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February 3, 2003

Mr. Joe Dichoso (jdichoso@fcc.gov)
Senior Engineer, FCC Application Processing Branch
FCC Laboratory
Columbia, MD

Re: **FCC ID NUF-200EVK-1202**

Applicant: **Time Domain Corporation**

Correspondence Reference Number: **24735**

731 Confirmation Number: **EA204856**

Dear Joe:

Below are your six numbered questions and our response. Should you have any questions, please call me (256 428 6317).

1) With regard to the Block diagrams, provide the signal path and frequency at each block per Section 2.1033(b)5. At each block, also provide the tuning range(s) and intermediate frequency(ies) at each block.

TDC Response: We have revised the block diagram. The revision will be submitted separately because it contains confidential information.

2) The internal photo's cannot be held confidential since they would be available to anyone purchasing the device. Please remove this from the confidential request. External photographs are not confidential.

TDC Response: TDC is only selling these devices to carefully selected customers. These customers must sign an agreement that forbids them from disassembling the device. Therefore, our customers will not have access to the internal components of this system unless they violate the terms of the agreement.

3) The user's manual was marked confidential. The user's manual cannot be held confidential. Please remove the confidential material in the manual and resubmit.

TDC Response: The Users' Manual contains significant confidential information. Again, customers are screened during the sales process to ensure that competitive access to our specifications and designs is minimized. Making this document available via the FCC website would make the information readily accessible to our competitors. We continue to request that this information remain confidential.

4) Verify whether or not the PRF is adjustable. If it is, additional tests may be requested.

TDC Response: The PRF is not adjustable.

5) The UWB bandwidth measurements were made only from 3-11GHz. The test must investigate emissions in the same frequency range as radiated emissions tests. In addition, the UWB bandwidth test procedure did not indicate whether the antenna polarization was changed for the data submitted. What antenna was used for the UWB measurements? If a horn antenna was used, verify whether the horn antenna was adjusted, when it was raised 1 to 4 meters, so that it always points at the area of the device in order to receive the maximum emission from the device.

TDC Response: UWB emissions were measured over the whole range required for compliance testing as shown in Figures 5.1 through 5.4 of the report from Intertek Testing Services.

Section 2.2 of that report identifies the equipment used for the testing. Two horns were used. The EMCO 3116 (18 to 40 GHz) was used over that range. The AH Systems SAS 200/571 (0.7 to 18 GHz) was used over the appropriate range for that antenna. The antenna was bore sight when it started at 1 meter but was not adjusted as it rose to the 4 meter position.

6) For all emissions that are over the UWB limits but are below the 15.209 limits that you state are attributed to digital circuitry. Please identify the source of these emissions from the schematics or block diagrams.

TDC Response: Some of the frequencies listed on pages 15 and 16 of the ITS report are probably harmonics of the 19.2 MHz system clock. The table below identifies those emissions and the harmonic number.

Frequency (MHz)	Harmonic Number
921.520	48 th
1132.700	59 th
1152.000	60 th
1228.875	64 th
1382.467	72 nd

There are five other clock frequencies within the radio that could be generating the other signals in question. For example, the 3.69 MHz clock is the likely source of the 55.263 MHz and the 66.250 MHz signals (15th and 18th harmonics, respectively); while the 25 MHz clock is the likely source of the 1950 MHz and the 2300 MHz signals (the 78th and 92nd harmonics respectively).

There can be no doubt that these emissions are not related to the UWB emissions, since all UWB trigger signals are noise coded and, therefore, would not create spectral lines. Thus, these signal are in compliance with the rules.

As you may know, I am scheduled to bring this device as well as another device up to the laboratory on Wednesday morning the 5th of February to demonstrate them and leave them behind for your testing. I look forward to meeting you at that time and discussing this further if necessary.

Yours truly,
s/Keven Trach
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