Approved by OMB 3060-0678
Estimated Burden: up to 80 hours
April 2016

Federal Communications Commission

312 File Number: **SATAMD2025040800097**

Filing Description

Question	Response
Description	Honeybee-00 is a short-wave infrared imaging satellite built to conduct hyperspectral imaging operations

Satellite Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	Honeybee-00
Estimated Lifetime of Satellite(s) From Date of Launch	6 Years
Will the space station(s) operate on a Common Carrier basis?	No

Operating Frequency Bands (5)

Nature of service	Description	Frequency Band(s)	Mode Type
Space Operation Service		400.15 MHz -401.0 MHz	Transmit
Earth Exploration-Satellite Service		8025.0 MHz -8400.0 MHz	Transmit
Earth Exploration-Satellite Service		2025.0 MHz -2110.0 MHz	Receive
Earth Exploration-Satellite Service		2200.0 MHz -2290.0 MHz	Transmit
Earth Exploration-Satellite Service		402.0 MHz -403.0 MHz	Receive

Orbital Information For Non-Geostationary Satellites

Question	Response
Total Number of Satellites in the active constellation	1
Orbit Epoch Date	02/01/2025
Celestrial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	97.6 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5736.0 seconds
Apogee	500.0 km
Perigee	500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-90.0 degrees
Active Service Arc End Angle with respect to Ascending Node	90.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0

Receiving Beams 1:

Question	Response
Beam ID	SUA
Receive Beam Frequency	2025.0 MHz -2110.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	7.1 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-28.4 dB/K
Min. Saturation Flux Density	-86.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Beams 2:

Question	Response
Beam ID	UUA
Receive Beam Frequency	402.0 MHz -403.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	2.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
G/T at Max. Gain Point	-24.8 dB/K
Min. Saturation Flux Density	-77.0 dBW/m2
Max. Saturation Flux Density	-75.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Receiving Channels (2)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
SUA	1.0	2100.0	Service Link
UUA	0.006	402.2	Service Link

Transmitting Beams 1:

Question	Response
Beam ID	UDA
Transmit Beam Frequency	400.15 MHz -401.0 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	2.0 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	0.0 degrees
Max. Transmit EIRP Density	-39.3 dBW/Hz
Max. Transmit EIRP	0.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Max. Power Flux Density

* BW:	* 0° - 5° (dbW/m^2 /BW):	* 5° - 10° (dbW/m^2 /BW):	* 10° - 15° (dbW/m^2 /BW):	* 15° - 20° (dbW/m^2 /BW):	* 20° - 25° (dbW/m^2 /BW):	* 25° - 90° (dbW/m^2 /BW):
4.0 kHz	-140.6	-138.9	-137.3	-135.8	-134.6	-128.3

Transmitting Beams 2:

Question	Response
Beam ID	SDA
Transmit Beam Frequency	2200.0 MHz -2290.0 MHz
Beam Type	Fixed

Polarization	RHCP
Peak Gain	7.1 dBi
Antenna Pointing Error	0.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-54.4 dBW/Hz
Max. Transmit EIRP	5.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Max. Power Flux Density

* BW:	* 0° - 5° (dbW/m^2 /BW):	* 5° - 10° (dbW/m^2 /BW):	* 10° - 15° (dbW/m^2 /BW):	* 15° - 20° (dbW/m^2 /BW):	* 20° - 25° (dbW/m^2 /BW):	* 25° - 90° (dbW/m^2 /BW):
4.0 kHz	-155.7	-153.9	-152.3	-150.9	-149.6	-143.3

Transmitting Beams 3:

Question	Response
Beam ID	XDA
Transmit Beam Frequency	8025.0 MHz -8400.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	17.0 dBi
Antenna Pointing Error	2.0 degrees
Antenna Rotational Error	0.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-53.0 dBW/Hz
Max. Transmit EIRP	17.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Max. Power Flux Density

* BW:	* 0° - 5° (dbW/m^2 /BW):	* 5° - 10° (dbW/m^2 /BW):	* 10° - 15° (dbW/m^2 /BW):	* 15° - 20° (dbW/m^2 /BW):	* 20° - 25° (dbW/m^2 /BW):	* 25° - 90° (dbW/m^2 /BW):
4.0 kHz	-154.3	-152.5	-150.9	-149.5	-148.2	-141.9

Transmitting Beams 4:

Question	Response
Beam ID	XDB
Transmit Beam Frequency	8025.0 MHz -8400.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	17.0 dBi
Antenna Pointing Error	2.0 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-58.8 dBW/Hz
Max. Transmit EIRP	16.0 dBW

Co- or Cross Polar Mode	C
Service Area Description	Visible Earth

Max. Power Flux Density

* BW:	* 0° - 5° (dbW/m^2 /BW):	* 5° - 10° (dbW/m^2 /BW):	* 10° - 15° (dbW/m^2 /BW):	* 15° - 20° (dbW/m^2 /BW):	* 20° - 25° (dbW/m^2 /BW):	* 25° - 90° (dbW/m^2 /BW):
4.0 kHz	-155.3	-153.5	-151.9	-150.5	-149.2	-142.9

Transmitting Channels (4)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
XDA	13.5	8050.0	Service Link
SDA	4.0	2240.0	Service Link
XDB	40.5	8050.0	Service Link
UDA	0.02	400.65	TT&C

Certification Questions

Question	Response
Are the applicable service area coverage requirements of 25.143(b)(2)(ii) and (iii), or 25.144(a)(3)(i), or 25.145(c)(1) and (2), or 25.146(i)(1) and (2), or 25.148(c), or 25.225 met?	N/A
Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?	N/A
Are the cessation of emissions requirements of 25.207 met?	Yes
Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?	
For NGSO applications, are the applicable equivalent-power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?	N/A
Are the applicable full-frequency-reuse requirements of 25.210 met?	
If the application is for a 17/24 GHz BSS space station, will it be operated at an offset location with full power and interference protection in accordance with 25.262(b)?	

Attachments

File Name	Beam	Field	Attachment Type	Description
UHF Band Antenna Contour.pdf	UDA	NGSO Antenna Gain Data	PDF file (*.pdf)	
X Band Downlink Ant Pattern.pdf	XDA	NGSO Antenna Gain Data	PDF file (*.pdf)	
S Band Uplink Ant Pattern.pdf	SUA	NGSO Antenna Gain Data	PDF file (*.pdf)	
X Band Downlink Ant Pattern.pdf	XDB	NGSO Antenna Gain Data	PDF file (*.pdf)	
S Band Dowlink Ant Pattern.pdf	SDA	NGSO Antenna Gain Data	PDF file (*.pdf)	
X Band Antenna Contour.pdf	XDB	NGSO Antenna Gain Data	PDF file (*.pdf)	
S Band Antenna Contour.pdf	SUA	NGSO Antenna Gain Data	PDF file (*.pdf)	
UHF Band Antenna Contour.pdf	UUA	NGSO Antenna Gain Data	PDF file (*.pdf)	
X_Band_Antenna_Contour.pdf	XDA	NGSO Antenna Gain Data	PDF file (*.pdf)	
S_Band_Antenna_Contour.pdf	SDA	NGSO Antenna Gain Data	PDF file (*.pdf)	