

Harris Corporation
Request for FCC Special Temporary Authority
Temporary-Fixed Transportable C Band Earth Station
Page 1 of 1

Harris Corporation ("Harris") hereby requests Special Temporary Authority for a thirty day period beginning October 22, 2018 to deploy a 2.4m transmit/receive transportable C-Band terminal to a location at Tyndall Air Force Base in order to support FAA Air Traffic Control operations.¹

Owing to Hurricane Michael, existing FAA terrestrial communications transmitting voice and data traffic to the FAA Jacksonville Air Route Control Center were rendered inoperable, requiring Harris to temporarily deploy a Patriot 2.4m C Band Flyaway antenna system at Tyndall Air Force Base to carry voice and data traffic back to the FAA Jacksonville Air Route Control Center.

Deployment of the 2.4m Flyaway C-Band terminal at Tyndall Air Force Base will allow critical air traffic communications to be uplinked via the Harris satellite network back to the FAA Jacksonville Air Route Control Center until the existing terrestrial system can be repaired and/or replaced.

Harris submits that a grant² of this application will serve the public interest because it will assist the FAA's mission of ensuring flight safety.

¹ Harris Corporation, serves as the current FAA Telecommunications Infrastructure contractor

² As noted in the attached "Emergency STA Conditions of Grant" document, this STA request was verbally granted on October 22, 2018. Harris will comply with all Conditions of STA grant.

Temporary Fixed Transportable
Earth Station Technical Parameters

Werner, Glenn (WAS - X71818)

From: Feustel, Mike <mfeustel@harris.com>
Sent: Monday, October 22, 2018 3:11 PM
To: paul.blais@fcc.gov
Cc: AmRhein, Dave; Lo, Harry; Jeong, Jae; Feustel, Mike; Fitch, Bruce; Rose, Matt; Werner, Glenn (WAS - X71818)
Subject: FW: STA - Tyndall AFB C_Band Request

Paul – in the aftermath of hurricane Michael, which made landfall in the Florida panhandle 10Oct18, the FAA requested that Harris Corporation deploy a C_Band Flyaway antenna system to Tyndall AFB to carry voice and data traffic back to the FAA Jacksonville Air Route Control Center since all terrestrial paths have been rendered inoperable. Harris Corporation installed a 2.4m Patriot antenna system with a 15W BUC and a look angle of 54.91 degrees at the radar site on the property of Tyndall AFB.

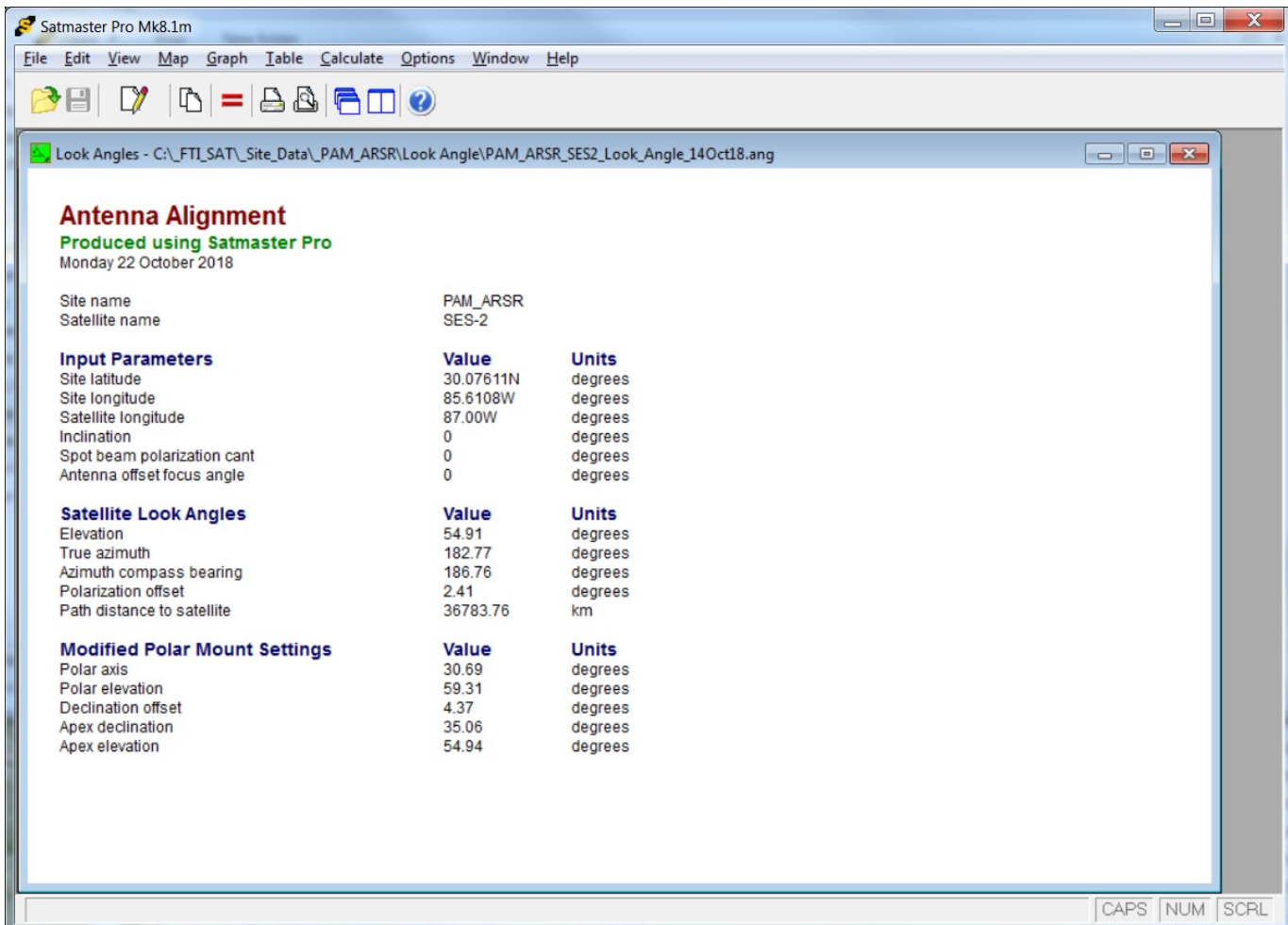
I have attached the SatMaster data associated with the physical installation at Tyndall.

I will have our FCC license attorneys file a STA with a request for waiver of the frequency coordination due to

1-the temporary nature of this installation

2-due to extremely low likelihood of carrier interference due to the look angle, beam width and the isolation of the physical location of the antenna

Thank you for your attention!



The screenshot displays the Satmaster Pro Mk8.1m software interface. The main window is titled "Look Angles - C:\FTI_SAT_Site_Data\PAM_ARSR\Look Angle\PAM_ARSR_SES2_Look_Angle_14Oct18.ang". The content is organized into several sections:

- Antenna Alignment**
 - Produced using Satmaster Pro
 - Monday 22 October 2018
 - Site name: PAM_ARSR
 - Satellite name: SES-2
- Input Parameters**

Value	Units
Site latitude: 30.07611N	degrees
Site longitude: 85.6108W	degrees
Satellite longitude: 87.00W	degrees
Inclination: 0	degrees
Spot beam polarization cant: 0	degrees
Antenna offset focus angle: 0	degrees
- Satellite Look Angles**

Value	Units
Elevation: 54.91	degrees
True azimuth: 182.77	degrees
Azimuth compass bearing: 186.76	degrees
Polarization offset: 2.41	degrees
Path distance to satellite: 36783.76	km
- Modified Polar Mount Settings**

Value	Units
Polar axis: 30.69	degrees
Polar elevation: 59.31	degrees
Declination offset: 4.37	degrees
Apex declination: 35.06	degrees
Apex elevation: 54.94	degrees

The software interface includes a menu bar (File, Edit, View, Map, Graph, Table, Calculate, Options, Window, Help) and a toolbar with various icons. The status bar at the bottom shows "CAPS NUM SCRL".

Best regards,

Michael Feustel

FTI-SAT Project Engineer - Southern Caribbean Region

HARRIS Corporation / Government Communication Systems / Critical Networks

321.309.8468 (Office) / 321.213.1334 (Cell) / 321.726.3139 (eFax)

mfeustel@harris.com

FCC Emergency STA

Conditions of Grant

From: Paul Blais [<mailto:Paul.Blais@fcc.gov>]

Sent: Monday, October 22, 2018 3:59 PM

To: Feustel, Mike (US Person) <mfeustel@harris.com>

Cc: FCC Operations Center <FCCOperationCenter@fcc.gov>; Kathryn Medley <Kathryn.Medley@fcc.gov>; Anthony Asongwed <Anthony.Asongwed@fcc.gov>; Kerry Murray <Kerry.Murray@fcc.gov>; Jose Albuquerque <Jose.Albuquerque@fcc.gov>; AmRhein, Dave (US Person) <damrhein@harris.com>; Lo, Harry (US Person) <hlo@harris.com>; Jeong, Jae (US Person) <jjeong01@harris.com>; Fitch, Bruce (bfitch) (US Person) <bfitch@harris.com>; Rose, Matt (US Person) <mrose06@harris.com>; glenn.werner@hklaw.com

Subject: RE: STA - Tyndall AFB C_Band Request

Importance: High

Mike,

Attached is your verbal STA for 30 days. Please read the conditions of this grant and file a record of this STA in IBFS as required by condition 8 in the attached file.

Paul

Emergency STA Conditions of Grant

Company: Harris Corporation

Name/Title: Mike Feustel

Telephone: Cell: (321) 213 1334

E-mail: Ron.Mayhew@TacSatNetworks.com

24/7 Contact Name: See above

24/7 Contact Phone: see above

Harris Corporation's request for Special Temporary Authority (STA) to operate a 2.4m Patriot antenna system with a 15W BUC and a look angle of 54.91 degrees at the radar site on the property of Tyndall AFB with the SES-2 satellite at the 87° W.L. orbital location in the 5925-6425 MHz (Earth-to-space) and 3700-4200 MHz (space-to-Earth) frequency bands is granted for 30 days beginning 10/22/2018 under the following conditions:

1. All operations under this STA are on an unprotected and non-harmful interference basis.
2. Analog earth station operation in the conventional or extended C-bands. (1) For co-polarized transmissions in the plane tangent to the GSO arc, as defined in §25.103:

29.5-25log10θ	dBW/4 kHz	for $1.5^\circ \leq \theta \leq 7^\circ$.
8.5	dBW/4 kHz	for $7^\circ < \theta \leq 9.2^\circ$.
32.5-25log10θ	dBW/4 kHz	for $9.2^\circ < \theta \leq 48^\circ$.
-9.5	dBW/4 kHz	for $48^\circ < \theta \leq 180^\circ$.

Where θ is the angle in degrees from a line from the earth station antenna to the assigned orbital location of the target satellite. The EIRP density levels specified for $\theta > 7^\circ$ may be exceeded by up to 3 dB in up to 10% of the range of theta (θ) angles from ± 7 -180°, and by up to 6 dB in the region of main reflector spillover energy.

For co-polarized transmissions in the plane perpendicular to the GSO arc, as defined in §25.103:

32.5-25log10θ	dBW/4 kHz	for $3^\circ \leq \theta \leq 48^\circ$.
-9.5	dBW/4 kHz	for $48^\circ < \theta \leq 180^\circ$.

Where θ is as defined in paragraph (c)(1) of this section. These EIRP density levels may be exceeded by up to 6 dB in the region of main reflector spillover energy and in up to 10% of the range of θ angles not included in that region, on each side of the line from the earth station to the target satellite.

For cross-polarized transmissions in the plane tangent to the GSO arc and in the plane perpendicular to the GSO arc:

19.5-25log10θ	dBW/4 kHz	for $1.5^\circ \leq \theta \leq 7^\circ$.
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Where θ is as defined in paragraph (c)(1) of this section.

- 3.** Digital earth station operation in the conventional or extended C-bands. (1) For co-polarized transmissions in the plane tangent to the GSO arc:

26.3-25log10 θ	dBW/4 kHz	for $1.5^\circ \leq \theta \leq 7^\circ$.
5.3	dBW/4 kHz	for $7^\circ < \theta \leq 9.2^\circ$.
29.3-25log10 θ	dBW/4 kHz	for $9.2^\circ < \theta \leq 48^\circ$.
-12.7	dBW/4 kHz	for $48^\circ < \theta \leq 180^\circ$.

Where θ is as defined in paragraph (c)(1) of this section. The EIRP density levels specified for $\theta > 7^\circ$ may be exceeded by up to 3 dB in up to 10% of the range of theta (θ) angles from ± 7 -180°, and by up to 6 dB in the region of main reflector spillover energy.

For co-polarized transmissions in the plane perpendicular to the GSO arc:

29.3-25log10 θ	dBW/4 kHz	for $3^\circ \leq \theta \leq 48^\circ$.
-12.7	dBW/4 kHz	for $48^\circ < \theta \leq 180^\circ$.

Where θ is as defined in paragraph (c)(1) of this section. These EIRP density levels may be exceeded by up to 6 dB in the region of main reflector spillover energy and in up to 10% of the range of θ angles not included in that region, on each side of the line from the earth station to the target satellite.

For cross-polarized transmissions in the plane tangent to the GSO arc and in the plane perpendicular to the GSO arc:

16.3-25log10 θ	dBW/4 kHz	for $1.5^\circ \leq \theta \leq 7^\circ$.
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Where θ is as defined in paragraph (c)(1) of this section.

- 4.** Harris Corporation is not authorized to transmit on the earth station while in motion.
- 5.** Harris Corporation shall cease operations immediately upon notification of such interference and inform the Commission in writing immediately of such an event.
- 6.** Harris Corporation must take all reasonable and customary measures to ensure that the earth station(s) do(es) not create a potential for harmful non-ionizing radiation to persons who may be in the vicinity of the earth station when it is in operation. At a minimum, permanent warning labels shall be fixed to the earth station and its housing warning of the radiation hazard and including a diagram showing the regions around the earth station where radiation levels could exceed 1.0mW/cm². The earth station operator shall be responsible for assuring that individuals do not stray into the regions around the earth station where there is a potential for exceeding the maximum permissible exposure limits required by 47 C.F.R. § 1.1310.
- 7.** Any action taken or expense incurred as a result of operations pursuant to this special authority is solely at Harris Corporation own risk.
- 8.** The grant of the verbal STA request was issued in accordance with emergency procedures put in place to provide communications in areas affected by Hurricane Michael. To ensure that the Commission has a complete record of the request and action taken, Harris Corporation is

directed to file an electronic version of its STA request submitted through IBFS as soon as possible. Go to <http://licensing.fcc.gov/myibfs/> to file the STA and request an extension of this STA.

9. This STA may be terminated at the International Bureau's discretion, without a hearing, if conditions warrant. Under no circumstances may the facility(ies) authorized violate the terms of an international agreement or treaty. If an application for permanent authority is on file with the Commission, this action is taken without prejudice to that application. The applicant is required to post and/or retain a copy of this authorization as required by the Commission's Rules.
10. This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.


/s/

Paul Blais

Chief Systems Analysis Branch.

202.418.7274 FCC Desk

202.528.6552 FCC Cell

 GRANTED International Bureau	File # _____
	Call Sign _____ Grant Date _____ (or other identifier)
	Term Dates From _____ To: _____
	Approved: <u>Paul E Blais</u>