

Dear Mr. Chaffee,

The operation you propose would be acceptable under Section 15.231 except for 15.231(a)(4). Polling more than once per hour would not be permitted. However, manual transmissions from the remote in the home would be permitted as often as desired.

>>> Ted Chaffee 10/20/03 01:17PM >>>

----- Original Message -----

From: Ted Chaffee

To: Joe Dichoso

Sent: Monday, October 20, 2003 9:43 AM

Subject: Re: Transmitter operating under 15.231

Hello Ray Laforge,

Joe Dichoso has asked me to forward a product concept for interpretation. We are trying to decide whether the product follows the guidelines to test under 15.231a or 15.231e. The description of the issue is below.

Thanks for your assistance.
-Ted Chaffee, AHD EMC lab
tchaffee@ahde.com

----- Original Message -----

From: Joe Dichoso

To: tchaffee@ahde.com

Sent: Friday, October 17, 2003 5:02 PM

Subject: Re: Transmitter operating under [15.231](#)

Hello Ted,

This interpretation will need to go through Ray. I think he already had sent around one that was very similar to this [one](#). It sounds very familiar. Please contact him at RLaforge@fcc.gov

Thanks,

Joe

>>> Ted Chaffee 10/17/03 02:38PM >>>

Hello Joe,

In boldface below is the designer's explanation of how the transceiver in question fits into the FCC rules section [15.231a](#).

My particular concern, that I mentioned to the designer, is how restrictive the definition

of a safety related transmitter might be from the FCC viewpoint to allow it to operate under [15.231\(a3\)](#).

And that perhaps the product may be restricted in its output to the levels provided in [15.231\(e\)](#)

I hope the designer's statements below give you enough information to provide a response that

will allow the product to be designed for the higher output power pursuant to [15.231a](#).

Thanks,

Ted Chaffee

System description:

Remote control of a hot tub or sauna type [device](#).

The system consists of two transceivers; one located in the home and one located on the hot [tub](#).

No external antennas will be [used](#).

The user will push a button on the remote in the [home](#). The control information will be transmitted to the spa and the spa will verify reception of the command and send control information back to the [remote](#).

[15.231 a](#)

System will comply to the [paragraph](#).

Each will transmit only control signals, not voice, video or [data](#).

Each will transmit its own recognition [code](#).

[15.231 a.1](#)

Manually instigated transmissions will cease within 5 seconds of a button being [released](#).

[15.231 a.2](#)

Polling transmissions (1 per hour from the home) will cease within 1 [second](#).

[15.231 a.3](#)

Since the system controls and has information concerning potentially scalding hot water, the system is considered safety [related](#). As such 1 polling transmission per hour will be employed to determine system integrity as allowed in this [paragraph](#).

[15.231 a.4](#)

If during the polling operation (1 per hour) an overheat condition is detected, the home device will reserve the right to poll more often while the overheat condition [exists](#).

[15.231 b](#)

The emissions will be limited as noted, and measured at 3 meters [distance](#).

[15.231 b.1](#)

The system will comply as specified by the [standard](#).

[15.231 b.2](#)

Averaging for each transceiver will be employed as specified in [15.35c](#). The pulse train for each transceiver will be less than [.1 seconds](#).

[15.231 b.3](#)

The system will comply as specified by the [standard](#).

[15.231 c](#)

The system will comply as specified by the [standard](#).

[15.231 d](#)

The system will comply as specified by the [standard](#).

15.231 e

This section is not applicable.

----- Original Message -----

From: Joe Dichoso

To: tchaffee@ahde.com

Cc: Rich Fabina

Sent: Thursday, October 09, 2003 2:47 PM

Subject: Re: Transmitter operating under 15.231

Hello Ted,

There's not enough information.

It's probably best if you, for each requirement for 15.231(a-d) and 15.231(e),

indicate how the device will or may not meet each rule.

I can then comment on which rule you think may not be met.

Regards,

Joe

>>> Ted Chaffee 10/08/03 03:08PM >>>

Hello Joe Dichoso,

We need your insight to determine whether the following
transceiver should comply with 15.231a or 15.231e.

The system consists of a transceiver pair. One at a remote "spa/hot tub"
location and the second in the consumer's home.

The premise is for the homeowner to receive "hot tub" status and alert
of unsafe situation.

My understanding of the system is the in-home unit polls the "spa" unit
to verify the remote transmitter function, water temp, and other spa status.

Here are statements emailed to me from the engineer/designer to help
explain the product ---

The main stream strategy is to have a 1/hr poll from the home (master)
to the subordinate transmitters (spa). (there are negative battery
implications

of having the home side listening, and the 8dB would put us at marginal range

The spa response to the poll will simultaneously verify transmitter function,
water temp, and spa status. The time constant for the relatively large amount
of water is very slow, so the customer feels 1 check per hour will be
sufficient.

If the spa loses power, it will not respond to the poll. If we do not get a
response

after 2 or 3 hours we will assume either the transmitter has failed or power
has
been lost to the spa.

15.231.a.3 allows verification of system transmitters in safety related
systems

at a rate of once per hour. I think it is reasonable to consider this a

"safety
related system" due to the danger of scalding, especially if children are
involved.

Joe, can you make a determination from the information here whether this
product
can be tested to the limits of [15.231a?](#)

Thanks for your [help.](#)

Regards,
Ted Chaffee, NCE
AHD EMC lab
tchaffee@ahde.com