Approved by OMB
3060–0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATIONEnter a description of this application to identify it on the main menu:
Special Temporary Authority for a Temporary Fixed 1.2 meter Ku–band transportable earth station

1. Applicant

Name:	The Ahmadiyya Movement in Islam, Inc. USA	**Phone Number:**	301–332–3287
DBA Name:		**Fax Number:**	301–879–0222
Street:	MTA Teleport 1440 Briggs Chaney Rd.	**E–Mail:**	cmunir@muslimtv.tv
City:	Silver Spring	**State:**	MD
Country:	USA	**Zipcode:**	20905 –
Attention:	Mr Munir Ahmad		

GRANTED
International Bureau

File # SES-STA-20180824-02497
Call Sign _____ Grant Date 9-20-18
(or other identifier)
Term Dates
From: 10-10-18 To: 11-10-18
Approved: Paul E Blais

2. Contact

Name:	Munir Ahmad	**Phone Number:**	301–332–3287
Company:	The Ahmadiyya Movement in Islam, Inc. USA	**Fax Number:**	
Street:	1440 Briggs Chaney Rd	E–Mail:	cmunir@muslimtv.tv
City:	Silver Spring	**State:**	MD
Country:	USA	**Zipcode:**	20905 –
Attention:		**Relationship:**	

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)
3. Reference File Number or Submission ID

4a. Is a fee submitted with this application?

○ If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).

○ Governmental Entity ○ Noncommercial educational licensee

◉ Other(please explain): Non–Profit Religious

4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

○ Use Prior to Grant ○ Change Station Location ◉ Other

6. Requested Use Prior Date
10/01/2018

7. CityVarious	8. Latitude (dd mm ss.s h) 0 0 0.0
9. State	10. Longitude (dd mm ss.s h) 0 0 0.0

11. Please supply any need attachments.

Attachment 1: Operations Statement Attachment 2: Radhaz report Attachment 3:

12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Special Temporary Authority for a 1.2 meter Ku-band transportable fixed earth station that will support temporary operation from 10/01/2018 thru 11/30/18 at various locations in support of the Applicant's non-profit religious Organization. The uplink will be used to backhaul religious sermons to the Applicant's Network Operations Center in Silver Spring,

13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti–Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

(●) Yes ( ) No

14. Name of Person Signing Munir Ahmad	15. Title of Person Signing Director Americas

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104–13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

12. Description

Special Temporary Authority for a 1.2 meter Ku-band transportable fixed earth station that will support temporary operation from 10/01/2018 thru 11/30/18 at various locations in support of the Applicant's non-profit religious Organization. The uplink will be used to backhaul religious sermons to the Applicant's Network Operations Center in Silver Spring, Maryland.

Applicant: The Ahmadiyya Movement in Islam, Inc. USA
No Call Sign
File No.: SES-STA-20180824-02497
Special Temporary Authority

The Ahmadiyya Movement in Islam, Inc. USA is granted Special Temporary Authority to operate for 30 days from October 10 through November 10, 2018, a Temporary-Fixed earth station on 14000-14500 MHz (Earth-to-space) and 11700-12200 MHz (space-to-Earth) frequency bands with the Galaxy 18 (Call Sign S2733) at orbital location 123°W under the following conditions:

1. Operations with the input power density per carrier at -14 dBW/4kHz pursuant to 47 C.F.R. §25.212 and the antenna is of 47 C.F.R. §25.209 compliance.

2. Operations under this authority are on a non-interference basis only.

3. Operations under this authority are on a non-protected basis only.

4. In the event that there is a report of interference, he Ahmadiyya Movement in Islam, Inc. USA must immediately terminate transmissions and notify the FCC in writing.

5. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future The Ahmadiyya Movement in Islam, Inc. USA application.

6. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at The Ahmadiyya Movement in Islam, Inc. USA's risk.

7. Grant of this authorization is without prejudice to any future FCC enforcement action in connection with any unauthorized operation of radio facilities.

This action 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.

GRANTED
International Bureau

File # SES-STA-20180824-02497
Call Sign _____ Grant Date 9-2018
(or other identifier)
Term Dates
From: 10-10-18 To: 11-10-18
Approved: Paul E Blais

Analysis of Non-Ionizing Radiation for a 1.2-Meter Earth Station System

This report analyzes the non-ionizing radiation levels for a 1.2-meter earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependant on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	1.2	m
Antenna Surface Area	$A_{surface}$	$\pi D^2 / 4$	1.13	m^2
Subreflector Diameter	D_{sr}	Input	19.0	cm
Area of Subreflector	A_{sr}	$\pi D_{sr}{}^2/4$	283.53	cm^2
Frequency	F	Input	14250	MHz
Wavelength	λ	300 / F	0.021053	m
Transmit Power	P	Input	110.00	W
Antenna Gain (dBi)	G_{es}	Input	43.6	dBi
Antenna Gain (factor)	G	$10^{Ges/10}$	22908.7	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.71	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region

$$R_{ff} = 0.60\ D^2 / \lambda \quad (1)$$
$$= 41.0\ m$$

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field

$$S_{ff} = G\ P / (4\ \pi\ R_{ff}^2) \quad (2)$$
$$= 119.061\ W/m^2$$
$$= 11.906\ mW/cm^2$$

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field

$$R_{nf} = D^2 / (4\ \lambda) \quad (3)$$
$$= 17.1\ m$$

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density

$$S_{nf} = 16.0\ \eta\ P / (\pi\ D^2) \quad (4)$$
$$= 277.940\ W/m^2$$
$$= 27.794\ mW/cm^2$$

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density

$$S_t = S_{nf}\ R_{nf} / R_t \quad (5)$$
$$= 27.794\ mW/cm^2$$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector

$$S_{sr} = 4000\ P / A_{sr} = 1551.871\ mW/cm^2 \quad (6)$$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface

$$S_{surface} = 4\ P / A_{surface} = 389.045\ W/m^2 = 38.905\ mW/cm^2 \quad (7)$$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground

$$S_g = P / A_{surface} = 97.261\ W/m^2 = 9.726\ mW/cm^2 \quad (8)$$

7. Summary of Calculations

Table 4. Summary of Expected Radiation levels for Uncontrolled Environment

Region	Calculated Maximum Radiation Power Density Level (mW/cm^2)		Hazard Assessment
1. Far Field (R_{ff} = 41.0 m)	S_{ff}	11.906	Potential Hazard
2. Near Field (R_{nf} = 17.1 m)	S_{nf}	27.794	Potential Hazard
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	27.794	Potential Hazard
4. Between Main Reflector and Subreflector	S_{sr}	1551.871	Potential Hazard
5. Main Reflector	$S_{surface}$	38.905	Potential Hazard
6. Between Main Reflector and Ground	S_g	9.726	Potential Hazard

Table 5. Summary of Expected Radiation levels for Controlled Environment

Region	Calculated Maximum Radiation Power Density Level (mW/cm^2)		Hazard Assessment
1. Far Field (R_{ff} = 41.0 m)	S_{ff}	11.906	Potential Hazard
2. Near Field (R_{nf} = 17.1 m)	S_{nf}	27.794	Potential Hazard
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	27.794	Potential Hazard
4. Between Main Reflector and Subreflector	S_{sr}	1551.871	Potential Hazard
5. Main Reflector	$S_{surface}$	38.905	Potential Hazard
6. Between Main Reflector and Ground	S_g	9.726	Potential Hazard

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC MPE guidelines have been exceeded (or met) in the regions of Table 4 and 5. The applicant proposes to comply with the MPE limits by one or more of the following methods.

Means of Compliance Uncontrolled Areas

The antenna will be located on top of a truck. The bottom lip of the dish will be 3.50 meters above ground level. The general public will not have access to areas within ½ diameter from the edge of the antenna.

Since one diameter removed from the main beam of the antenna or ½ diameter removed from the edge of the antenna the RF levels are reduced by a factor of 100 or 20 dB. None of the areas exceeding the MPE levels will be accessible by the general public.

Radiation hazard signs will be posted while this earth station is in operation.

The applicant will ensure that no buildings or other obstacles will be in the areas that exceed the MPE levels.

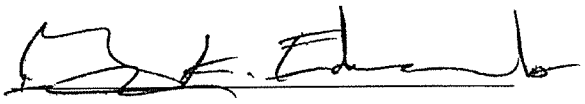
The earth station's operational staff will not have access to the areas that exceed the MPE levels while the earth station is in operation.

The transmitters will be turned off during antenna maintenance

The applicant agrees to abide by the conditions specified in Condition 5208 provided below:

> *Condition 5208 - The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for worker.*

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE RADIATION HAZARD REPORT, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: _ 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: August 24, 2018

Statement of Proposed Operations

Special Temporary Authority (STA) for a 1.2 meter Ku-band transportable fixed earth station that will support temporary operation from 10/01/2018 thru 11/30/18 in support of the Applicant's non-profit religious Organization. The uplink will be used to backhaul religious sermons to the Applicant's Network Operations Center. Grant of this STA will assure that the special programs planned during this time are delivered without interruption.

The proposed 1.2 meter Ku-band earth station will meet FCC pattern requirements (25.209) and will transmit a 9 MHz Compressed Digital carrier not exceeding -14.0 dBW/4 kHz RF transmit power.