

UNCLASSIFIED	
SECURITY SUMMARY & SPECIAL HANDLING REQUIREMENTS	
<p>The title of this application is : AN/USC-65(V)2</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 AN/USC-65(V)2

Selected Frequencies

(U) 30000 MHz - (U) 31000 MHz

System Name : (U) AN/USC-65(V)2**(Nomenclature)****Coord.ID/JF12 Num.** : (U)/(U) J/F 12/8078**Stage** : (U) 4 - Operational**Agency** : (U) N - Department of the Navy**NTIA Certified** : (U) No**Overall Security** : Unclassified**Date/Time Last Mod.** : 3/31/2010 4:39:43 PM (GMT)**System Description** : (U) System provides full duplex communications capability using leased Commercial C & Ku-Band, and Military X and Ka-Band satellite capacity to assist in the conduct of war-fighting, peace keeping, relief, and humanitarian missions.**Target Date(s)****System Approval** : (U) 6/1/2010**System Activation** : (U) 6/1/2010**System Termination** : (U) 7/1/2020**NSEP Use** : (U) No**ITU Waiver** : (U) No**Control Numbers**

SPS- 17388/1

References**Type** : Previous Certification**Ref. To Cert.:** No**Ref. ID** : SPS-13869/2**Ref. Stage** : 4 - Operational**Ref. Title** : AN/TSC-152B & C and AN/USC-65(V)1-4 Lightweight Multi-Band SATCOM Terminal**Ref. Org.** : (U) LMST/A**Ref. Date** : 12/22/2006**Ref. Is Class:** No**Source Documents**

- (U) SPS - SPS-13869/2 AN/TSC-152B & C and AN/USC-65(V)1-4 Lightweight Multi-Band SATCOM Terminal (LMST) Stage 4 12/22/2006

- (U) SPS - 17388/1 AN/USC-65(V)2 Certification Application 3/31/2010

Number Of Units : (U) 39**Estimated Initial Cost of the System** : (U) \$1200000**Information Transfer Requirement**

(U) Digital voice and data communications up to 20 Mbps.

System Essentiality

(U) Satellite terminals area vital portion of the next generation DoD tactical communications architecture and an integral part of the theater deployable communications (TDC) concept.

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Replacement Information

(U) Not Applicable

Stations**Station Name** : (U) AN/USC-65(V)1&2 Lightweight Multi-band Satellite Terminal**Antenna Height** : (U) 2.00 m**Min. Point Angle** : (U) 5.00 degrees**City, State/Country** : (U) USP (US & POSS)**Location Type** : (U) Polygon of 12868 pointsTransmitters

(U) Ka-Band Uplink Transmitter

Receivers

(U) Ka-Band Downlink Receive

Antennas

(U) Ka-band Uplink Transmit

(U) Ka-Band Downlink Receive

Station Name : (U) Satellite - Generic**City, State/Country** : (U) Satellite, (U) Space**Location Type** : (U) Geosynchronous Satellite**Lat/Lon** : (U) 0000000E lat/lonLinks - Selected ModesLinkTransmitting Station

(U) AN/USC-65(V)1&2 Lightweight Multi-band Satellite Terminal

Receiving Station

(U) AN/USC-65(V)1&2 Lightweight Multi-band Satellite Terminal

Radio Service : Fixed-Satellite**Station Class** : TCEquipment Combination**Transmitter** : (U) Ka-Band Uplink Transmitter**Tx Antenna** : (U) Ka-band Uplink Transmit**Receiver** : Generic**Rx Antenna** : GenericSelected ModesFrequency

(U) 30000 MHz - (U) 31000 MHz

(U) 30000 MHz - (U) 31000 MHz

Em. Des

(U) 10K8G1D

(U) 20M0G7W

Power

Mean (U) 60.0 W

Mean (U) 60.0 W

Notes

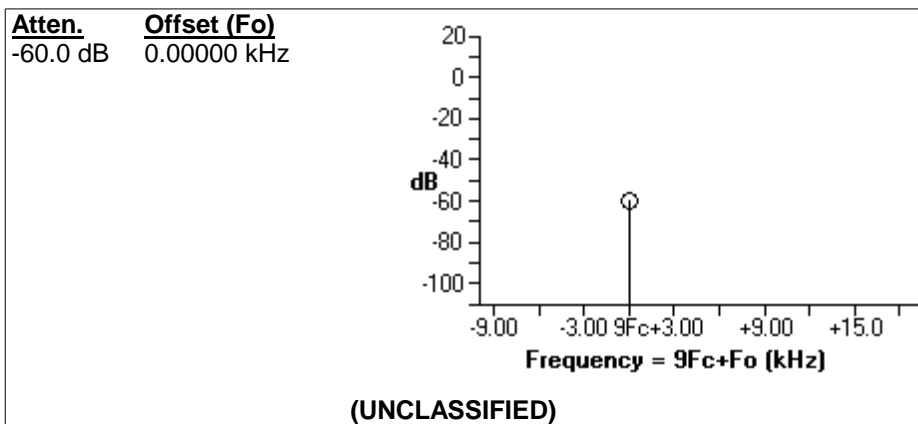
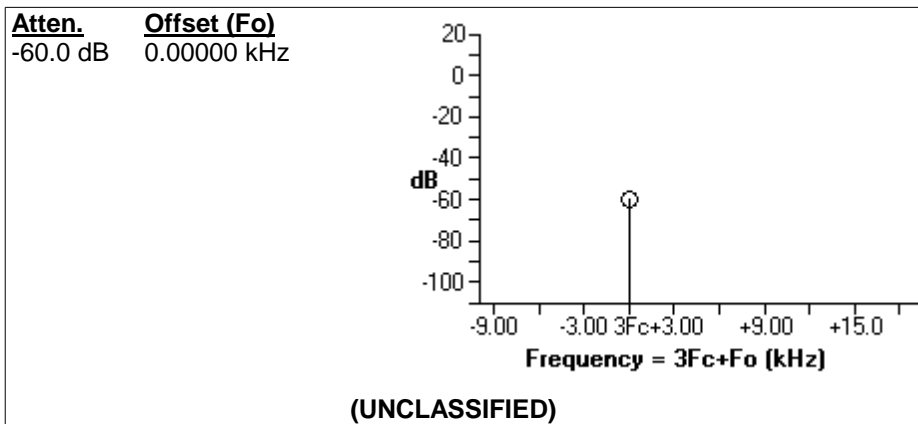
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TRANSMITTER Ka-Band Uplink Transmitter

Nomenclature : (U) Ka-Band Uplink Transmitter
Manufacturer : (U) HARRIS CORP
Model Name : (U) Ka-Band
NTIA Approval Status : (U) Unapproved
Date/Time Last Mod. : 3/4/2010 4:46:11 PM (GMT)
Coordination ID : (U) J/F 12
Fcc Acc. Number : (U) Not Applicable
Freq. Stability : (U) 0.005 ppm
Output Device : (U) Traveling Wave Tube
Tuning Method : (U) Digital Synthesizer
Radar/Comm : (U) Communications
Supp. of Harmonics : (U) Yes

Figure 1 - Other Harmonic Curve (U)**Figure 2 - 3rd Harmonic Curve (U)**

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Figure 3 - 2nd Harmonic Curve (U)

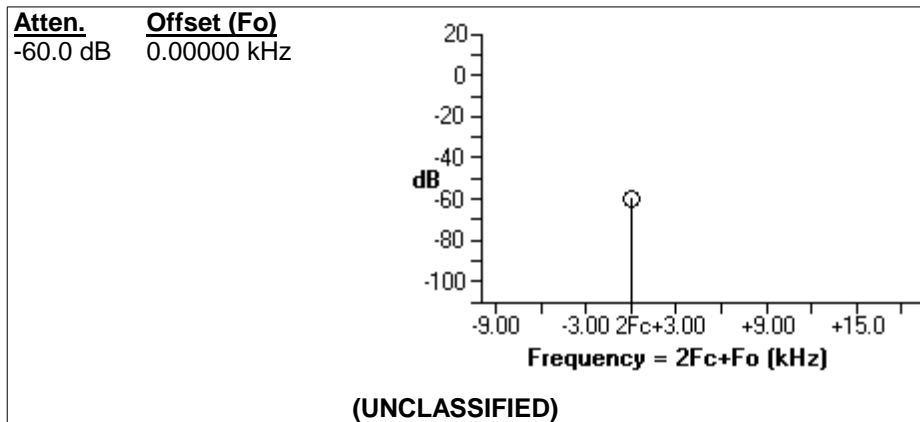
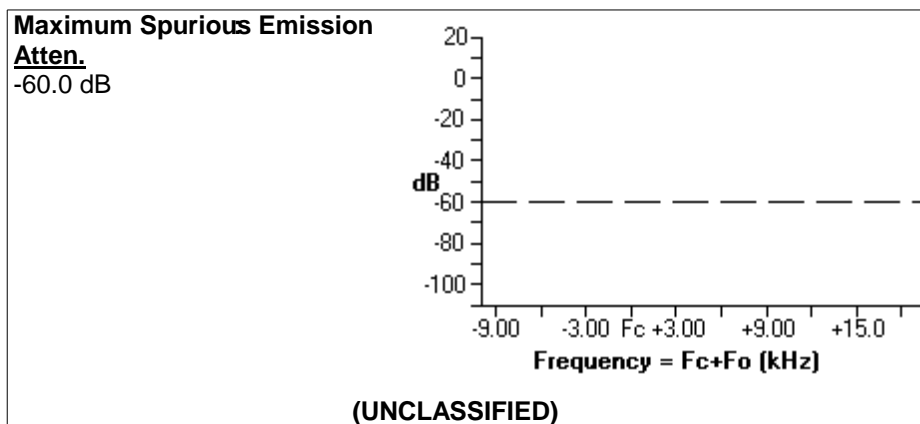


Figure 4 - Spurious Emission Curve (U)

Frequencies

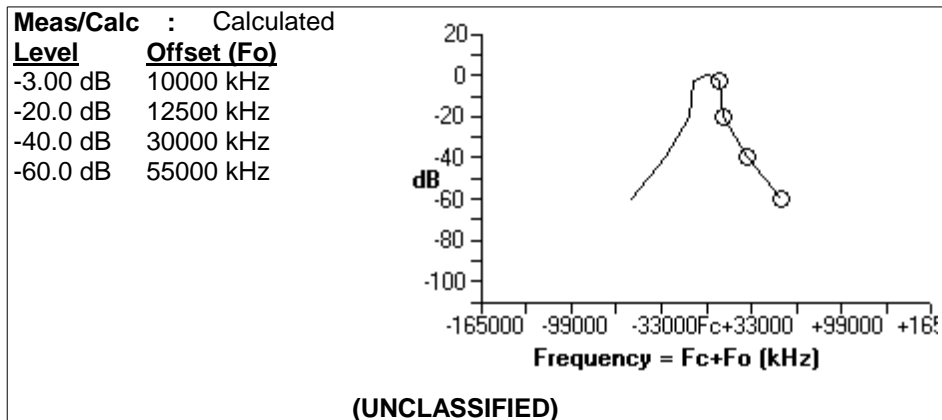
Tuned Frequency : (U) 30000 MHz - 31000 MHz
 Tuning Increment : (U) 1.0000 kHz
 # Freq Req. : (U) 1
 Min. Separation : (U) 25.000 MHz
 Em. Designator : (U) 20M0G7W
 Necessary BW : (U) 20000 kHz

Modulation - 20M0G7W

Occupied Bandwidth : (U) 22500 kHz
 Measured/Calculated : (U) Calculated
 Radar/Communications : (U) Communications
 Modulation Type : (U) Digital Modulation
 Spread Spectrum : No
 Dig. Modulation Type : (U) QPSK - Quadrature Phase Shift Keying
 Number of Digital States : (U) 4
 Digital Bit Rate : (U) 20000000 bps

FULL RECORD PRINT FOR Transmitter

Figure 5 - Fundamental Curve (U)

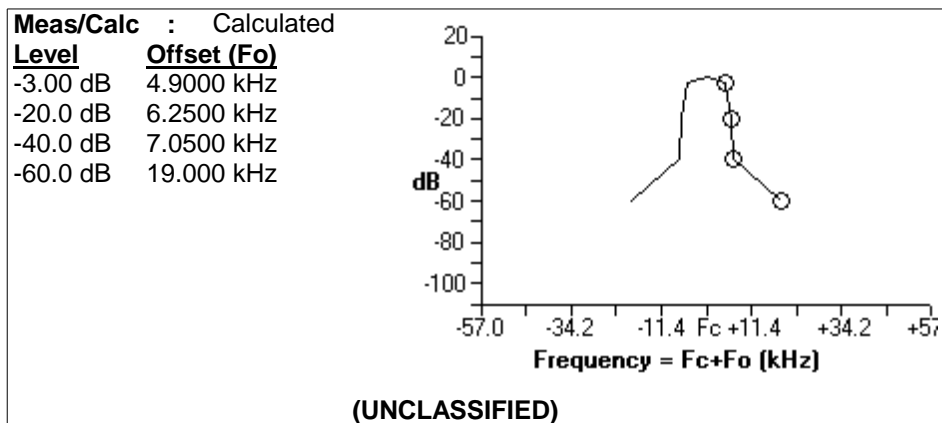


Em. Designator : (U) 10K8G1D
Necessary BW : (U) 10.800 kHz

Modulation - 10K8G1D

Occupied Bandwidth : (U) 10.800 kHz
Measured/Calculated : (U) Calculated
Radar/Communications : (U) Communications
Modulation Type : (U) Digital Modulation
Spread Spectrum : No
Dig. Modulation Type : (U) QPSK - Quadrature Phase Shift Keying
Number of Digital States : (U) 4
Digital Bit Rate : (U) 9600 bps

Figure 6 - Fundamental Curve (U)

Powers

Power Type : Mean
Upper Limit : (U) 60.0 W

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RECEIVER Ka-Band Downlink Receive

Nomenclature : (U) Ka-Band Downlink Receive
Manufacturer : (U) HARRIS CORP
NTIA Approval Status : (U) Unapproved
Date/Time Last Mod. : 3/4/2010 9:15:27 PM (GMT)
Coordination ID : (U) J/F 12
Fcc Acc. Number : (U) Not Applicable
Freq. Stability : (U) 0.005 ppm
Image Reject : (U) 75.0dB
Oscillator Tuned : (U) Below
Tuning Method : (U) Digital Synthesizer
Cond. Undesired Em. : (U) -60.0dBm

Frequencies

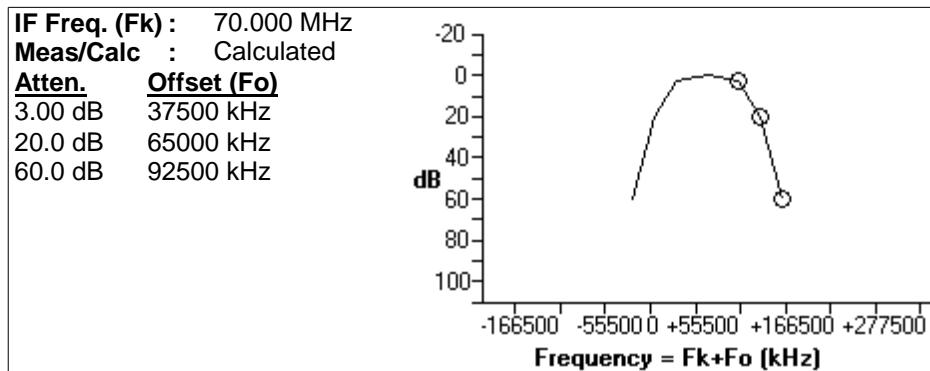
Tuned Frequency : (U) 20200 MHz - 21200 MHz

Tuning Increment : (U) 1.0000 kHz

Sensitivities

Em. Designator : (U) 20M0G7W
Necessary BW : (U) 20000 kHz
Perf. Crit. : (U) BER - Bit Error Rate
Perf. Value : (U) 20
Sensitivity : (U) -131 dBm
Noise Fig. : (U) 1.50 dB
Noise Temp. : (U) 120 K
Spur. Reject : (U) 55.0 dB

Figure 7 - IF Selectivity Curve (U)



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Sensitivities

Em. Designator : (U) 10K8G1D
Necessary BW : (U) 10.800 kHz
Perf. Crit. : (U) BER - Bit Error Rate
Perf. Value : (U) 20
Sensitivity : (U) -131 dBm
Noise Fig. : (U) 1.50 dB
Noise Temp. : (U) 120 K
Spur. Reject : (U) 55.0 dB

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Figure 8 - IF Selectivity Curve (U)

IF Freq. (Fk) : 70.000 MHz

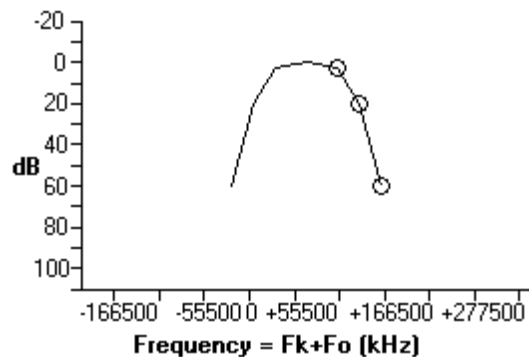
Meas/Calc : Calculated

Atten. Offset (Fo)

3.00 dB 37500 kHz

20.0 dB 65000 kHz

60.0 dB 92500 kHz



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Figure 9 - RF Selectivity Curve (U)

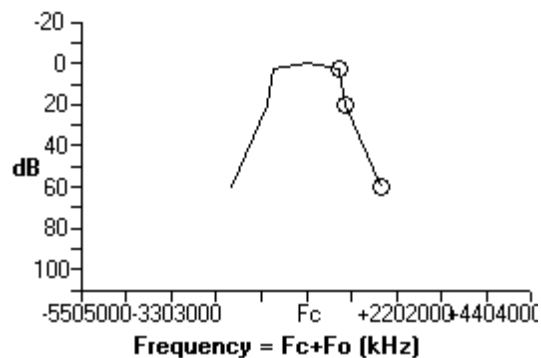
Meas/Calc : Calculated

Atten. Offset (Fo)

3.00 dB 800000 kHz

20.0 dB 950000 kHz

60.0 dB 1835000 kHz



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FULL RECORD PRINT FOR AN/USC-65(V)2

ANTENNA Ka-Band Downlink Receive

Nomenclature	:	(U) Ka-Band Downlink Receive
Antenna Code	:	Aperture
Manufacturer	:	(U) HARRIS CORP
NTIA Approval Status	:	(U) Unapproved
Date/Time Last Mod.	:	3/4/2010 9:37:08 PM (GMT)
Coordination ID	:	(U) J/F 12
Lower Freq. Limit	:	(U) 20200 MHz
Upper Freq. Limit	:	(U) 21200 MHz
Polarization	:	(U) Right and Left Hand Circular
Main Beam Gain	:	(U) 51.6 dBi
1st Horz. Sidelobe Level	:	(U) -15.5 dB
1st Vert. Sidelobe Level	:	(U) -15.0 dB
Atten. Rel/Act	:	(U) Actual dBi
1st Horz. Pos.	:	(U) 0.700 degrees
Horz. Beamwidth	:	(U) 0.410 degrees
Vert. Beamwidth	:	(U) 0.410 degrees
Horz. Scan Type	:	(U) Tracker
Horz. Scan Speed	:	(U) 0.200 degrees/sec
Horz. Scan Rate	:	(U) 12.0 scans/min
Horz. Scan Type	:	(U) Tracker
Vert. Scan Type	:	(U) Tracker
Vert. Scan Speed	:	(U) 0.200 degrees/sec
Vert. Scan Rate	:	(U) 12.0 scans/min
Vert. Max. Elev.	:	(U) 85.0 degrees
Vert. Min. Elev.	:	(U) 5.00 degrees
Dish Diameter	:	(U) 2.50 meters

FULL RECORD PRINT FOR AN/USC-65(V)2

ANTENNA Ka-band Uplink Transmit

Nomenclature : (U) Ka-band Uplink Transmit
Antenna Code : Aperture
Manufacturer : (U) HARRIS CORP
NTIA Approval Status : (U) Unapproved
Date/Time Last Mod. : 3/4/2010 9:37:19 PM (GMT)
Coordination ID : (U) J/F 12
Lower Freq. Limit : (U) 30000 MHz
Upper Freq. Limit : (U) 31000 MHz
Polarization : (U) Right and Left Hand Circular
Main Beam Gain : (U) 55.3 dBi
1st Horz. Sidelobe Level : (U) -14.0 dB
1st Vert. Sidelobe Level : (U) -14.0 dB
Atten. Rel/Act : (U) Actual dBi
1st Horz. Pos. : (U) 0.480 degrees
Horz. Beamwidth : (U) 0.270 degrees
Vert. Beamwidth : (U) 0.270 degrees
Horz. Scan Type : (U) Tracker
Horz. Scan Speed : (U) 0.200 degrees/sec
Horz. Scan Rate : (U) 12.0 scans/min
Horz. Scan Type : (U) Tracker
Vert. Scan Type : (U) Tracker
Vert. Scan Speed : (U) 0.200 degrees/sec
Vert. Scan Rate : (U) 12.0 scans/min
Vert. Max. Elev. : (U) 85.0 degrees
Vert. Min. Elev. : (U) 5.00 degrees
Dish Diameter : (U) 2.50 meters