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Federal Communications Commission
OET Experimental Licensing Branch
445 12th Street, SW
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Trondheim, March 4, 2005

STA Application for Demonstrating and Testing of Step-Frequency Ground Penetrating Radar
STA File Number 0113-EX-ST-2005

3d-Radar AS manufactures a Step-Frequency Ground Penetrating Radar system that can be programmed to operate in the frequency range between 50 MHz and 2050 MHz. The system was successfully demonstrated to Federal Highway Administration in November 2004 in a field trial at Natchez Trace Parkway in Mississippi.

Since the step-frequency waveform does not fall into the category of being an Ultra-Wideband waveform, there is a need for further evaluation of how this technology can be licenced for use in the US.

A meeting addressing the implications of new ground penetrating radar (GPR) technology was coordinated among several federal agencies, including the office of the Secretary of Transportation (OST), at Turner Fairbank Highway Research Center on Tuesday December 7, 2004. The meeting focused on describing the capabilities of new step frequency GPR technology relative to established ultra-wide band GPR technology. The implications of this technology for GPR users, frequency spectrum regulators and instrument manufacturers were all discussed. Advantages of the new technology that have been implemented recently include a tunable electromagnetic frequency emission spectrum, compact antenna array, antenna array elements with both deep and shallow range capabilities, and efficient subsurface GPR imaging. Federal agencies expressed interest in the step frequency GPR technology and plan to explore options to demonstrate the technology through federal experimental licensing procedures. The National Telecommunications and Information Administration (NTIA), Federal Communications Commission (FCC), Federal Aviation Administration (FAA), and the Office of the Secretary of Transportation (OST) all participated in the discussion. Questions or follow up regarding the meeting can be directed to Michael Scott at 202-493-3124 or Pete Mills at 202-493-3338.

The following persons attended the meeting:

Pete Mills – FHWA – pete.mills@fhwa.dot.gov
Michael Scott – Starodub, Inc./FHWA – michael.scott@fhwa.dot.gov
Egil Eide – 3d-Radar AS – egil@3d-radar.com

Jack Springer – FHWA/AASHTO GPR Panel Member – jack.springer@fhwa.dot.gov
John Reed – FCC – john.reed@fcc.gov
Michael Richmond – FAA - michael.richmond@faa.gov
Michael Trentacoste – FHWA - michael.trentacoste@fhwa.dot.gov

Attending via conference call:

Ed Drocella – NTIA – edrocella@ntia.doc.gov
Dave Anderson – NTIA - ?
Paul Roosa – NTIA – proosa@ntia.doc.gov
Ronald Repasi – FCC – ronald.repasi@fcc.gov
Steve Jones – FCC – steve.jones@fcc.gov

The STA Application (STA File Number 0113-EX-ST-2005) has been submitted in order to allow the system to be tested and demonstrated for various clients and organizations during 2005.

The first application demo/test is scheduled to take place between 11 – 16 April in Florida as a part of the Florida DOT sponsored FDOT Radar Tomography Pilot Project. The scanning areas are; Ulmerton Road Right-of-Way, from Wild Acres to the Lake Seminole Bypass Canal, Starkey Road, from one half mile south to one half mile north of Ulmerton Road, Tall Pines from 1000' South to 1000' North of Ulmerton Road, Wild Acres from 1000' South to 1000' North of Ulmerton Road.

Furthermore, a spectrum emission test is planned to take place at the FAA Technical Centre in New Jersey between 1 – 10 June 2005. This test will document the spectral emissions from the system under normal operation.

Regards,

Egil Eide
President, CEO