Briggs, Mark

From: Mucha, Bartlomiej
Sent: Thursday, July 24, 2014 8:33 AM
To: Briggs, Mark; Danisi, Joseph
Subject: RE: Huntleigh Diagnostics, FCC ID: 2ABOQ-SF1TOCO, Assessment NO.: AN14T0320, 321 and 322
Attachments: FCC Appendix 8_778348-J Freedom US Label Set.pdf; FCC Appendix 1 _FCC_Confidentiality Letter 23-07-14 .pdf; Sonicaid Freedom SF1-SL (Receiver Tune-Up Procedure).pdf; Sonicaid Freedom SF1-US (US Transducer Tune-Up Procedure).pdf; RF Exposure Exemption for 2ABOQ-SF1SL.pdf; RF Exposure Exemption for 2ABOQ-SF1US.pdf

Mark,

See responses below and attachments:

Bartlomiej Mucha
Consumer Technology Division
****
UL LLC
333 Pfingsten Rd.
Northbrook, IL 60062

From: Briggs, Mark
Sent: 7/22/2014 18:23
To: Mucha, Bartlomiej; Danisi, Joseph
Subject: RE: Huntleigh Diagnostics, FCC ID: 2ABOQ-SF1TOCO, 2ABOQ -SF1US and 2ABOQ-SF1SL Assessment NO.: AN14T0320, 321 and 322

Dear Bart

For this series of applications I have the following questions:

For the TOCO device (FCC I: 2ABOQ - SF1TOCO)

- Please explain how the 10kHz transmitter that the Ultrasound portion will be approved?

BM20140724: As described under 15.201(a) Intentional radiators operating below 490 kHz in which all emissions are at least 40 dB below the limits in §15.209 shall be verified pursuant to the procedures in Subpart J of part 2 of this chapter prior to marketing. The emissions from the 10kHz transmitter were all more than 40dB below the limit and so verification is the appropriate approval procedure for this transmitter.

For the Ultrasound device (FCC ID: 2ABOQ -SF1US)

- For the Part 95 power rating on the grant we will need to list the erp. Please explain how the erp is calculated:

BM20140724: Field strength of fundamental = 77.89dBuV/m QP at 3m
From KDB 412172 D01 v01 section 1.3.1:

$$\mathbf{eirp} = p_t \times g_t = (E \times d)^2/30 \quad (1)$$

where:

p_t = transmitter output power in watts,
g_t = numeric gain of the transmitting antenna (unitless),
E = electric field strength in V/m,
d = measurement distance in meters (m).

erp = eirp/1.64 = (E x d)^2 /(30 x 1.64)

So the erp = (0.0078 V/m x 3)^2 / (30 x 1.64) = 0.00001 Watts

- Please confirm that the Ultrasound portion will be approved under Part 18?

BM20140724: Confirmed

- I do not see the revised label showing: *Operation of this equipment requires the prior coordination with a frequency coordinator designated by the FCC for the Wireless Medical Telemetry Service.*

BM20140724: The device is too small to accommodate the statement and also the statement is not truly applicable to this device (the operating frequency is determined by the operating frequency of the receiver unit, FCC ID: 2ABOQ-SF1SL, which is labelled appropriately - see below. The statement is included in the manual.

For the receiver unit (FCC ID: 2ABOQ-SF1SL)

- For the Part 95 power rating on the grant we will need to list the erp. Please explain how the erp is calculated:

BM20140724: Field strength of fundamental = 82.4dBuV/m QP at 3m
From KDB 412172 D01 v01 section 1.3.1:

eirp = p_t x g_t = (E x d)^2/30 (1)
where:
p_t = transmitter output power in watts,
g_t = numeric gain of the transmitting antenna (unitless),
E = electric field strength in V/m,
d = measurement distance in meters (m).

erp = eirp/1.64 = (E x d)^2 /(30 x 1.64)

So the erp = (0.0132 V/m x 3)^2 / (30 x 1.64) = 0.00003 Watts

- I do not see the revised label showing: *Operation of this equipment requires the prior coordination with a frequency coordinator designated by the FCC for the Wireless Medical Telemetry Service.*

BM20140724: See revised label exhibit.