

Radio Frequency Exposure Evaluation

Applicant: MTS

Address of Applicant: #607, 200, Gieopdosi-ro, Jijeong-myeon, Wonju-si, Gangwon-do, Republic of Korea

Manufacturer MTS

Address of Manufacturer /Factory: #607, 200, Gieopdosi-ro, Jijeong-myeon, Wonju-si, Gangwon-do, Republic of Korea

Equipment Under Test (EUT)

Product Name: Endoscope Auto Leak Tester

Model No.: ELT-2000

■ **FCC ID** : 2BFWV-ELT-2000

□ **IC**

Date of Test: April 04, 2024 to April 25, 2024

Date of report issued: February 25, 2024

General Information

Product Name:	Endoscope Auto Leak Tester
Model No.:	ELT-2000
Operation Frequency:	13.56 MHz 2 402 ~ 2 480 MHz
Channel numbers:	NFC: 1 Channel Bluetooth: 40ch
Modulation technology:	NFC: ASK Bluetooth: F1D
Antenna Specification:	PCB Pattern Antenna
Power source	AC 100 ~ 240 V

* ELT-2000 uses certified Bluetooth module.

Applied Standard

- 47 C.F.R. Part 1 Subpart I, Section 1.1310(e)(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)
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1 842/f	4.89/f	*(900/f ²)	≤6
30-300	61.4	0.163	1.0	≤6
300-1500	-	-	f/300	≤6
1500-100,000	-	-	1.0	≤6

(ii) Limits for General Population/Uncontrolled Exposure				
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
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
300-1500	-	-	f/1500	<30
1500-100,000	-	-	1.0	<30

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

MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

Where: S=power density, P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

Test Result

Channel (MHz)	Fundamental Emission (dBm)	Anteanna Gain (dBi)	Conducted Power (dBm)	Max. Tune Up Power (dBm)	Fundamental Emission (mW)	Limit (mW)
13.56	-39.69	0	-39.69	-39	0.001 074	1

Anteanna Gain (dBi)	Antenna Gain (Linear)	Distance (m)	Fundamental Emission (dBuV/m)	Fundamental Emission (V/m)	Fundamental Emission (W)	Fundamental Emission (dBm)
0	1	3	55.54	0.000 598	0.000 001 07	-39.69

Result: The device meets FCC MPE limit at 20 cm for General Population/Uncontrolled Exposure as specified in 47 CFR §1.1310 and §2.1091