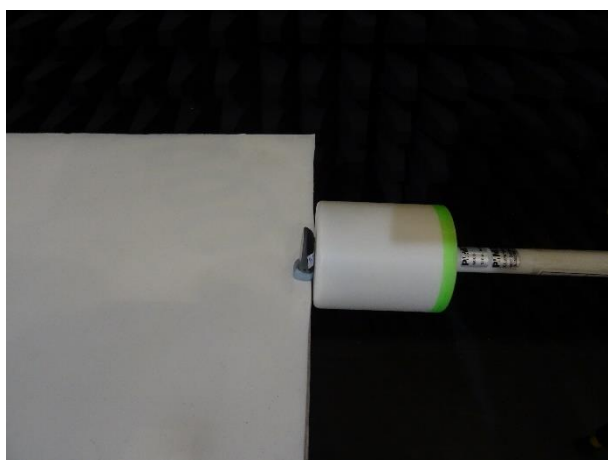


H-Field and E-Field measurement setup views

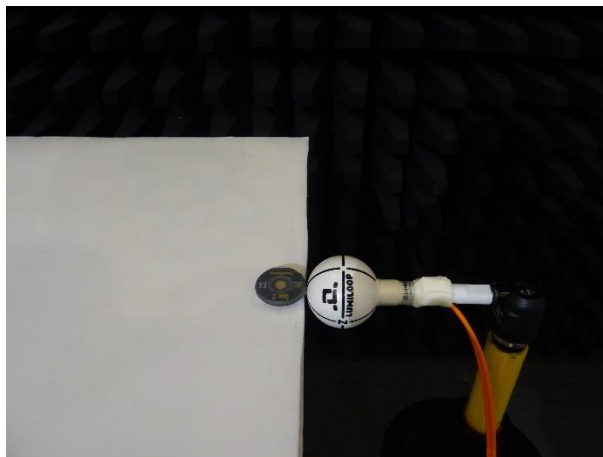
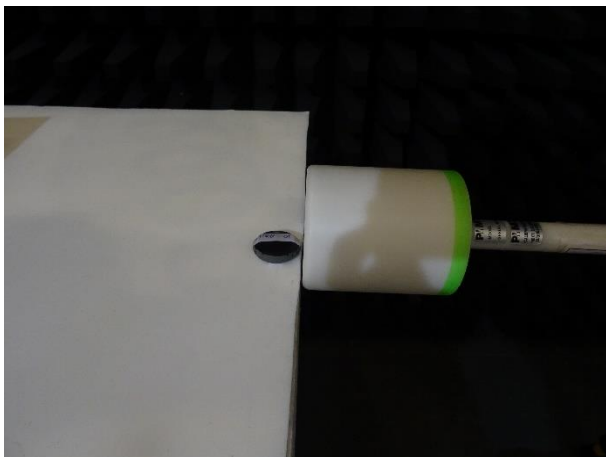
Front



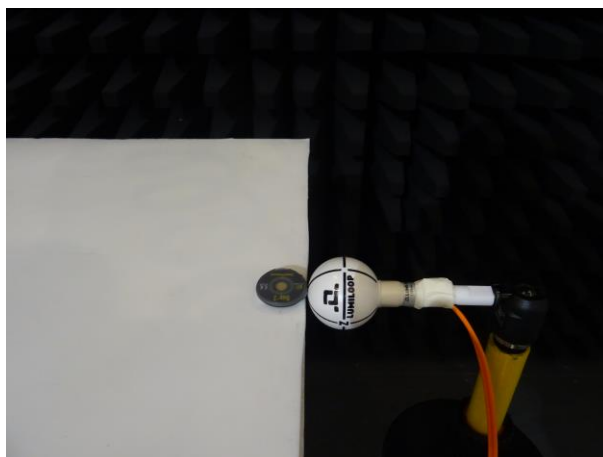
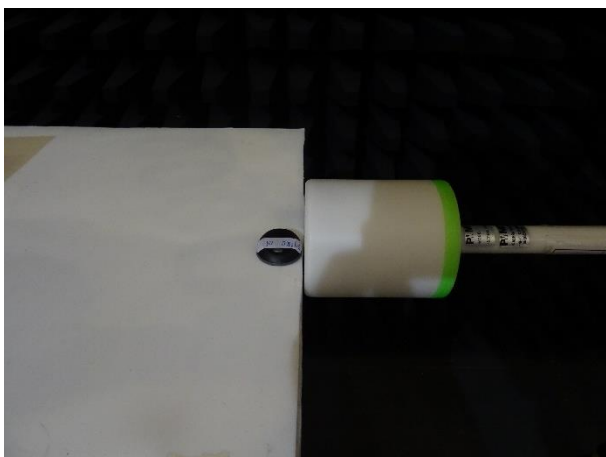
Back



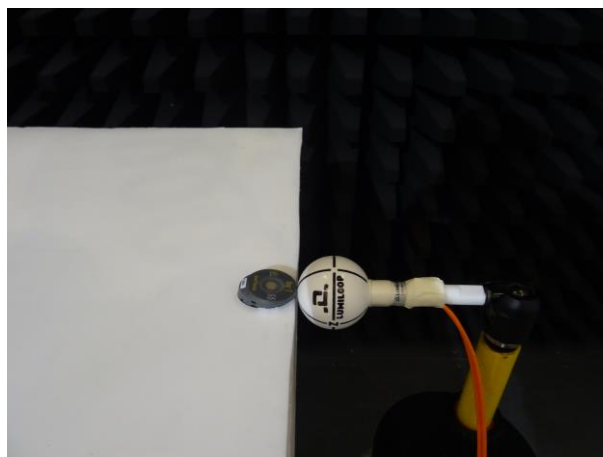
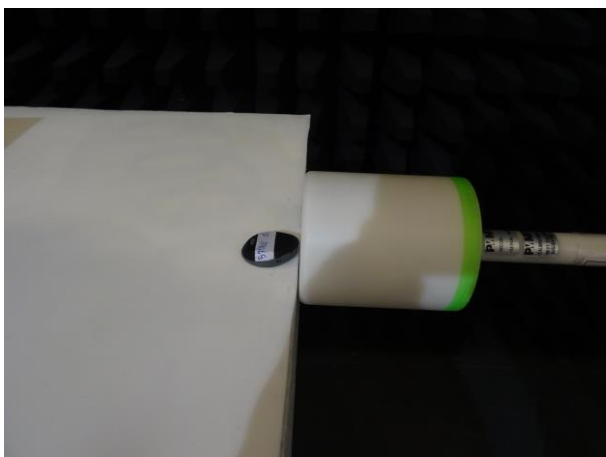
Left



Right



Upper



Bottom

