

**Question (A)**

You submitted a confidential exhibit "duty cycle...." Please justify why this is confidential. Why can't this be determined if someone were to test the device after purchasing it. If your answer satisfies the confidential requirement, you will need to submit the appropriate fee and submit a confidential letter.

**Answer:**

Please withdraw the request for confidentiality on this exhibit.

**Question 1**

The WARNING and CAUTION statements indicated in the reply have some conflicts and inconsistencies. All proposed statements (included in text boxes) should indicate that the operating requirements are for meeting FCC RF exposure compliance; that is, "To comply with FCC ..." instead of "To confirm to ...". Please review the following and revise these statements accordingly:

**Answer:**

The word confirm does not appear anywhere in any of the text boxes. The word used is conform. The word conform is a synonym of the word comply. From webster.com "conform: to be obedient or compliant -- usually used with to b : to act in accordance with prevailing standards "

This wording was accepted in the past. The meaning is the same. Please accept it.

**Question 1a**

The CAUTION statement for the fixed mounted device is indicating a minimum separation distance of 20 cm. Please review all antennas approved under this FCC ID in the original filing to ensure that 20 cm (and not more) is appropriate. This distance could be more if high gain antennas are used. If this statement is also intended for used by multiple or different transmitters, as described by similar filings (pending) from the applicant, the separation distance should also satisfy the requirements for other transmitters.

**Answer:**

Our highest power transmitter is 500 mW. Our highest gain antenna has a net gain of 10 dBi with cable.

$$MPE = \sqrt{PxG/4x \pi xS}$$

$$S=1mW/cm^2 \quad P=500 mW \quad G=10$$

$$MPE = 19.95 cm$$

**Question 1b**

The CAUTION statement for antennas that are not mounted at fixed locations requires the antenna to be installed in manners that may be near hands but more than 20 cm from a person's body. Most mobile devices operating with internal antennas or detachable antennas require users to maintain a minimum separation distance because the installation procedures may not automatically provide the needed distance. These mobile devices are not intended for hand-held use. It is not always appropriate to advise users that hands may be located near the antenna. If this statement is to be used for different products, how close the hand may be from an antenna would depend on the output power and antenna configuration of the individual transmitter/product. Even for hand-held devices, the antenna are usually embedded within the device that would automatically provide several centimeters or more from the user's hands.

**Question 1c**

The reply indicates that WARNING statements will be located in the manual for the two body-worn devices and the info within these statements are referring user to follow instructions in the manual. No specific operating instructions from the manual has been submitted. In order for this warning statements to be useful, it should be placed on the final product operating with this transmitter. For users who have access to the manual info, the WARNING label should direct users to specific sections of the manual. For general use, the specific separation distance should be indicated on the label. The warning label should be located on the final product so that the RF exposure info is visible to persons requiring this info to satisfy compliance, in an easily readable and understandable format.

**Answer:**

For the case of non hand held mobile devices (of which there are 2 in this submission) I will change the caution to :

CAUTION: Exposure to Radio Frequency radiation. To comply with FCC RF exposure requirements this antenna shall be installed in such a manner that it will be more than 6 cm from all hands and more than 20 cm from all bodies during normal operation conditions.

$$R = \sqrt{P \cdot G / 4 \cdot \pi}$$

$$R = \sqrt{331 \cdot .64 \cdot 1.58 / 4 \cdot \pi} = 5.16 \text{ cm}$$

**Answer:**

There is only one body-worn device in this application. The Vocollect device is covered by a SAR test that should eliminate the warning and caution statements.

**Question 2**

The RF exposure info indicates the antenna and belt-worn configuration for the Vocollect antenna was tested for SAR for another transmitter in a previously approved filing, at 240 mW conducted output and 380 mW EIRP. The conducted output for this filing is 331 mW with a computed EIRP of 495 mW. Since the transmitters are different and the output for the current filing is substantially higher than that tested previously, the previous SAR results are insufficient for the Vocollect configuration in this filing to demonstrate compliance. Please provide additional info for demonstrating SAR compliance or withdraw this antenna configuration.

**Question 3**

The EIRP indicated in the antenna summary for antenna # 4 (Vocollect) is incorrect.

**Question 4**

FYI - For future filings, vehicle-mount terminals are considered mobile terminals, which is different from mobile transmitters operating with vehicle-mount antennas. Please do not reference vehicle-mount terminals as a vehicle-mount device, which typically refers to vehicle-mount antenna configurations.

**Answer:**

The EIRP of 495 mW is incorrect. Please see answer to question 3. The transmitters are nearly identical with similar average power levels and output VSWRs and the antennas are the same.

**Answer:**

$P_{tx} 331 \text{ mW} = 25.2 \text{ dBm}$   
 $25.2 - .25 = 24.95 \text{ dBm } P_{out}$   
 $24.95 + 2 \text{ dBi} = 26.95 \text{ Uncorrected EIRP}$   
 $26.95 \text{ dBm} = 495.45 \text{ mW Uncorrected EIRP}$   
 $EIRP = 495.45 \text{ mW} * .64 = 317.1 \text{ Corrected EIRP}$

**Answer:**

**Question 5****Answer:**

FYI - The revised antenna summary list appears to indicate the hand-held products are for occupational use. This should not be interpreted as occupational exposure limits may apply to these devices. In order for occupational limits to be applicable, persons exposed must operate such transmitters for work related use only and they must have appropriate training so that they will have the knowledge to control their exposure conditions and duration to satisfy the higher occupational exposure limit. This transmitter will require additional supporting info to qualify for occupational exposure requirements.