

UNCLASSIFIED		
SECURITY SUMMARY & SPECIAL HANDLING REQUIREMENTS		
<p>The title of this application is : GLISTIN-A</p> <p>The overall classification of this application is : UNCLASSIFIED</p>		
<p>Refer to your Security Manual for further guidance.</p>		
<p>The Application Level Special Handling is : A</p> <p>Approved for public release; distribution is unlimited (DoD Directive 5230.24)</p>		
DOWNGRADING INSTRUCTIONS		
<p>Special Handling Instruction : A</p>		CLASSIFICATION
		UNCLASSIFIED

FULL RECORD PRINT FOR GLISTIN-A

Selected Frequencies

(U) 35660.00 MHz

System Name : (U) GLISTIN-A(Nomenclature)

Stage : (U) 4 - Operational
Agency : (U) NASA - National Aeronautics and Space Administration
NTIA Certified : (U) No
Date Of Import : 5/31/2016 4:12:55 PM (GMT)
Date/Time Last Mod. : 5/31/2016 4:13:38 PM (GMT)
Overall Security : Unclassified

System Description

(U) Glacier and Land Ice Surface Topography Interferometer-Airborne (GLISTIN-A) is a 35.66 GHz, Ka-band interferometric synthetic aperture radar (InSAR) which acquires airborne single pass cross-track SAR data for differential interferometric measurements of glacier and land ice surface topography

Geographic Areas for Stage 4

(U) USP (US & POSS) (U) Polygon

Predefined Trunking? : (U) No

Control Numbers

SPS- 21763/1

Certification of Spectrum Support InformationAttachments

File Name : (U) NASA Req GLISTEN-A St4 Cov Ltr.docx
File Name : (U) NASA Req GLISTEN-A Supp Info St4.docx

Recommending Official : Stephen J. Butcher
Title : Chairman Spectrum Planning Subcommittee
Certifying Official : Edward M. Davison
Title : Deputy Associate Administrator

Target Date(s)

System Approval : (U) 9/30/2016
System Activation : (U) 11/1/2016
System Termination : (U) 11/1/2026

NSEP Use : (U) No

ITU Waiver : (U) Yes

Number Of Units : (U) 1

Estimated Initial Cost of the System : (U) \$ 6000000

Information Transfer Requirement

(U) See Attachment

System Essentiality

(U) Testing and development of the Glistin-A in the proposed frequency band of 35.66 GHz is considered to be optimum for glacier and land ice surface topography data collections.

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Replacement Information
(U)None

Stations

Station Name : (U)Glistin-A

Transmitters

(U) Glistin Transmitter

Receivers

(U) Glistin Receiver

Antennas

(U) Glistin Antenna

Station Name : (U)US&P - Generic

Selected ModesLinkTransmitting Station

(U)Glistin-A

Receiving Station

(U)US&P - Generic

Radio Service : Radiodetermination

Station Classes : MR

Equipment Combination

Transmitter : (U) Glistin Transmitter

Tx Antenna : (U) Glistin Antenna

Receiver : (U) Glistin Receiver

Rx Antenna : (U) Glistin Antenna

Selected ModesFrequency

(U) 35660.00 MHz

Em. Des

(U) 89M0Q3N

Power

(U) 53.0 W Peak

Notes

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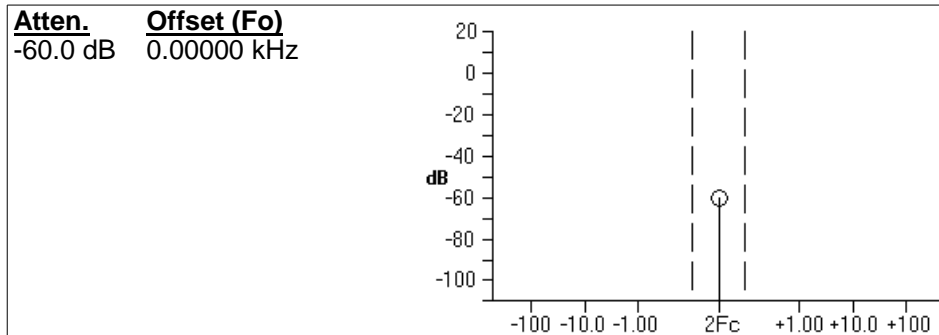
TRANSMITTER Glistin Transmitter

Nomenclature : (U) Glistin Transmitter
Manufacturer : (U) JET PROPULSION LABORATORY
Model Name : (U) Ka-band Single Pass Interferometric SAR
NTIA Approval Status : (U) Unapproved
Coordination ID : J/F 12
Date of Import : 5/31/2016 4:12:55 PM (GMT)
Date/Time Last Mod. : 5/17/2016 10:08:20 PM (GMT)
Freq. Stability : (U) 0.1ppm
Output Device : (U) Other
Tuning Method : (U) Fixed
Radar/Comm : (U) Radar
Supp. of Harmonics : (U) Yes

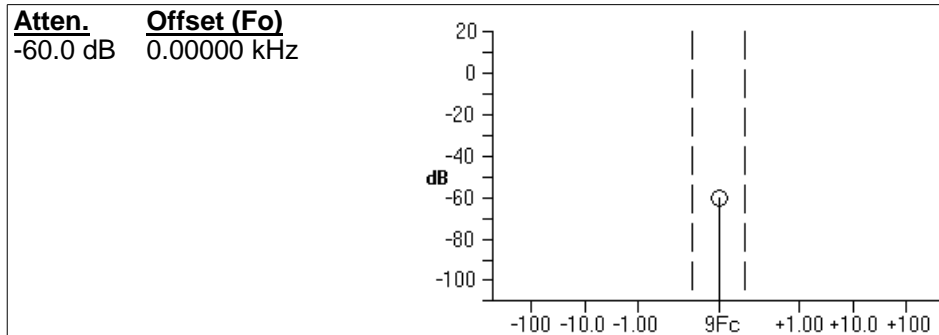
Powers

Power Type: Peak Envelope

Power : (U) 53.0 W

Figure 1 - 2nd Harmonic Curve (U)

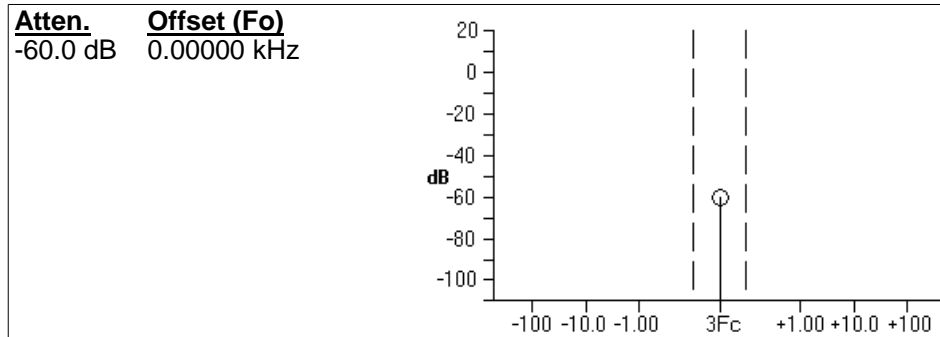
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Figure 2 - Other Harmonic Curve (U)

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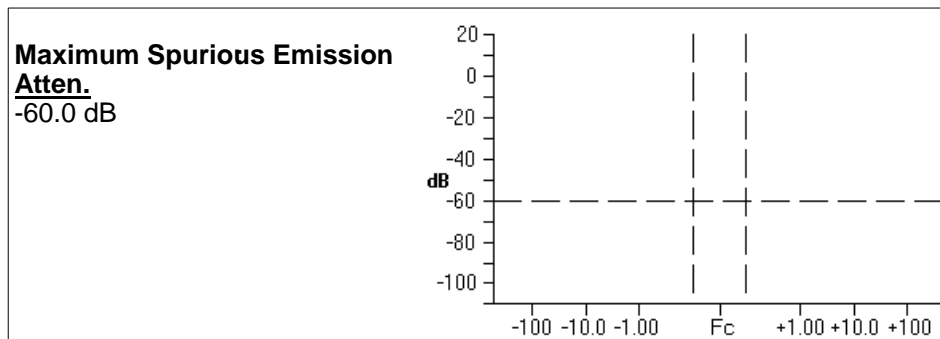
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Figure 3 - 3rd Harmonic Curve (U)



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Figure 4 - Spurious Emission Curve (U)



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Frequencies

Fixed Frequency : (U) 35660.00 MHz

Em. Designator : (U) 89M0Q3N

Necessary BW : (U) 89000 kHz

Modulation - 89M0Q3N

Measured/Calculated : (U) Measured

Radar/Communications : (U) Radar

Radar Type : (U) FM Pulse Radar

Pulse Repetition Rate : (U) 875 pps

Pulse Rise Time : (U) 0.0000170 ms

Justification : (U) The present output waveform for Glistin-A meets the system performance requirements.

Pulse Fall Time : (U) 0.00000760 ms

Pulse Width : (U) 0.0360 ms

Pulse Duty Cycle : (U) 3.150 %

Pulse Comp. Ratio : (U) 0.100

Pulse Freq. Deviation : (U) 39500 kHz

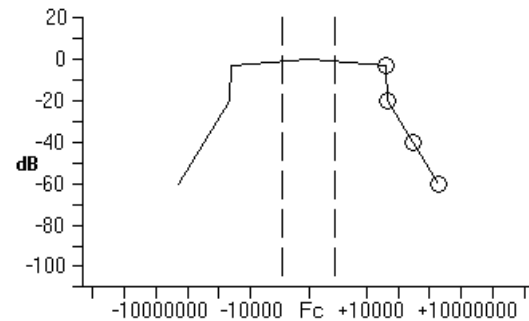
Spread Spectrum : No

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Figure 5 - Fundamental Curve (U)

Meas/Calc : Measured
Level Offset (Fo)

-3.00 dB	39500 kHz
-20.0 dB	44500 kHz
-40.0 dB	297500 kHz
-60.0 dB	2000000 kHz



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RECEIVER Glistin Receiver

Nomenclature : (U) Glistin Receiver
Manufacturer : (U) JET PROPULSION LABORATORY
Model Name : (U) Ka-band Single Pass Interferometric SAR
NTIA Approval Status : (U) Unapproved
Coordination ID : J/F 12
Date of Import : 5/31/2016 4:12:55 PM (GMT)
Date/Time Last Mod. : 5/17/2016 9:09:39 PM (GMT)
Freq. Stability : (U) 0.1ppm
Image Reject : (U) 26.0 dB
Oscillator Tuned : (U) Below
Tuning Method : (U) Fixed

Frequencies

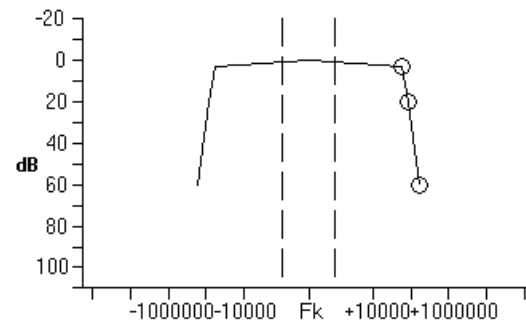
Fixed Frequency : (U) 35660.00 MHz

Sensitivities

Em. Designator : (U) 89M0Q3N
Necessary BW : (U) 89000 kHz
Perf. Crit. : (U) S/N - Signal to Noise Ratio (dB)
Perf. Value : (U) 20
Sensitivity : (U) -93.0 dBm
Noise Fig. : (U) 3.44 dB
Noise Temp. : (U) 350 K
Spur. Reject : (U) 65.0 dB
Intermod. Reject : (U) 60.0 dB
Adj. Channel Sel.: (U) 60.0 dB

Figure 6 - IF Selectivity Curve (U)

IF Freq. (Fk): 45.00000 MHz
Meas/Calc : Measured
Atten. Offset (Fo)
 3.00 dB 57500 kHz
 20.0 dB 85000 kHz
 60.0 dB 175000 kHz

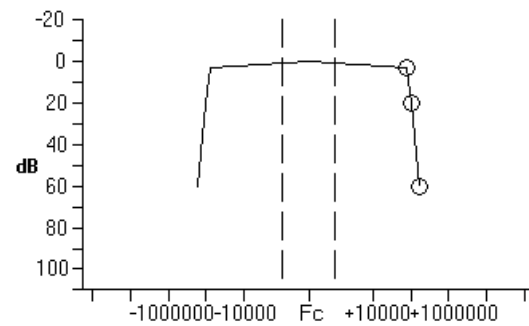


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Figure 7 - RF Selectivity Curve (U)

Meas/Calc : Measured
Atten. Offset (Fo)
3.00 dB 75000 kHz
20.0 dB 100000 kHz
60.0 dB 175000 kHz



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ANTENNA Glistin Antenna

Nomenclature : (U) Glistin Antenna
Manufacturer : (U) JET PROPULSION LABORATORY
Model Name : (U) Glistin-A Antenna
Antenna Type : (U) Slotted Waveguide Planar Array
Antenna Category : Linear
NTIA Approval Status : (U) Unapproved
Coordination ID : J/F 12
Date of Import : 5/31/2016 4:12:55 PM (GMT)
Date/Time Last Mod. : 5/17/2016 8:59:36 PM (GMT)
Lower Freq. Limit : (U) 35500.00 MHz
Upper Freq. Limit : (U) 36000.00 MHz
Polarization : (U) Horizontal
Main Beam Gain : (U) 30.0 dBi
1st Horz. Sidelobe Level : (U) 17.0 dB
1st Vert. Sidelobe Level : (U) 15.0 dB
Atten. Rel/Act : (U) Actual dBi
Horz. Beamwidth : (U) 0.900 degrees
Vert. Beamwidth : (U) 40.0 degrees

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Frequency List

Tx Station	Rx Station	Frequency (MHz)	Em. Des.	Radio Service	Stn. Classes
(U) Glistin-A	(U) US&P	(U) 35660.00	(U) 89M0Q3N	Radiodetermination	MR

Line Diagram: GLISTIN-A

