RF EXPOSURE REPORT

Equipment under test	ANESTHESIA INJECTION SYSTEM(CRADLE)
Model name	AN100-C
FCC ID	2AXRNAN100-C
Applicant	DENTIS CO., LTD
Manufacturer	DENTIS CO., LTD
Date of test(s)	2021.09.01 ~ 2021.09.04
Date of issue	2021.09.10

Issued to

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Issued by

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Test and report completed by :	**Report approval by :**
	
Gu-Bong, Kang Test engineer	Young-Jin, Lee Technical manager

Revision history

Revision	Date of issue	Test report No.	Description
-	2021.09.10	KES-RF1-21T0174	Initial

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1. General information

Applicant	DENTIS CO., LTD
Applicant address	99, Seongseoseo-ro, Dalseo-gu, Daegu, Republic of Korea
Test site	KES Co., Ltd.
Test site address	☐ 3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea ☒ 473-29, Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea
Test Facility	FCC Accreditation Designation No.: KR0100, Registration No.: 444148
FCC rule part(s):	Part 15C
FCC ID:	2AXRNAN100-C
Test device serial No.	☒ Production ☐ Pre-production ☐ Engineering

1.1. EUT description

Equipment under test	ANESTHESIA INJECTION SYSTEM(CRADLE)
Frequency	0.100 ~ 0.130 ㎒
Inductive charging technique	Magnetic Induction
Model:	AN100-C
Antenna specification	Internal type(Coil antenna)
Power source	AC 120 V(Adapter DC output 5 V)
S/W Version	1.0.0
H/W version	1.0.0

1.2. Test configuration

The **DENTIS CO., LTD / AN100-C / ANESTHESIA INJECTION SYSTEM(CRADLE) /FCC ID: 2AXRNAN100-C** was tested according to the specification of EUT, the EUT must comply with following standards.

FCC Part 15C
ANSI C63.10-2013
KDB 680106 D01 V03

1.3. Test frequency

		Frequency Range
Power source	AC 120 V (Adapter DC output 5 V)	0.100 ~ 0.130 ㎒

1.4. Test mode

Mode	Charging current	Description
Charging mode With load	90%	Using Max load
	50%	Using Mid load
	10%	Using Min load

1.6. Accessory information

Equipment	Manufacturer	Model	Serial No.	Power source
AC/DC Adapter	Adapter Technology Co., Ltd.	ATM012T-W050V	-	DC 5 V
ANESTHESIA INJECTION SYSTEM	DENTIS CO., LTD.	AN100	-	DC 3.7 V(Battery)

1.7. Measurement Uncertainty

Test Item		Uncertainty
Uncertainty for Conduction emission test		2.46 dB
Uncertainty for Radiation emission test (include Fundamental emission)	Below 1㎓	4.40 dB
	Above 1㎓	5.94 dB
Note. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

2. Environmental evaluation and exposure limit

Limits for Maximum Permissible Exposure (MPE)

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

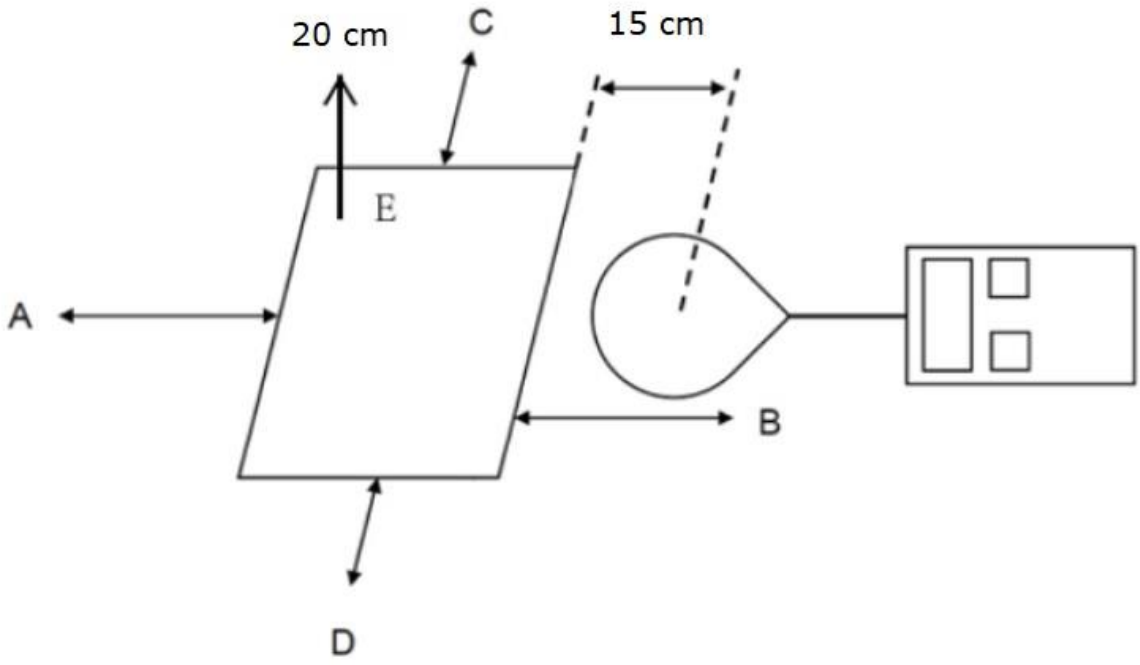
TABLE 1 - Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
(A) Limits for Occupational / Control Exposures				
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	0.613	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/1 500	30
1 500 – 100 000			1.0	30

Note.

1. f= frequency in MHz
2. "*" means Plane-wave equivalent power density

2.1. Test Setup



1. The test was performed on 360° turn table in anechoic chamber.
2. The probe was placed at distance 15 cm or 20 cm which is between the edge of the charger and the geometric center of the probe.
3. The highest emission level was recorded and compared with limit as soon as measurement of each point ; A, B, C, D, E were completed.
4. Point F is highest measured field from moving the probe around the device at distance 15 cm.
5. The EUT was measured according to the KDB 680106 D01v03.

Note.

Equipment Approval Considerations item 5.b) of KDB 680106 D01 v03.

a) Power transfer frequency is less that 1 ㎒.
- The device operates at a frequency of 100.0 ~ 130.0 ㎑.

b) Output power from each primary coil is less than or equal to 15 watts.
- Output power from each primary coil : 5 watts.

c) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
- The transfer system including a charging system with single coil. .

d) Client device is placed directly in contact with the transmitter.
- Client device is placed directly.

e) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- The device is not a mobile device.

f) The aggregate H-field strengths at 15 ㎝ surrounding the device and 20 ㎝ above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50 % of the MPE limit.
- Refer to following test results.

The EUT H-Field Strength levels at 15 ㎝ < 50 % of the MPE H-Field Strength limit 1.63 A/m
0.696 A/m (Max) < 0.815 A/m

2.2. Test results

Test mode : 5 W

E-Field Strength from each edges the EUT

Test Mode		Point A (V/m)	Point B (V/m)	Point C (V/m)	Point D (V/m)	Point E (V/m)
5W Charging mode	10 % load	1.252	1.235	1.120	1.508	1.475
	50 % load	1.263	1.229	1.121	1.479	1.456
	90 % load	1.240	1.218	1.129	1.530	1.437

H-Field Strength from each edges the EUT

Test Mode		Point A (A/m)	Point B (A/m)	Point C (A/m)	Point D (A/m)	Point E (A/m)
5W Charging mode	10 % load	0.208	0.288	0.432	0.376	0.696
	50 % load	0.192	0.280	0.432	0.36	0.688
	90 % load	0.200	0.272	0.416	0.344	0.688

Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.
Electric Field Probe	ETS LINDGREN	HI-6105	00151770	1 year	2022.06.24
Magnetic Field Hitester	HIOKI	FT3470-50	120429926	1 year	2021.10.21

Peripheral device

Device	Manufacturer	Model No.	S/N	Note
-	-	-	-	-