

TCB Correspondance:

The TX board draws 360 ma total, the PA is driven by 4.5 VDC at 200ma with all the path losses produces a calibrated 200mW at the antenna.

On the 731, only the legal limit for frequency tolerance is reported. The test report shows measurement results.

The output power reported on the 731 is the rated conducted output power. The output power reported in the test report includes EIRP and conducted measurements.

The antenna datasheet has been uploaded. The part number of our antenna is: MEXE902RPSM = 902 band, RP=reverse plug, SM=SMA connector. The closest number in the list is MEXE902SM it is listed as a 2.0 dBi gain antenna. Ours is the same but a reverse plug version.

It is not feasible to place this disclaimer on the device. The display and keypad take up the entire front of the device. The battery on the back of the device is removable and the Itronix label takes up all space underneath the battery. This disclaimer will be placed in the users manual.

During transmit, the transmitter is modulated with a square wave. This results in the transmitter being on 50% of the time. The transmission cycle is 3.5 seconds transmitting (with 50% duty cycle due to modulation) and 5.5 seconds not transmitting. This results in $0.5 * [3.5 / (3.5 + 5.5)] = 19.44\%$ duty cycle.

The transmitter is calibrated and fixed at the factory. There is no way to adjust power in the field.

The mask that we used was the part 101.111(a)(5) mask for digitally modulated devices. This device is modulated with a digital square wave. The emissions designator is 8k85A1D, which describes a "single channel containing digital quantized info". Although the 101.111(a)(1) limits are less stringent than the 101.111(a)(5) limits, the digital modulation requires us to use the more stringent limits.

The frequency range for this device is 952MHz-957MHz.

Subject: 731 - Reported output power

The output power reported on the 731 is the rated conducted output power. The output power reported in the test report includes EIRP and conducted measurements.

Subject: Colocated transmitters question

This device does contain a bluetooth and 802.11 radio along with our radio. However, the software that is used for us to transmit will not run unless the 802.11 and bluetooth radios are disabled. There is no case where these transmitters will be able to transmit at the same time.

Subject: Frequency test range

Transmitter radiated emissions were scanned from 30MHz to the 5th harmonic of the transmitter. All emissions that were found outside of

the fundamental and harmonic emissions were digital emissions of the handheld. Additionally, powerline conducted emissions were tested with the device transmitting and not transmitting.

Subject: Item 16: Three orthogonal planes
To determine the worst case condition, the device emissions at three orthogonal planes were measured prior to performing the final maximization. The upright position was determined to be worst case.

From: drew.rosenberg@itron.com
Sent: Tuesday, September 14, 2004 2:09 PM
To: info@ckccertification.com
Subject: Radiated emissions below 30 MHz

Per correspondence that Itron had with the FCC on 09/07/2004, radiated emissions measurements below 30MHz is not required in this case. See email text below:

-----Original Message-----
From: LabHelp [mailto:LabHelp@fcc.gov]
Sent: Tuesday, September 07, 2004 8:14 AM
To: Beliveau, David
Cc: Rosenberg, Drew
Subject: RE: Powerline vs. Radiated < 30MHz

QUESTION:

I have a follow-up to this question. We have a second transmitter that we have submitted for approval to the FCC part 101 rules. The transmitter operates in the MAS band (licensed anywhere between 952MHz and 960MHz).

Our TCB is requesting radiated emissions data for this device at frequencies below 30MHz. The only <30MHz oscillator that is close to being part of the RF circuitry is a 16.8MHz digital clock that is used to drive the high impedance CMOS clock of the shift register in a phase locked loop chip.

Is it required that radiated emissions be taken for this digital clock at below 30MHz or is powerline conducted emissions acceptable?

ANSWER:

In this case, only AC powerline conducted emissions testing below 30 MHz is required since the 16.8 MHz clock is related to a digital device. Radiated emissions testing below 30 MHz is not required.
