

ATTACHMENT A

DESCRIPTION OF THE PROPOSED EXPERIMENTAL USES AND REQUEST FOR EXPEDITED PROCESSING

By this Application, and pursuant to Section 5.61 of the Commission's rules, 47 C.F.R. § 5.61, Inmarsat Hawaii, Inc. ("Inmarsat Hawaii")¹ seeks STA for six months to: (i) conduct technical demonstrations using new, pre-production Global Satellite Phone Service ("GSPS") prototype handsets; (ii) test these handsets in connection with their production and the deployment of other parts of the GSPS network; and (iii) otherwise develop radio techniques, equipment, operational data and engineering data related to GSPS. *See* 47 CFR §§ 5.3(d), (g), (i). These new, pre-production GSPS prototype handsets are technically identical to the simulator-based GSPS prototype handset currently being tested by Inmarsat Hawaii pursuant to authority previously granted by the Commission.²

Inmarsat Hawaii proposes to test Elcoteq IsatPhone Pro handsets installed with firmware versions 1, 1.1, and 2, respectively. Testing would evaluate the performance of these handsets and GSPS generally, through communications over the Inmarsat-4F3 spacecraft, to ensure that they are able to operate in accordance with design specifications. Testing also would evaluate the interaction of these handsets with certain GSPS gateway equipment.³ Testing, demonstrations, and studies using these handsets potentially could be conducted at various locations throughout the United States, although it is expected that the majority of such activities would be conducted at Lockheed Martin facilities in Pennsylvania, and in Hawaii in the vicinity of Inmarsat's gateway facilities and the network control center for the I4F3 spacecraft. The technical specifications for the Elcoteq IsatPhone Pro handsets are set forth in Table 1 and the accompanying cover form.

¹ Inmarsat Hawaii is a wholly-owned subsidiary of Inmarsat plc ("Inmarsat"), which operates a global fleet of L-Band MSS spacecraft, including the Inmarsat-4F3 ("I4F3") spacecraft currently located at 97.65° W.L.

² *See* FCC File No. 0185-EX-ST-2009. Inmarsat Hawaii also seeks STA to continue testing its earlier model Satellite Phone Service ("SPS") handset and simulator-based GSPS prototype handset, in a manner consistent with authority previously granted by the Commission. *See id.*

³ The GSPS system includes a Network Control Center-Gateway (NCC-GW) which provides the interface to the public switched telephone network (PSTN) and the Inmarsat-4F3 spacecraft uplink. As part of the testing of this NCC-GW, Inmarsat Hawaii would like to utilize a test handset / user terminal (UT) to provide an end-to-end test capability. This test UT would incorporate a combination of commercial off the shelf equipment (i.e., antenna, L-band up/down converters, power amplifiers), NCC-GW channel equipment configured to emulate the UT layer 1 functions, known as the ICE, and the UT core module protocol stack software running on a computer platform (collectively, the transportable enhanced inverse channel equipment or "eICE-T"). The eICE-T would allow testing of the GSPS system air interface operation to include idle mode operations, voice, and data calls. The eICE-T equipment would be physically contained within the NCC-GW premises, would not be accessible to the general public, and would be operated only by experienced test personnel.

Table 1: GSPS Handset Specifications

Manufacturer	Elcoteq (manufacturer) Sasken (designer and developer)
Model	IsatPhone Pro (ver. 1, 1.1, 2)
Number of Units	Up to 50
Transmit Frequencies	1626.5-1660.5 MHz
Receive Frequencies	1525.0-1559.0 MHz
Output Power/ERP	≥ 6 dBw
Mean Peak	5 dBw max
Frequency Tolerance (±)	± 1 ppm
Transmit Emission Designator	50K0G7W
Receive Emission Designator	200KG7W
Transmit Modulation	GMSK
Receive Modulation	OQPSK

These technical specifications are consistent with those for the simulator-based GSPS handsets that Inmarsat has been testing pursuant to experimental authority previously granted by the Commission in FCC File No. 0185-EX-ST-2009. Notably, testing of those GSPS handsets, and the Satellite Phone Service (“SPS”) handsets covered by the same authorization, has been carried out without causing harmful interference into any other operator. In connection with its testing of the new Elcoteq terminals, Inmarsat Hawaii seeks STA to continue testing these earlier model handsets, in a manner consistent with the technical specifications set forth in FCC File No. 0185-EX-ST-2009, and incorporated by reference herein.

Inmarsat Hawaii proposes to test handsets in the 1626.5-1660.5 MHz transmit band and in the 1525.0-1559.0 MHz receive band. Inmarsat has used these frequency bands for years to serve the U.S. and foreign markets, and the technical parameters of the proposed operations are consistent with the parameters of such service. Handsets would be operated by experienced test personnel in a manner consistent with the Commission’s radio frequency (RF) exposure guidelines and applicable provisions of Part 25 of the Commission’s rules. The specific frequencies to be used by each handset would be assigned by the Inmarsat satellite network,⁴ through Inmarsat-controlled earth station facilities located in Paumalu, Hawaii. Thus, Inmarsat would remain in ultimate control of any experimental operation.⁵

* * * * *

⁴ The SPS and GSPS user terminals provide terminal identification to the network via the International Mobile Subscriber Identity (IMSI) process, rather than by voice or Morse code, as specified in the Commission’s rules.

⁵ Terminal equipment could be owned by manufacturers in some cases.

GSPS will be a highly competitive offering in terms of hardware costs, airtime rates and service quality, with a strong combination of form and functionality that Inmarsat believes will change the landscape in the provision of the mobile satellite services. The requested STA would facilitate the introduction of GSPS to the U.S. by enabling Inmarsat to develop the technical expertise to extend and enhance existing uses of L-band spectrum through the introduction of GSPS. Accordingly, the expeditious grant of this Application would serve the public interest, convenience and necessity.

Inmarsat Hawaii's existing experimental STA, which has facilitated the testing of earlier model SPS and GSPS terminals, will expire on November 18, 2009. In order to ensure the continuity of Inmarsat's experimental program as it expands to include the new, pre-production Elcoteq IsatPhone Pro handsets, and facilitate the planned introduction of GSPS by mid-2010, Inmarsat seeks STA as of November 18, 2009, and requests expedited processing of this Application.