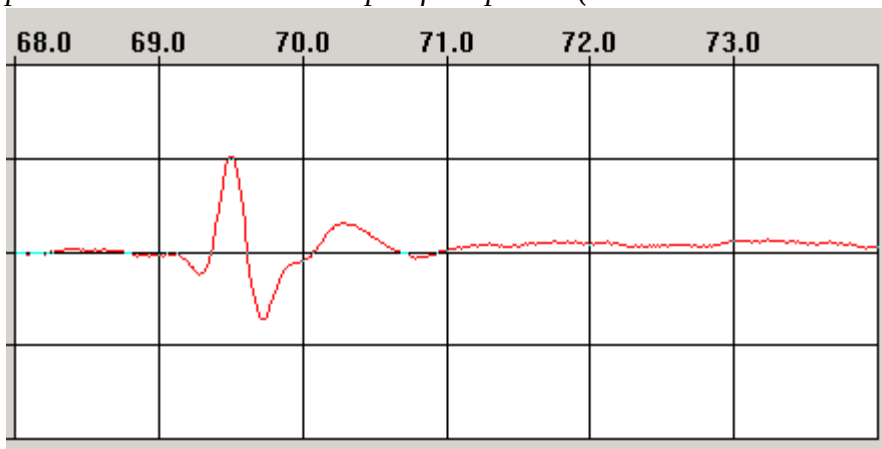


To: Alan Schutz, Geophysical Survey Systems Inc
From: Andy Leimer
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FCC Application Processing Branch

Re: FCC ID QF75100
Applicant: Geophysical Survey Systems, Inc.
Correspondence Reference Number: 23469
731 Confirmation Number: EA639721

1) More information is needed on the 0.6 ns pulse. Is the pulse pseudo random (dithered) or is it periodic (You mentioned a maximum PRF of 200 kHz). Upload a plot of the pulse.

The pulse is not dithered, it is a fixed frequency. 200 KHz is the maximum allowable PRF because that is the frequency at which the emissions test was performed. The picture below shows the shape of the pulse. (The horizontal scale is in ns.)



2) The User's Manual shows this device used against a concrete wall. Additional testing will be required for device tested in this configuration. Possibilities are testing it table top with the bottom facing some sand. Upload the necessary data.

We have modified the manual to remove any reference to wall imaging. That manual is uploaded with the rest of the documents. At a future date, we may apply for certification for use on concrete walls.

3) Measurements from 960 MHz to 1 GHz were done using a horn antenna. Remeasure this band using a bicon antenna.

The horn antenna is calibrated down to 900MHz so the bicon should not be necessary. There are no emissions above 960 that are not related to the UWB transmission so no quasi-peak data is presented. To cover the entire range from 30 MHz to 10 GHz, two

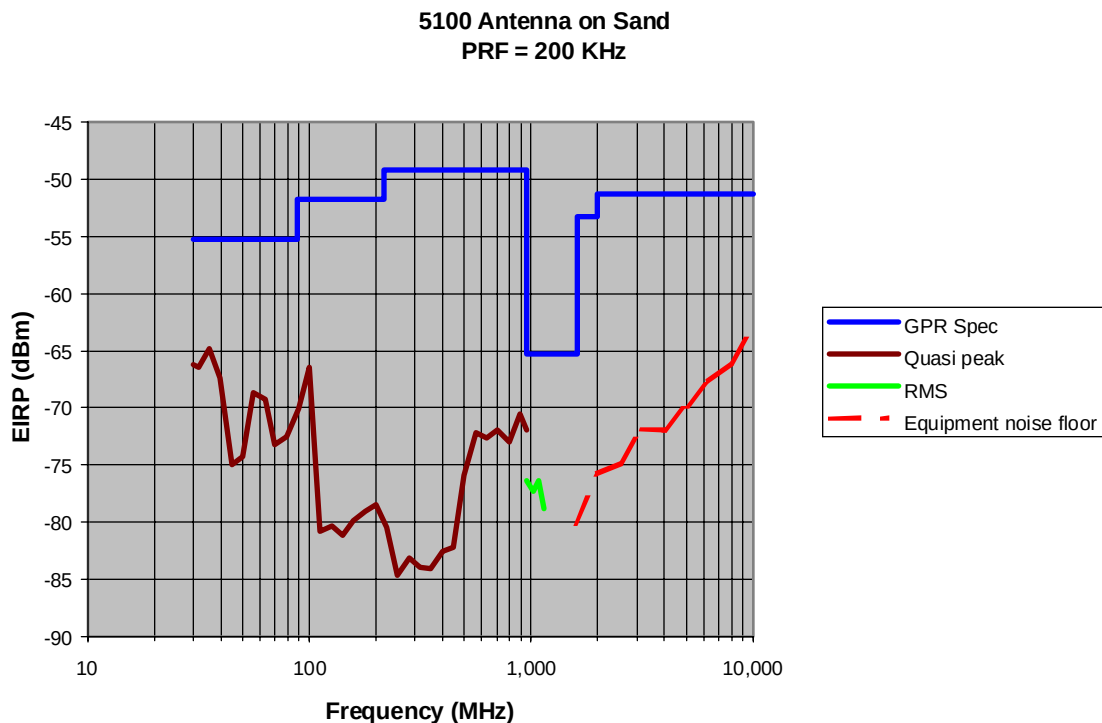
different setups were used, including changing the analyzer, antenna, cables, preamp and procedure. If we can't use the horn between 960 and 1000, then a third setup is required.

3) It appears that there is no shielding above the antenna. What measures have been taken to ensure that the emissions from the top of the device are less than the ground penetrating emissions. This might be resolved with the additional test data for operation against a concrete wall.

The antenna is entirely within a shielded metal box. Only the bottom is open (where the fans are).

4) There is a procedure in the test report for the -10 dB points but no data or plots. Upload a spectrum plot and data for the -10 dB points. I suggest a field strength measurement for these points to account for non-linearities across the band that would be on the spectrum plot (ie: antenna and amplifier is not equal across the band).

From the plot below, the peak is shown at 35.45 MHz. The lower -10 dB point is below 30 MHz, probably about 20 MHz. The upper -10 dB point is just over 50 MHz. All data has already been corrected for antenna, amplifier, cables, etc. The data tables are in the test report.



5) What type of imaging system is this (low, mid, or high frequency). What is the center frequency?

This is a low frequency system. The center frequency is 35 MHz.

6) Heading missing on some test data tables. Upload corrected tables with the proper headings as shown in Table 1 of the Test Data.

7) 50 MHZ BW (Table 3) - Upload the data with correction factors?

8) The formula used for determining RMS level of the emission is not clear. Show how this was derived. Upload all data used for this calculation and provide a sample calculation.