

RE: TOA Corp.
FCC ID: DLAWM-3210-3220
DLAWM-3310

- 1.) I disagree with your conclusions about Categorical Exclusion on this Application. All equipment must submit information on RF exposure before a Grant of Equipment Authorization can be issued (see Public Notice DA 00-1950). Providing RF exposure information is critical for complying with Section T of this same document. For additional information I direct you to Kwok Chan or Ray LaForge of the FCC's Office of Engineering and Technology.

Response: I have uploaded a RF safety statement example that will be included in the user manual. FYI: I agree that RF exposure is to be address at all times, but our previous submissions to FCC, they did not request for us to provide a warning statement. I know that FCC wants ALL TCB to follow the same procedure, so we will provide this for consistency.

- 2.) Radiated power output cannot be performed using a radiated calculation from the measured field strength. The only recognized method is the substitution method as described in TIA/EIA 603. This should be performed for all harmonics and the carrier radiated power. For additional direction on this mater I direct you to Frank Coperich of the FCC's Office of Engineering and Technology.

Response: We did performed substitution method for the Output Power and for harmonics emissions that were not 20-dB below the Radiated limit at 3 meters, the test method is mention on the test report. Below is a response from Frank Coperich, regarding the substitution method, which we have followed:

To date we have perform and submitted Harmonic emission compliance using a converted -13 dBm to a field strength limit @ 3 meters (82.2 dBuV/m for EIRP or 84.2 dBuV/m for ERP). Again, is this still the acceptable method or is the substitution now the only preferred test method?

Frank Response: FOR CONSISTENCY, WE WANT EVERYONE TO USE THE SUBSTITUTION METHOD. HOWEVER, WHEN THE INITIAL MEASURED FIELD STRENGTH LEVELS OF THE SPURIOUS EMISSIONS ARE MORE THAN 20 DB BELOW THE ABOVE CITED LEVELS, THEN CONTINUATION WITH THE SUBSTITUTION METHOD IS NOT NECESSARY.

In regards to power output measurements, due to high power license devices (like 2 watts and higher) some signal generators cannot generate those types of field strength, for a substitution test. This is were we use the field strength, which is then converted to a power level. Is this an acceptable alternative test method?

Frank Response: NO, IF YOU ARE ATTEMPTING TO DUPLICATE A FIELD STRENGTH REFERENCE READING THAT IS HIGHER THAN POSSIBLE WITH THE SIGNAL GENERATOR (AND A DIPOLE ANTENNA), THEN YOU MAY RUN THE SIGNAL GENERATOR AT A LOWER LEVEL AND THEN ADD THE DIFFERENCE DB TO THE OUTPUT. FOR EXAMPLE, TO SIMULATE A XX dBuV/M FIELD STRENGTH REFERENCE READING YOU MAY GENERATE A DUPLICATE FIELD STRENGTH OF XX-10 dBuV/M AND THEN ADD 10 DB TO THE SIGNAL GENERATOR OUTPUT TO DETERMINE THE PROPER REPLACEMENT (SUBSTITUTION) LEVEL SIMILARLY, IF THE REPLACEMENT ANTENNA USED WITH THE SIGNAL GENERATOR IS NOT A DIPOLE BUT HAS GAIN, THEN YOU SHOULD ADD THE DB GAIN OF THE ANTENNA (REFERENCED TO A DIPOLE) TO OBTAIN THE PROPER REPLACEMENT (SUBSTITUTION) SIGNAL GENERATOR OUTPUT .

- 3.) The specification sheet for this equipment indicates a maximum frequency response of 12KHz and a maximum input level of 125 to 130dB SPL (depending on model). Additionally the audio low pass filter as described in the Circuit Explanation indicates a low pass filter with a roll off that begins at 15KHz. It is unusual to see equipment of this type limit it's peak modulating frequency below 10KHz. Please show that a modulating tone of 12KHz at 125 (or 130) dB SPL the EUT will continue to meet the bandwidth limitations of 90.265(b), 74.861(e)(3) and 74.861(e)(5).

Response: Uploaded as requested.

- 4.) Please show that the sum of all variables; [i.e. max modulating frequency, max input level, max variance across frequency stability] the total emission bandwidth falls within the limit of 90.266(b)(3).

Response: Uploaded as requested.

- 5.) This equipment uses a 32KHz tone to open and close the squelch at the receiver. I will have to check with the Commission to find out if it will affect the emission designator.

Response: This information had been submitted to FCC before and they did not have any question or concerns in regards to the squelch receiver input bandwidth. Please refer to FCC ID: DLAWM-4210-4220, DLAWM-4200, and DLAWM-4300-4310.

- 6.) The tune up specification does not provide any information for how to set the deviation. Please submit.

Response: The deviation is controlled internally by the chip (M/N: PD75004G) pin 14, location M9. Below is the Deviation specification of the chip.

Range Designed Figure FCC

169-174 MHz +/- 15 KHz Part 90

174-216 MHz +/- 40 KHz part 74