

Please refer to the attached email thread. It originated from Mr. Kwok Chan of the FCC, regarding an anti-theft device that operated at 125 mW. As the device mentioned below is an anti-theft device operating at 5 mW, the guidelines from the above email are applicable. Item 4 of the above email from Mr. Chan states:

- > 4. It would be appropriate to include installation instructions to alert
- > installers that the antennas should be installed in manners to minimize
- > the likelihood of persons remaining in front of the antenna at closer than
- > 20 cm for prolong periods, for meeting FCC RF exposure requirements.
- > Based on the operating nature of this system and the maximum output
- > measured, the likelihood of people remaining at closer than 20 cm in front
- > of the antenna for prolong periods that could result in undesired
- > exposures is rather remote, provided the antennas are not installed at
- > locations that could promote such undesirable conditions. A specific 20
- > cm setback is not necessary as long as the above is observed by the
- > installers. The applicable changes should be incorporated in the manual
- > or provided to the installers. The revised instructions should be
- > uploaded for this filing.

>
Therefore, I believe no change in the language below is necessary. Let me know if any further discussion is required.

From: djumbdenstock@tycoint.com
Sent: Monday, January 22, 2001 4:00 PM
To: kchan@fcc.gov
Cc: ECHANG@fcc.gov
Subject: RE: FCC ID: BVCDMS915, Sensormatic

Mr. Chan,

Thank you for your speedy and thorough reply. Our team leaders met and developed the response which was provided to Mr. Chang via "submit correspondence" on the FCC filing site. The manual containing the notice to the installers was also uploaded.

The notice is as follows:

"Note to Installers:

For FCC compliance, system components must be located where persons are not likely to linger within 20 cm (8") of the RF antennas. A 20cm (8") setback is not required provided the antenna location does not promote lingering within 20cm (8") of the antennas. For example, do not locate antennas adjacent to a chair or bench."

Thank you for your assistance.

Kind regards,

Don Umbdenstock

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> From: Kwok Chan[SMTP:kchan@fcc.gov]
> Sent: Friday, January 19, 2001 5:53 PM
> To: UMBDENSTOCK@Sensormatic.com
> Cc: Errol Chang; Kwok Chan
> Subject: Re: FCC ID: BVCDMS915, Sensormatic

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>

> Mr. Umbdenstock:

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> After checking with Mr. Errol Chang, reviewing the info submitted for this
> filing and your e-mail, the follow is a summary of what I have gathered -

>

> 1. This is a spread spectrum transmitter system that operates under 15.247
> of the rules. The RF exposure requirements of 15.247(b)(4) require these
> types of transmitters to operate in a manner that will ensure the public
> is not exposed to RF energy levels in excess of the Commission's
> guidelines. For exposure purposes, a transmitter may be classified as a
> fixed, mobile or portable transmitter. Fixed transmitters are those
> defined in Table 1 of 1.1307, operating with specific antenna height
> requirements, such as basestation and broadcast transmitters where the
> exposure conditions are generally in the far-field of the antenna(s)
> mounted on a tower, roof-top or similar structures. Mobile transmitters
> are those that are not fixed but operate at 20 cm or more from persons and
> the exposure conditions are typically in the near-to-far field transition
> regions of an antenna/transmitter. Field strength and power density
> limits for free-space conditions are applicable for fixed and mobile
> transmitters. Portable transmitters are those that are designed to be
> used within 20 cm of a user's body and compliance is with respect to SAR
> limits (based on energy absorption in tissues). The antenna
> configurations described in this filing are intended for used in
> situations that would typically be 20 cm or more from persons, as
> indicated in the reply received on 01/12/01 for the filing. The
> transmitter system and its antennas are not designed to be used at close
> proximity to persons. The people exposed would not know of their exposure
> conditions as compare to users of typical hand-held wireless phones. They
> are generally treated as bystanders instead of users of a transmitter. It
> would be appropriate to treat this system as a mobile transmitter.

- > Treating it as a fixed transmitter would not change the exposure
- > requirements for purpose of satisfying 15.247(b)(4) since far-field
- > conditions should extend beyond the near-to-far field transition region
- > and the same power density limit applies to both types of transmitters.
- >
- > 2. A peak conducted output of 125 mW was measured at the output terminal.
- > Although the system uses two antennas (125 mW each), when one antenna
- > becomes closer to a person the other antenna is further away by nature of
- > the system installation and operating requirements. Therefore, it would
- > not be necessary to consider the exposure conditions due to two antennas.
- >
- > 3. Part 15.247 requires peak conducted output, which was measured as 125
- > mW. The filing has requested for 250 mW, which appears to be based on the
- > maximum EIRP with respect to the highest antenna gain. The output will be
- > listed as 125 mW as specified by the rules. Additional grant comments
- > will be used to clarify that the output is for each antenna and the
- > antennas must be installed to provide a minimum separation distances
- > described in the installation instructions submitted to this filing.
- >
- > 4. It would be appropriate to include installation instructions to alert
- > installers that the antennas should be installed in manners to minimize
- > the likelihood of persons remaining in front of the antenna at closer than
- > 20 cm for prolonged periods, for meeting FCC RF exposure requirements.
- > Based on the operating nature of this system and the maximum output
- > measured, the likelihood of people remaining at closer than 20 cm in front
- > of the antenna for prolonged periods that could result in undesired
- > exposures is rather remote, provided the antennas are not installed at
- > locations that could promote such undesirable conditions. A specific 20
- > cm setback is not necessary as long as the above is observed by the
- > installers. The applicable changes should be incorporated in the manual
- > or provided to the installers. The revised instructions should be
- > uploaded for this filing.
- >
- > 5. The conditions indicated in your e-mail for cordless phone operations
- > are intended for the specific types of antennas that are used on these
- > types of wireless handsets. These are based on typical SAR measurement data
- > of similar wireless handsets. As cordless phones become smaller in size
- > (closer to persons), the recommendation in Supplement C is gradually
- > becoming obsolete and we are currently preparing a new release of
- > Supplement C. The exposure limit indicated in the third column is
- > incorrect. Cordless phones are required to comply with SAR limit, not
- > power density limit. We have been aware of this error for some time and
- > will be corrected in the next release of Supplement C. Since Supplement C
- > is a bulletin that provides recommendations, it is not a part of the FCC
- > rules. It is our policy to resolve such discrepancies according to the
- > requirements of existing RF exposure rules.

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> 6. Please consult with Mr. Errol Chang on how to handle the 111 kHz
> antenna/transmitter used for this system or if additional filing issues
> must be addressed. Based on info in the filing, it is assumed that each
> of the 915 MHz antenna port is capable of 125 mW peak conducted output.
> If this is not the case, it needs to be clarified.
>
> 7. Grant Conditions similar to the following will be considered for this
> filing - This anti-theft system operates with three antennas, two in the
> 915 MHz band and one in the 100 kHz band. The output is specified at each
> antenna output port. The antennas must be installed to provide the
> separation distances described in the installation procedures submitted
> for this filing. The maximum radiated output of an antenna installed on
> or along the floor must not exceed 80 mW EIRP. Installers must be
> provided with appropriate antenna installation instructions to satisfy RF
> exposure requirements.
>
> Please consult with Mr. Errol Chang to resolve any remaining issues for
> this filing.
>
> Kwok Chan
>
> >>> <UMB DENSTOCK@Sensormatic.com> 01/17/01 10:31AM >>>
> Dear Mr. Chan,
>
> Errol Chang has been reviewing our application. It seems we need to
> discuss
> compliance with the exposure requirements with you. He suggested
> yesterday
> that I call you at 9 am this morning. You were not available. Can you
> suggest a time when we can have a short conversation to resolve the issue?
> I am available anytime except for this afternoon (I will be out of the
> office starting at noon Wednesday, 1/17).
>
> The crux of the issue appears to be the applicability of OET 65,
> Supplement
> C. This is for portable equipment, or viewed another way, any equipment
> in
> which persons can come in close proximity to the antenna. Even though our
> antennas are fixed in position in store entrances, a person can pass by in
> close proximity. It appears that OET 65, Supplement C, Table 1, page 22,
> first entry, applies to our product. As the highest radiated power from
> any
> antenna configuration is less than .25 W, "These transmitters are not
> expected to exceed MPE limits (0.61 mW/cm² at 915 MHz...); special
> instructions or warnings are normally not necessary to ensure compliance."

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> So what do we need to do to bring closure to this issue?

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> Kind regards,

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> Don Umbdenstock

> Compliance Engineering

> Sensormatic Electronics Corporation

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