Exhibit 1

RESPONSE TO QUESTION 43: NARRATIVE STATEMENT, REQUESTS FOR WAIVER, AND PUBLIC INTEREST STATEMENT

GeoEye License Corp. f/k/a ORBIMAGE License Corp. ("GeoEye") requests modification of its authorization to operate a constellation of non-geostationary ("NGSO") earth exploration satellite service ("EESS") remote sensing satellites, Call Sign S2348.[1] In order to provide enhanced sensing capabilities and better service to its customers, GeoEye intends to add an additional satellite to its constellation. The new satellite, GeoEye-2, will supply images to a variety of governmental (including the U.S. Department of Defense and other federal government agencies) and non-governmental users.

In particular, GeoEye-2 will provide imaging capabilities to the National Geospatial-Intelligence Agency ("NGA") through the agency's EnhancedView program pursuant to a contract that was awarded to GeoEye in August 2010. The new satellite will enable GeoEye to provide images of a better quality and in a more timely manner than is possible using any other commercial satellite currently in operation. GeoEye-2, like the existing constellation, will operate primarily in the X-band.

GeoEye's qualifications as a Commission licensee, and its ability to construct and operate earth exploration satellites, are well-established. As described herein, the proposed modification is in the public interest, and this application (and the associated waiver requests) should be granted without delay.

I. DESCRIPTION OF APPLICANT

GeoEye is a leading commercial provider of high-accuracy, high-resolution earth imagery products and is a global leader in the creation of enhanced satellite imagery information products and services. The company operates an integrated system of digital remote sensing satellites, U.S. and international ground stations, and sales channels to collect, process, and distribute earth imagery products. GeoEye provides its governmental and commercial customers with high-resolution and low-resolution imagery, various imagery-derived products, image processing services, and geospatial information services. GeoEye customers include various U.S. government, defense, intelligence, and law enforcement agencies including, but not limited to the U.S. Department of Defense, Air Force, and Army, and the National Geospatial-Intelligence Agency. Other U.S. government agencies that purchase satellite imagery include the U.S. Department of Interior, U.S. Geological Survey, U.S. Fish and Wildlife Service, the National Parks Service, NASA, and the U.S. Department of Agriculture.

GeoEye's parent company, GeoEye, Inc., f/k/a ORBIMAGE, Inc., originally was formed as a subsidiary of the Orbital Sciences Corporation, and has provided geospatial satellite

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[1] *See* IBFS File Nos. SAT-LOA-19980203-00012; SAT-MOD-20050511-00097.

imaging products and services since 1995. GeoEye presently conducts commercial operations with two earth-imaging satellites: IKONOS, which GeoEye acquired from Space Imaging, LLC in 2006,[2] and GeoEye-1.

GeoEye-1 is operated under the license for Call Sign S2348, which GeoEye seeks to modify through this application. That license was granted in 1999, and initially authorized the operation of the OrbView-3 and OrbView-4 satellites.[3] OrbView-3 was successfully launched in 2003;[4] OrbView-4 failed to reach its intended orbit and was never put into operation.[5] In 2005, GeoEye sought and obtained modification of its license to authorize the operation of the OrbView-5 satellite.[6] That satellite was later renamed GeoEye-1, and was successfully launched in 2008. Earlier this year, GeoEye successfully de-orbited OrbView-3, after its remote sensing camera permanently failed in 2007.[7] As such, the license for Call Sign S2348 currently covers the operations of only a single satellite—GeoEye-1—but following grant of this application also would cover the operations of GeoEye-2.

As noted above, GeoEye-2 would enhance GeoEye's ability to serve its U.S. Government customers, which have benefited from GeoEye imagery for years. In 2004, GeoEye was awarded a contract under the NGA's NextView program. It began delivering imagery under that contract in 2007. The NextView contract was extended a number of times beginning in 2008 and recently concluded on August 31, 2010, although GeoEye continues to fulfill NextView value-added products and service orders until such orders are complete.

Prior to the expiration of its NextView contract, NGA awarded GeoEye a contract under its EnhancedView program, which replaces the NextView program. The contract provides for the construction and operation of a new satellite, GeoEye-2, and the purchase of new satellite imagery. GeoEye-2 will offer faster and higher resolution imagery, and will provide higher capacity, than any other commercial imaging satellite in the world. When GeoEye-2 enters service, the company will have two high-resolution satellites in operation.

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[2] *See* IBFS File No. SAT-ASG-20051006-00197 (authorization granted Dec. 28, 2005; consummated Jan. 10, 2006).

[3] *See* IBFS File No. SAT-LOA-19980203-00012.

[4] *See* Letter from Daniel J. Connors, Acting General Counsel, Orbital Imaging Corporation, to Marlene H. Dortch, Secretary, FCC, IBFS File No. SAT-LOA-19980203-00012 (July 3, 2003).

[5] *See* Letter from Armand Mancini, Executive Vice President and Chief Financial Officer, Orbital Imaging Corporation, to Magalie Roman Salas, Secretary, FCC, IBFS File No. SAT-LOA-19980203-00012 (Jan. 16, 2002).

[6] *See* IBFS File No. SAT-MOD-20050511-00097.

[7] *See* Letter from Gregg Hyde, Manager, Legal & Regulatory Compliance, GeoEye, Inc., to Marlene H. Dortch, Secretary, FCC, IBFS File Nos. SAT-STA-20101202-00250, SAT-STA-20110201-00020, SAT-STA-20110228-00040 (Mar. 25, 2011).

II. DESCRIPTION OF MODIFICATION

The instant application requests authority to modify GeoEye's existing NGSO satellite system, Call Sign S2348, by adding an additional spacecraft.[8] As noted above, GeoEye currently operates one NGSO satellite, GeoEye-1, pursuant to this system authorization, and previously operated OrbView-3 alongside GeoEye-1 under the authorization. By this application, GeoEye seeks authority to replace OrbView-3, which is no longer operational, with GeoEye-2. As a technical matter, the proposed operation of GeoEye-2 will be substantially similar to the current operations of GeoEye-1, and to GeoEye's previously authorized operation of spacecraft under this system authorization. However, GeoEye-2 will produce dramatically superior imagery.

The technical details of the proposed modification are set forth on Schedule S, and in the attached Technical Annex.

III. PROPOSED TIMELINE FOR CONSTRUCTION AND OPERATION

On March 25, 2010, GeoEye notified the Commission pursuant to Section 25.113(f) of the Commission's rules that GeoEye had commenced construction of GeoEye-2 at its own risk.[9] GeoEye subsequently entered into a binding contract with Lockheed Martin Space Systems Company to build GeoEye-2 and has completed the critical design review for the GeoEye-2 spacecraft. GeoEye anticipates completing construction and launch of GeoEye-2 and beginning operations in 2013 in advance of the following milestones specified in Section 25.164(b) of the Commission's rules:

1. Entering into a binding non-contingent contract to construct the licensed satellite system within one year of the date the requested modification is granted;

2. Completing the critical design review of the licensed satellite system within two years of the date the requested modification is granted;

3. Beginning the construction of GeoEye-2 within two years, six months of the date the requested modification is granted; and

4. Launching and beginning operation of GeoEye-2 within three years, six months of the date the requested modification is granted.

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[8] *See* IBFS File Nos. SAT-LOA-19980203-00012; SAT-MOD-20050511-00097.

[9] *See* Letter from William L. Warren, Sr. Vice President & General Counsel, GeoEye, Inc., to Robert Nelson, Chief, Engineering Branch, Satellite Division, International Bureau, FCC (Mar. 25, 2010), attached hereto as Attachment B.

IV. TECHNICAL ANNEX AND COORDINATION

GeoEye-2 will perform downlink functions in the X-band, and will have TT&C operations in the X- and S-bands. The attached Technical Annex provides a detailed explanation of the frequencies and power levels that will be used, together with link budgets, antenna gain patterns, and associated technical data. Likewise, the Technical Annex demonstrates with specificity that the operation of GeoEye-2 will be compatible with authorized commercial operations in these spectrum bands.

As required by the Commission's rules, GeoEye will coordinate GeoEye-2's X-band operations with authorized governmental users. Copies of the frequency coordination reports for the Dulles and Barrow earth stations prepared by Comsearch are attached to this application as Exhibit 6.

V. ORBITAL DEBRIS MITIGATION PLAN

As a remote sensing satellite, the non-radiofrequency aspects of the operation of GeoEye-2 are subject to licensing by the National Oceanic and Atmospheric Administration ("NOAA"). GeoEye holds a license from NOAA to operate GeoEye-2 and intends to file an application amending its license to provide updated GeoEye-2 launch plans, space and ground segment technical information, and a post-mission disposal plan. Because NOAA regulates the post-mission disposal plans of commercial remote sensing satellites, the Commission has recognized that it need not conduct an independent review of orbital debris-related matters raised by an EESS satellite application.[10] GeoEye nevertheless provides, in Attachment A to the Technical Annex, information regarding its plans for orbital debris mitigation, which are consistent with the requirements of Section 25.114(d)(14) of the Commission's rules.[11]

VI. REQUESTS FOR WAIVER

A. <u>Request for Waiver of Processing Round Treatment</u>

As noted above, the existing license for Call Sign S2348 is a constellation license authorizing GeoEye to operate two EESS satellites in the X- and S-bands. Furthermore, GeoEye-2 will serve as a *de facto* replacement for OrbView-3, which recently was decommissioned. Because GeoEye-2 will operate under GeoEye's existing constellation license, within authorized frequencies, the Commission's processing round procedures should not be implicated.[12] Nevertheless, GeoEye requests a waiver of Sections 25.156 and 25.157 of the

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[10] *See Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567 ¶¶ 102-04 (2004).

[11] 47 C.F.R. § 25.114(d)(14).

[12] *See Globalstar Licensee LLC Application for Modification of Non-geostationary Mobile Satellite Service Space Station License*, Order, 26 FCC Rcd 3948 (IB 2011); *Amendment of the Commission's Space Station Licensing Rules and Policies*, First Report and Order,

Commission's rules to the extent necessary to enable the International Bureau to consider GeoEye's modification application on a first-come, first-served basis as set forth in Section 25.158 of the Commission's rules.[13]

The Commission generally permits geostationary orbit ("GSO") satellite applications to proceed on a first-come, first-served basis, while a processing round proceeding is the Commission's default approach to licensing NGSO systems. NGSO EESS satellites, however, are fully capable of sharing, and currently do share, spectrum through the use of steerable beam downlink antennas. Multiple earth exploration satellites can simultaneously transmit using precisely the same frequencies without causing interference, provided that adequate separation exists between the earth stations and/or the space stations.

As a result, the International Bureau previously has granted waivers of the processing round rules to NGSO EESS operators, including GeoEye, based on findings that such a grant will not preclude other NGSO operators from operating in the band or cause harmful interference to other EESS systems currently operating in the band.[14] Consistent with that precedent, and because the instant modification request presents none of the issues of mutual exclusivity that normally would necessitate processing round treatment of the application, the Commission should grant GeoEye's request for waiver.

B. Request for Waiver of the "Default Service Rules"

GeoEye requests a waiver of the "default service rules" contained in Section 25.217(b) of the Commission's rules, which apply to satellite facilities that operate in frequency bands in which the Commission has yet to adopt service specific rules.[15] The Commission has not adopted service specific rules for NGSO EESS in the X-band, but rather has required operators to comply with technical requirements in Part 2 of the Commission's rules, and the applicable ITU rules.[16] As a result, the International Bureau previously has granted waivers of the default service rules in Section 25.217(b) to NGSO EESS system licensees, including GeoEye.[17]

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18 FCC Rcd 10760 ¶ 103 (2003) (noting the Commission's policy of granting licenses for remote sensing satellite systems outside of processing rounds).

[13] 47 C.F.R. §§ 25.156, 157, 158.

[14] *See* IBFS File No. SAT-MOD-20050511-00097 (granted by date stamp on Jan. 9, 2006); *see also Space Imaging, LLC*, Declaratory Order and Authorization, 20 FCC Rcd 11964, at ¶¶ 8-11 (IB 2005) ("*Space Imaging Order*"); *DigitalGlobe, Inc.*, Order and Authorization, 20 FCC Rcd 15696, at ¶¶ 6-8 (IB 2005) ("*DigitalGlobe Order*").

[15] 47 C.F.R. § 25.217(b).

[16] *See id.* § 2.106 n.US258; *Space Imaging Order* ¶ 25; *DigitalGlobe Order* ¶ 15.

[17] IBFS File No. SAT-MOD-20050511-00097 (granted by date stamp on Jan. 9, 2006); *see also Space Imaging Order*, 20 FCC Rcd 11964 ¶ 25; *DigitalGlobe Order*, 20 FCC Rcd 15696 ¶ 15 (IB 2005).

VII. PUBLIC INTEREST STATEMENT

Grant of this modification application will permit GeoEye to operate a next-generation remote sensing satellite that far exceeds the capability available today on other similar spacecraft. GeoEye-2 will provide highly advanced and significantly enhanced imaging capabilities to a variety of government and commercial customers consistent with its obligations under the EnhancedView contract and others. Launch of GeoEye-2 thus will enable the United States to maintain its leadership position in remote sensing activities, which is vital to the "national security, foreign policy, economic and civil interests of the United States."[18] Accordingly, modification of GeoEye's existing NGSO EESS authorization, Call Sign S2348, will serve the public interest.

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18 U.S. Commercial Remote Sensing Policy (Apr. 25, 2003), *available at* http://www.whitehouse.gov/files/documents/ostp/press_release_files/fact_sheet_commercial_remote_sensing_policy_april_25_2003.pdf.

FCC Form 312
GeoEye License Corp.
Exhibit 1

TECHNICAL ANNEX

I. INTRODUCTION

This Technical Annex supplements the Narrative Statement and Schedule S and provides further detail regarding the operational attributes for the proposed GeoEye-2 spacecraft, including radiofrequency use, orbital parameters, interference analyses, and other technical information.

II. GEOEYE-2 OVERVIEW

GeoEye-2 will be a non-geostationary (NGSO) satellite operating in the earth exploration satellite service (EESS). The GeoEye-2 satellite will operate in a sun-synchronous orbit with a baseline altitude of 681 km. It will have an inclination of 98.114 degrees, and an orbital period of 5903 seconds. The orbit of GeoEye-2 will be at the same altitude as GeoEye-1 satellite in the same orbital plane phased 180 degrees from GeoEye-1.

GeoEye-2 will use three discrete downlink channels and one uplink channel, including:

- Two 400 Mbps X-band (wideband) downlink channels (one in each of two polarizations);
- A narrowband tracking, telemetry, and control (TT&C) downlink in the X-band; and
- A narrowband TT&C uplink in the S-band.

Figure 2-1 diagrams the GeoEye-2 Narrowband Communications S-band TT&C receiver and the X-band TT&C Downlink telemetry systems. Both the S-band receiver and the X-band TT&C Downlink will employ two antennas, on opposite ends of the spacecraft which provide nearly 100% omni-directional coverage. The primary (PRI) and redundant (RED) transmitters and receivers are also shown.

Figure 2-1
GeoEye-2 Narrowband Communications System Block Diagram

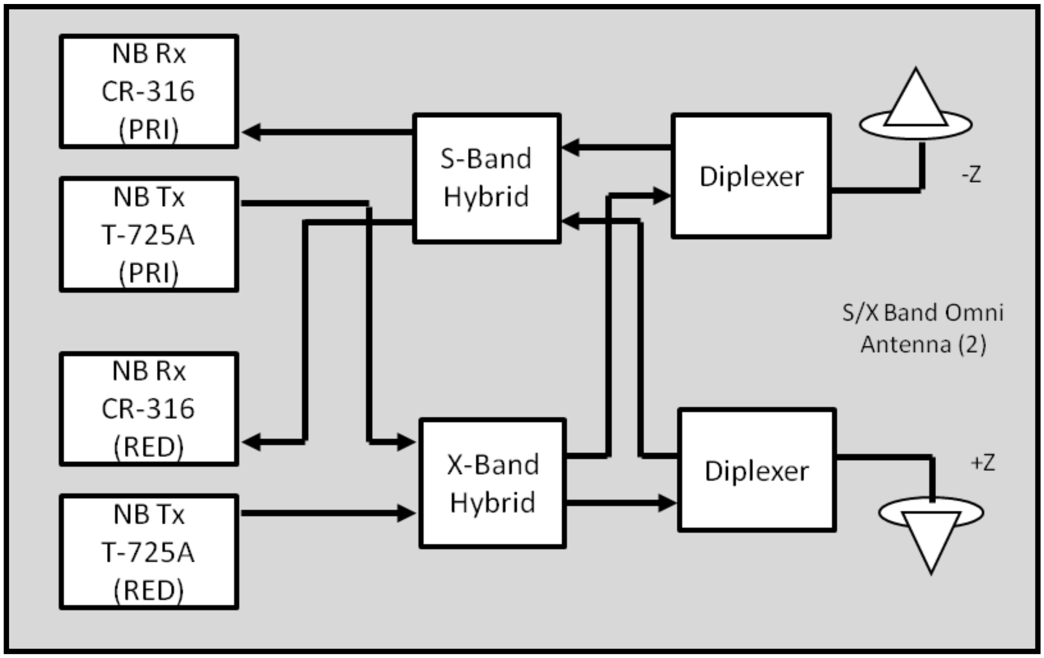
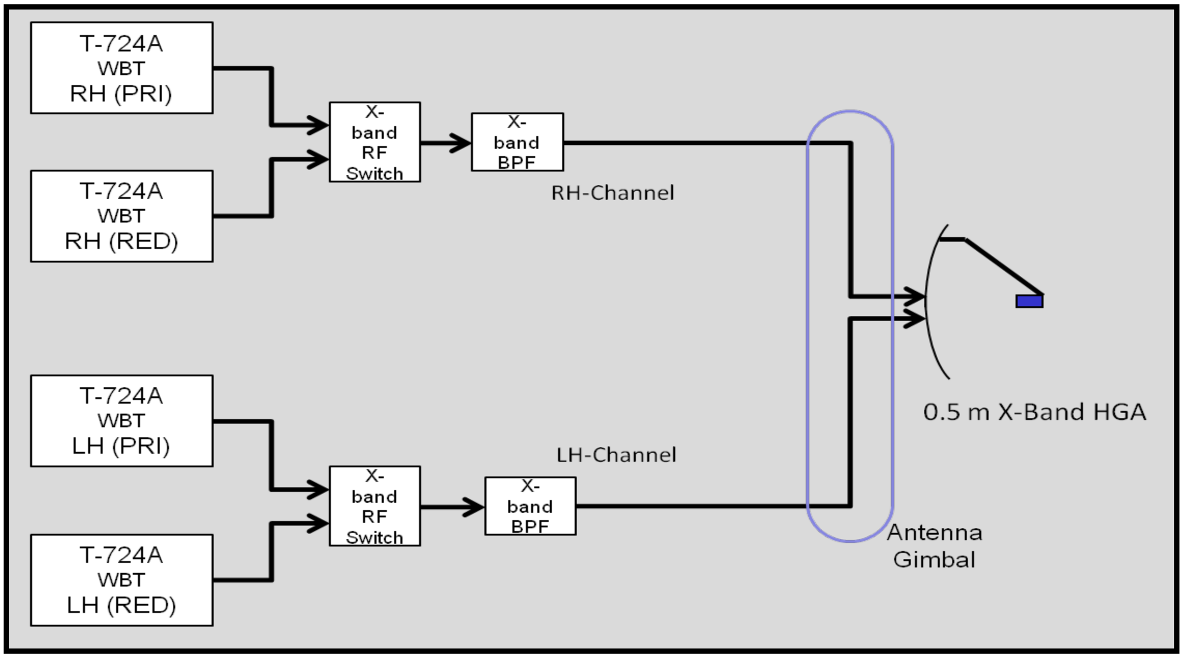


Figure 2-2 diagrams the GeoEye-2 wideband communications system for mission (image) data. The wideband antenna is mechanically gimbaled to allow it to point directly at the earth station with which it is communicating. Separate redundant transmitters power the right-hand and left-hand polarization.

Figure 2-2
GeoEye-2 Wideband Communications System Block Diagram



III. RADIO FREQUENCIES

A. X-Band High Rate Downlink

1. Description and Link Budget

In order to maximize the bandwidth available for transferring images from GeoEye-2 to the earth, the High Rate Downlink employs frequency reuse. This reuse is accomplished by transmitting two signals in the same frequency band (8025 to 8400 MHz, F_c 8185 MHz) and placing each on orthogonal polarizations, thereby doubling the downlink data rate.

The center frequency (8185 MHz) will not be the arithmetic mean of the lower frequency (8025 MHz) and the upper frequency (8400 MHz). However, GeoEye will utilize an output filter to ensure that only spectrum between 8025 and 8400 MHz is used and that out-of-band emissions outside the 8025-8400 MHz range are within the acceptable levels prescribed by Section 25.202(f) of the Commission's rules. The Commission previously has approved the use of filtering to achieve this result and ensure compliance with the Commission's rules. *See DigitalGlobe, Inc.*, Order and Authorization, 20 FCC Rcd 15696 (IB 2005).

The communications system will operate two QPSK 400 Mbps X-band transmitters simultaneously with one transmitting using Right-hand Circular Polarization

(RCP) and one transmitting using Left-hand Circular Polarization (LCP). The emission designator for each of the RCP and the LCP is 375MG1D. The link budget for the Dulles earth station X-band Mission Data Downlink is shown in Figure 2-3. The Dulles ground station was selected because it is the GeoEye ground station with the smallest link budget margin.

Figure 2-3
X-Band Mission Data Downlink Link Budget

Parameters	Units	
Rx Station X-Band		
Antenna Diameter	(m)	5.4
Antenna Efficiency	(%)	62
Polarization (circular = 45°)	(°)	45
Satellite Elevation	(°)	5.0
Distance	(km)	2,519.8
Satellite Link		
Transmitted Downlink Data Rate	(Mbps)	400.000
Effective Downlink Data Rate	(Mbps)	348.387
Downlink Frequency	(GHz)	8.185
Downlink Antenna Diameter	(m)	0.500
Downlink Antenna Efficiency	(%)	44.0
Downlink Antenna Pointing Error	(deg)	1.500
Downlink Antenna Beamwidth	(deg)	5.33
Downlink Antenna Pointing Loss	(dB)	-0.95
Downlink Availability	(%)	99.000
Downlink (Satellite to Station)		
Tx Satellite Power		
Amplifier Power (5W)	(dBW)	8.8
Feeder Losses (cable, filter, RJ)	(dB)	9.1
Tx Satellite Antenna Gain (with pointing loss)	(dBic)	27.9
EIRP	(dBW)	27.6
Propagation Losses		
Free Space Losses	(dB)	178.7
Atm. Gas Attenuation	(dB)	0.54
Rain Attenuation	(dB)	0.94
Clouds Attenuation	(dB)	0.81
Scintillation	(dB)	1.43
Radome Loss (Included in G/T)	(dB)	0.0
Sub-carrier Loss	(dB)	0.0
Subsystem integration margin	(dB)	0.5
Polarization Losses	(dB)	0.5
Total Losses	(dB)	183.0
Rx Parameters		
RIP (Received Input Power)	(dBW)	-155.4
Rx Station Antenna gain	(dBic)	51.2
Rx Station Antenna Pointing Error	(deg)	0.1

Rx Station Antenna Beamwidth	(deg)	0.5
Rx Station Antenna Pointing Loss	(dB)	-0.5
Clear Sky Noise Temperature	(K)	60.0
Feeder Losses	(dB)	1.0
Rx Noise Figure	(dB)	1.3
Antenna Temp due to Weather	(K)	56.6
Temp increase due to Cross Pol	(K)	193.9
System Noise Temperature	(K)	366.8
System Noise Temperature	(dBK)	25.6
Rx station Noise Figure : G/T	(dB/K)	29.9
Downlink Link Budget		
Noise Power	(dBW)	-116.9
Carrier Power (C/No)	(dBHz)	102.6
Carrier Power / Noise (C/N)	(dB)	16.6
Energy of Bit to Noise Density (Eb/No)	(dB)	17.2
Correction for Cross Pol Interference	(dB)	14.37
Space and Ground Implementation Loss	(dB)	4.0
Forward Error Correction Gain RS (248,216)	(dB)	6.0
Margin		
Required Eb/No (OQPSK, 1e-10)	(dB)	13.2
System Margin	**(dB)**	**3.17**

2. Power Flux Density

Figure 2-4 gives the maximum power flux density (PFD) levels at the surface of the earth produced by the transmission of the Mission Data Downlink on the GeoEye-2 satellite. The maximum antenna gain is used for all elevation angles.

Figure 2-4
Mission Data Downlink PFD at the Surface of the Earth

Elevation Angle	Slant Range	PFD from Modulated Term	PFD from Leakage Term	NTIA Spec	Aggregate PFD (including cross pol)
0	2956.72	-163.43	-173.71	-150.0	-160.04
5	2452.63	-161.80	-172.08	-150.0	-158.42
10	2049.80	-160.25	-170.53	-147.5	-156.86
15	1735.55	-158.80	-169.08	-145.0	-155.41
20	1492.91	-157.49	-167.77	-142.5	-154.10
25	1305.48	-156.33	-166.61	-140.0	-152.94
30	1159.77	-155.30	-165.58	-140.0	-151.91
35	1045.45	-154.40	-164.68	-140.0	-151.01
40	954.96	-153.61	-163.89	-140.0	-150.22
45	882.80	-152.93	-163.21	-140.0	-149.54
50	824.98	-152.34	-162.62	-140.0	-148.95
55	778.61	-151.84	-162.12	-140.0	-148.45

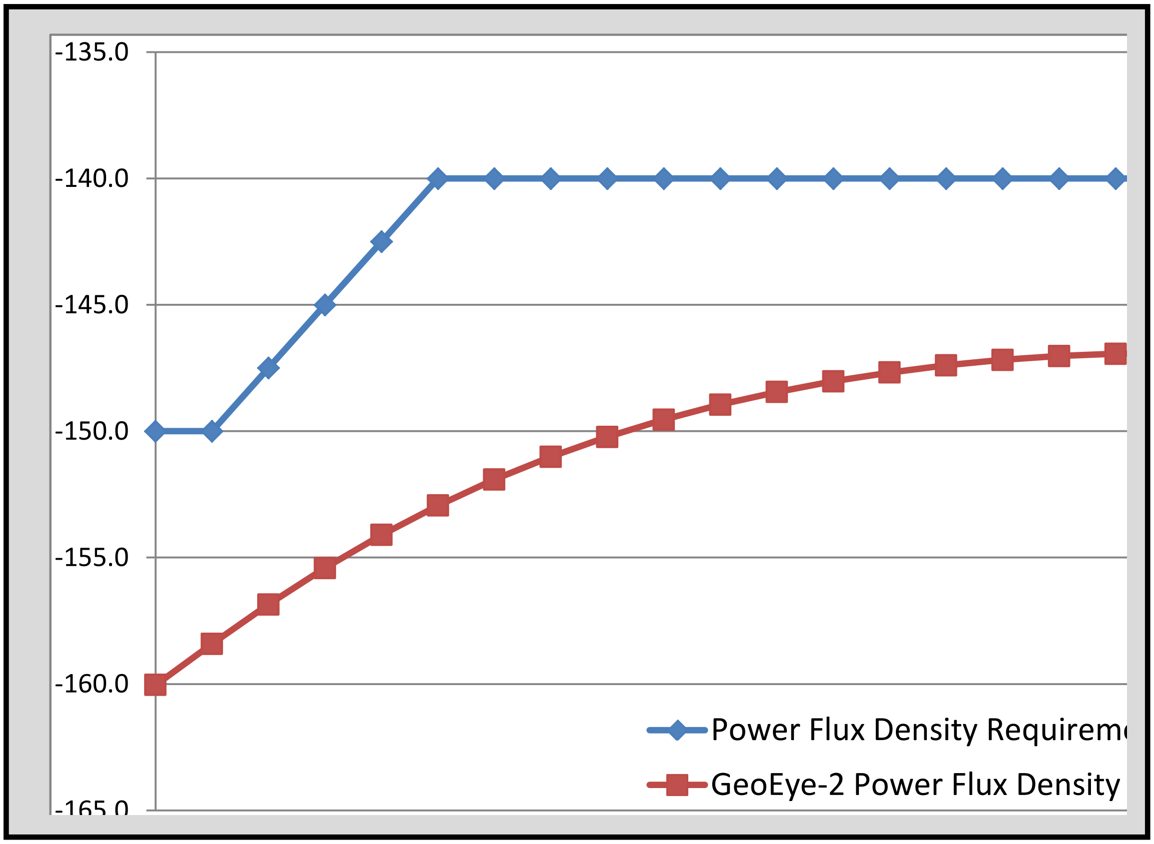
60	741.57	-151.41	-161.70	-140.0	-148.03
65	712.29	-151.06	-161.35	-140.0	-147.68
70	689.63	-150.78	-161.06	-140.0	-147.39
75	672.77	-150.57	-160.85	-140.0	-147.18
80	661.11	-150.42	-160.70	-140.0	-147.03
85	654.26	-150.33	-160.61	-140.0	-146.94
90	652.00	-150.30	-160.58	-140.0	-146.91

The FCC does not specify power flux density requirements for the 8025-8400 MHz frequency band in Section 25.208 of the Commission's rules for non-geostationary EESS. Therefore, GeoEye has designed GeoEye-2 in order to meet or exceed the applicable regulations of the National Telecommunications and Information Administration (NTIA). As shown below in Figure 2-5, the high rate Mission Data Downlink is compliant with NTIA regulations.

Section 8.2.36 of the NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management requires that the PFD at the surface of the earth produced by emissions from a space station, including emissions from a reflecting satellite, for all conditions and for all methods of modulation, shall not exceed any of the allowed NTIA regulation maximum values.

Figure 2-4 shows the maximum PFD produced by the Mission Data Downlink transmissions in the 8025-8400 MHz is -146.91 dBW/m^2/4KHz. This PFD is well within the level permitted under the NTIA regulations. Figure 2-5 compares the maximum PFD levels produced at the surface of the earth by the Mission Data link with the maximum permissible levels under the NTIA regulations.

Figure 2-5
GeoEye-2 Mission Data Downlink PFD Compared to NTIA PFD Requirement



3. Antenna Pattern

The high rate Mission Data Downlink antenna is a conical spiral design with 27.9 dBic at its peak. The co-polarized and cross-polarized patterns of both the LHCP and RHCP channels are shown in Figures 2-6 and 2-7.

Figure 2-6
LHCP High Rate Downlink Antenna Pattern

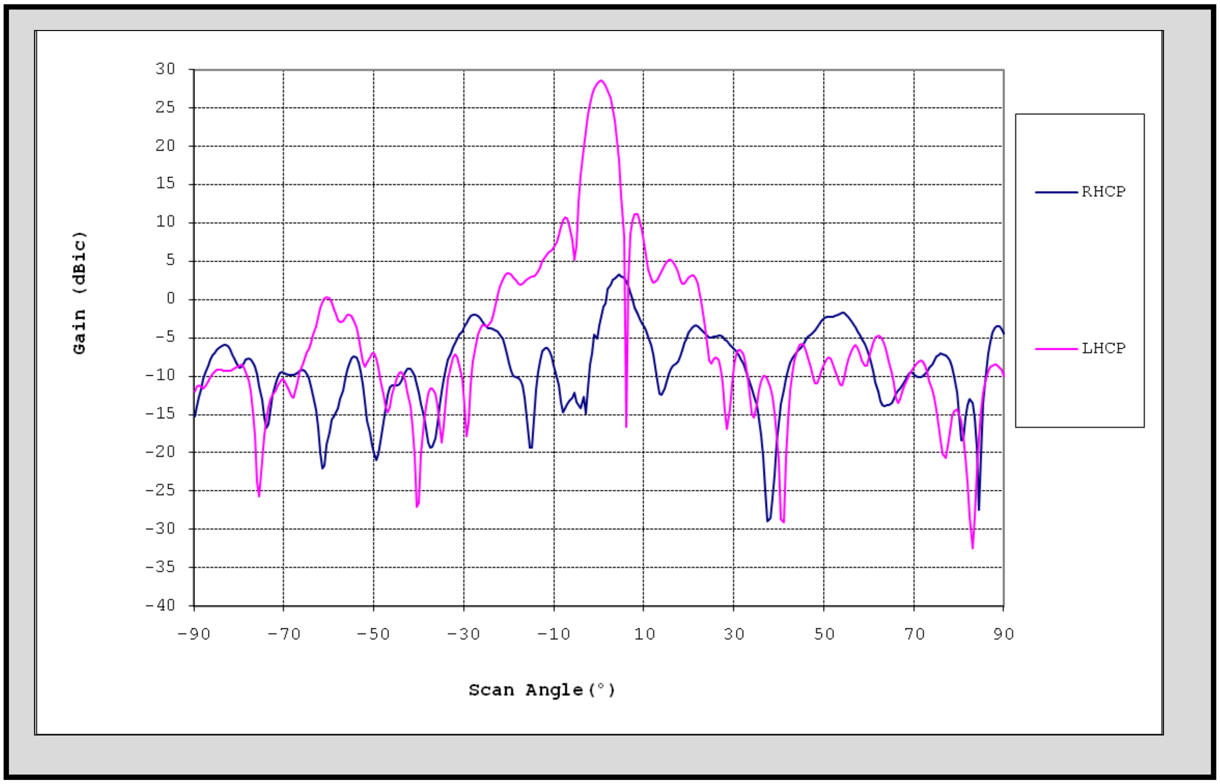
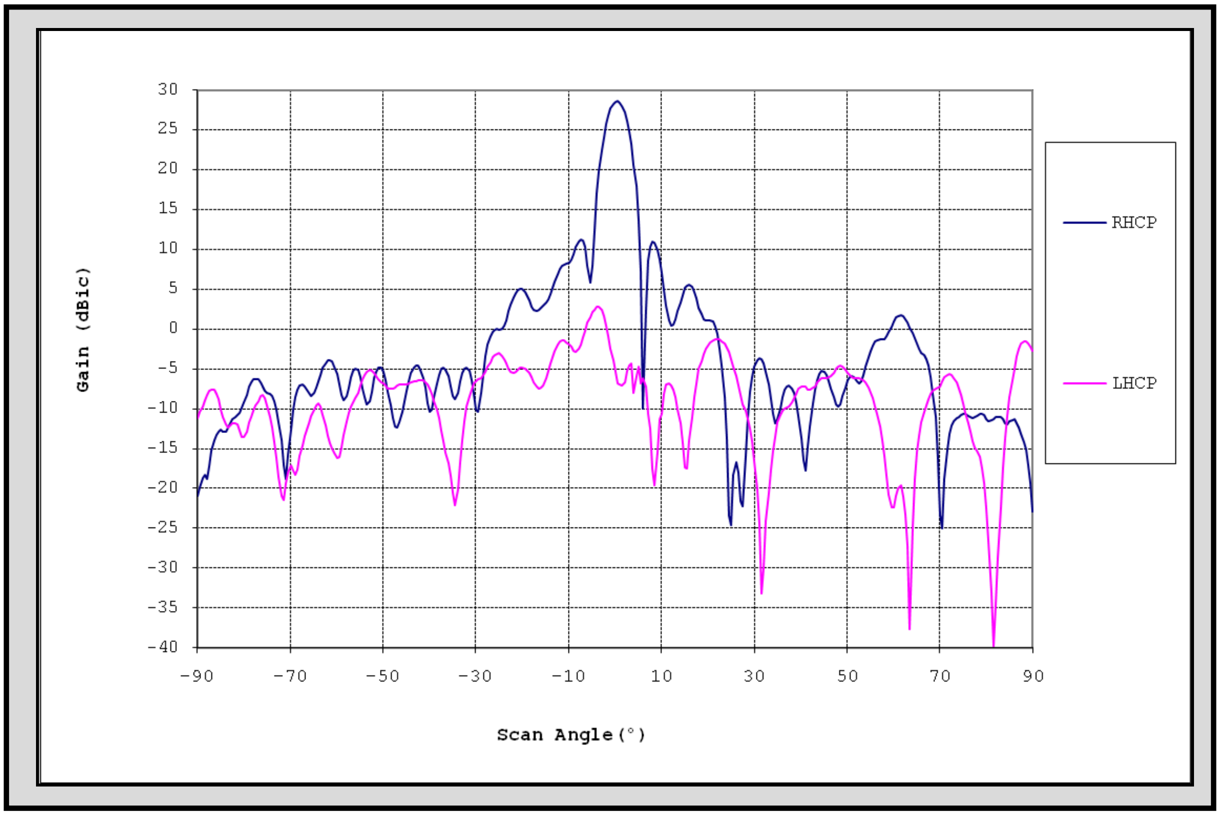


Figure 2-7
RHCP High Rate Downlink Antenna Pattern



B. X-Band Telemetry Downlink

1. Description and Link Budget

GeoEye-2 will provide TT&C downlink through one QPSK 120 Kbps X-band channel at 8386 MHz using right-hand circular polarization. The emission designator for this link is 120K7G1D. The Dulles ground station link budget for the Telemetry Downlink is shown in Figure 2-8.

Figure 2-8
X-Band Telemetry Data Downlink Link Budget

Parameters	**Units**	
Rx Station X-Band		
Antenna Diameter	(m)	5.4
Antenna Efficiency	(%)	62
Polarization (circular = 45°)	(°)	45
Satellite Elevation	(°)	5.0
Distance	(km)	2,519.8

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Satellite Link		
Transmitted Downlink Data Rate	(Mbps)	0.120
Effective Downlink Data Rate	(Mbps)	0.105
Downlink Frequency	(GHz)	8.386
Downlink Availability	(%)	99.000
Downlink (Satellite to Station)		
Tx Satellite Power		
Amplifier Power (1W)	(dBW)	5.4
Feeder Losses (hybrid, diplexer, cable)	(dB)	7.7
Tx Satellite Antenna Gain (with pointing loss)	(dBic)	-7.8
EIRP	(dBW)	-10.0
Propagation Losses		
Free Space Losses	(dB)	178.9
Atm. Gaz Attenuation	(dB)	0.55
Rain Attenuation	(dB)	1.01
Clouds Attenuation	(dB)	0.85
Scintillation	(dB)	1.46
Radome Loss (included in G/T)	(dB)	0.0
Space-Ground Implementation Loss	(dB)	2.4
Sub-carrier Loss	(dB)	0.0
Subsystem integration margin	(dB)	0.5
Polarization Losses	(dB)	0.5
Total Losses	(dB)	185.3
Rx Parameters		
RIP (Received Input Power)	(dBW)	-195.3
Rx Station Antenna gain	(dBic)	51.4
Rx Station Antenna Pointing Error	(deg)	0.1
Rx Station Antenna Beamwidth	(deg)	0.5
Rx Station Antenna Pointing Loss	(dB)	-0.5
Clear Sky Noise Temperature	(K)	10.0
Ground Noise Temperature	(K)	10.0
Feeder Noise Temperature	(K)	10.0
Feeder Losses	(dB)	1.0
Rx Noise Figure	(dB)	1.6
Rx Noise Temperature (clear sky)	(dBK)	22.8
Rx Noise Temperature (rain/clouds)	(dBK)	24.6
Rx station Noise Figure : G/T	(dB/K)	30.0
Wideband Interference	(dB)	0.5
Downlink Link Budget		
(C/N0) downlink	(dBHz)	62.8
Data Rate (120 Kbps)	(dB)	50.2

Forward Error Correction Gain RS (248,216)	(dB)	4.20
(Eb/N0) downlink	(dB)	12.1
Margin		
Required Eb/No (BER 1e-6)	(dB)	10.60
System Margin	**(dB)**	**5.7**

2. Power Flux Density

Figure 2-9 gives the power flux density (PFD) levels produced by GeoEye-2 at the baseline mission altitude of 681 km. The maximum antenna gain is used for all elevation angles.

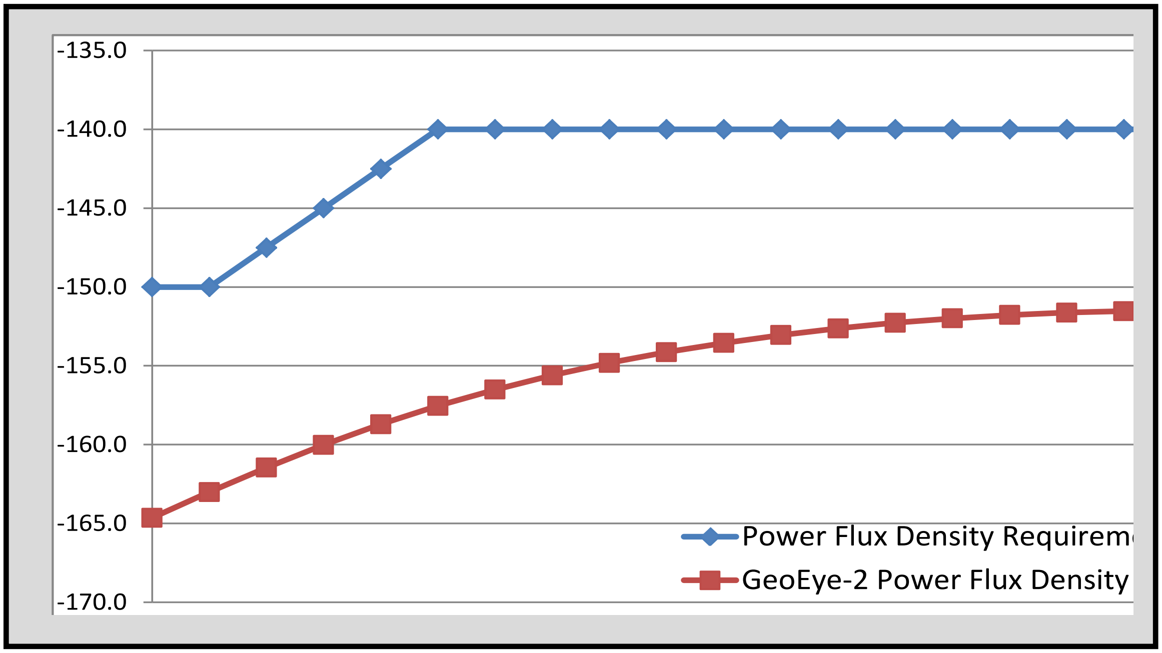
Figure 2-9
Telemetry Downlink PFD at the Surface of the Earth

Elevation Angle	Slant Range	PFD from Modulated Term	PFD from Leakage Term	NTIA Spec	Aggregate PFD (including cross pol)
0	2956.72	-164.68	-184.91	-150.0	-164.64
5	2452.63	-163.06	-183.28	-150.0	-163.01
10	2049.80	-161.50	-181.73	-147.5	-161.46
15	1735.55	-160.05	-180.28	-145.0	-160.01
20	1492.91	-158.74	-178.97	-142.5	-158.70
25	1305.48	-157.58	-177.81	-140.0	-157.54
30	1159.77	-156.55	-176.78	-140.0	-156.51
35	1045.45	-155.65	-175.88	-140.0	-155.61
40	954.96	-154.86	-175.09	-140.0	-154.82
45	882.80	-154.18	-174.41	-140.0	-154.14
50	824.98	-153.59	-173.82	-140.0	-153.55
55	778.61	-153.09	-173.32	-140.0	-153.05
60	741.57	-152.67	-172.90	-140.0	-152.63
65	712.29	-152.32	-172.55	-140.0	-152.28
70	689.63	-152.04	-172.26	-140.0	-151.99
75	672.77	-151.82	-172.05	-140.0	-151.78
80	661.11	-151.67	-171.90	-140.0	-151.63
85	654.26	-151.58	-171.81	-140.0	-151.54
90	652.00	-151.55	-171.78	-140.0	-151.51

Again, in the absence of FCC specifications regarding power flux density in the X-band, GeoEye has engineered the downlinks on GeoEye-2 to comply with the NTIA regulations for power flux density.

As shown in Figure 2-9, the PFD produced by the Telemetry Downlink transmissions in the 8025-8400 MHz is -151.51 dBW/m^2/4 KHz. This PFD is well within the level permitted under the NTIA regulations. Figure 2-10 compares the calculated PFD levels produced at the various degrees of ground elevation from the earth by the Telemetry Downlink to the maximum levels permitted under the NTIA rules.

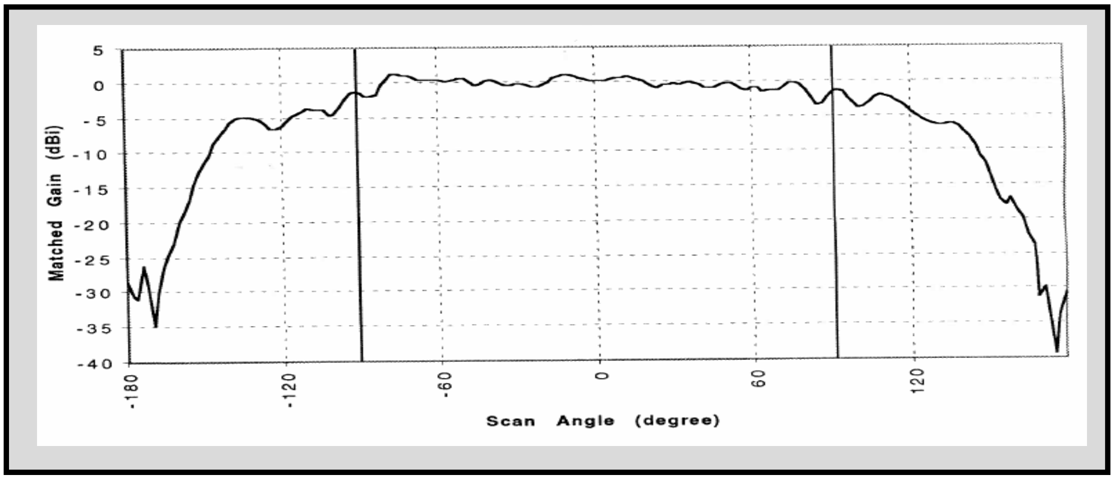
Figure 2-10
GeoEye-2 Telemetry Downlink Maximum PFD Compared to NTIA PFD Requirement



3. Antenna Pattern

The Telemetry Downlink uses a conical spiral type antenna. The edge gain for the co-polarized antenna pattern is 3 dBic. Figure 2-11 shows the co-polarized antenna pattern.

Figure 2-11
Telemetry Downlink Antenna Pattern



C. S-Band TT&C Uplink

1. Description and Link Budget

GeoEye-2's S-band TT&C Uplink uses a BPSK modulation scheme. Caribou and AES-256 encryption are provided for uplink encryption. The 2052 MHz right-hand circular polarized carrier provides an uplink command bit rate of 64 Kbps. The emission designator for this link is 64K7G1D. The Dulles ground station link budget is shown in Figure 2-12.

Figure 2-12
S-Band TT&C Uplink

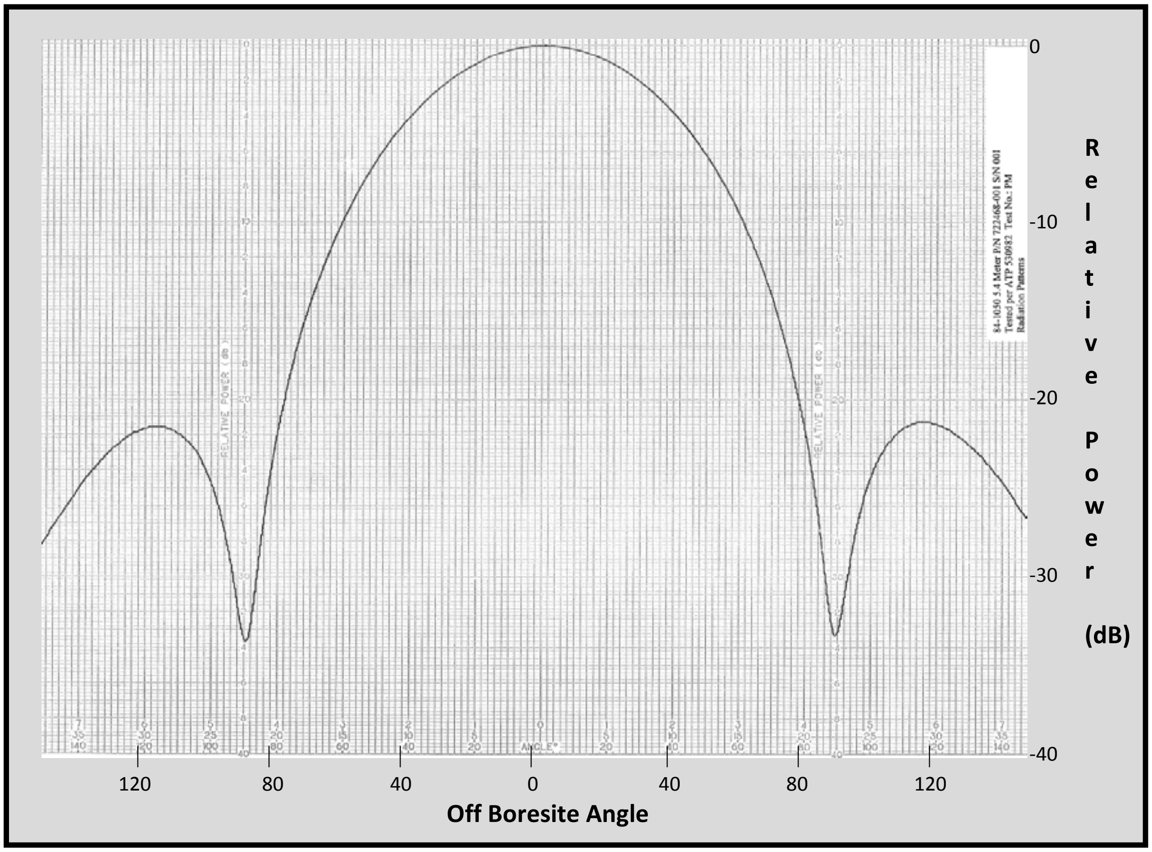
Parameter	**Units**	
Tx Station S-Band		
Latitude	(°)	39.0126
Longitude	(°)	-77.4282
Height	(km)	0.061
Antenna Diameter	(m)	5.4
Antenna Efficiency	(%)	51
Polarization (circular = 45°)	(°)	45
Satellite Elevation	(°)	5.0
Distance	(km)	2,519.8
Satellite Link		
Uplink Data Rate	(Mbps)	0.064
Uplink Frequency	(GHz)	2.052
Uplink Availability	(%)	99.000
Uplink (Station to Satellite)		
Tx Station Power		

Amplifier Power	(dBW)	14.8
Feeder Losses	(dB)	6.3
Max. Antenna Gain	(dBic)	38.4
Tx Station Antenna Pointing Error	(deg)	0.1
Tx Station Antenna Beamwidth	(deg)	2.0
Tx Station Antenna Pointing Loss	(dB)	-0.03
EIRP	(dBW)	46.8
Propagation Losses		
Free Space Losses	(dB)	166.71
Atm. Gas Attenuation	(dB)	0.42
Rain Attenuation	(dB)	0.00
Clouds Attenuation	(dB)	0.05
Scintillation	(dB)	0.67
Radome Loss	(dB)	0.7
Space Implementation Loss	(dB)	2.0
Sub-carrier Loss	(dB)	0.0
Subsystem integration margin	(dB)	0.5
Polarization Losses	(dB)	0.5
Total Losses	(dB)	171.50
Rx Parameters		
RIP (Received Input Power)	(dBW)	-124.7
Rx Satellite Antenna Gain (with pointing loss)	(dBic)	-3.20
Feeder Losses (hybrid, diplexer, cable)	(dB)	5.40
Feeder Noise Temperature	(K)	290.00
Rx Noise Figure	(dB)	5.00
Rx Noise Temperature	(dBK)	35.02
Rx Satellite Noise Figure : G/T	(dB/K)	-38.22
Uplink Link Budget		
(C/N0) uplink	(dBHz)	65.69
Data Rate (64 Kbps)	(dB)	48.06
(Eb/N0) uplink	(dB)	17.62
Margin		
Required Eb/No	(dB)	10.6
System Margin	**(dB)**	**7.0**

2. Antenna Pattern

The S-band uplink transmitter antenna has a gain of 38.4 dB. The S-band uplink antenna pattern captured during a recent test is illustrated in Figure 2-13.

Figure 2-13
S-Band TT&C Uplink



IV. EARTH STATIONS

GeoEye expects that GeoEye-2 will support global communications with a number of earth stations for both TT&C and data downlink purposes. Currently, there are two primary TT&C earth station antennas located in the U.S. at the Dulles earth station in Virginia and the Barrow earth station in Alaska. The call signs for these stations are: E980375 and E980376, respectively. These ground stations will be modified to support communications with the GeoEye-2 satellite. GeoEye will seek any authority necessary for such modifications through separate earth station applications.

GeoEye-2 TT&C capabilities and communication opportunities will be provided by earth stations outside of the U.S. leased from Kongsberg Satellite Services (KSAT) at the following locations:

- Tromso, Norway
- Troll, Antarctica
- Dongara, Australia
- Curepipe, Mauritius.

Additional foreign earth stations may be added for the future support of GeoEye-2 downlinks as usage increases. The usage of these foreign ground stations will be coordinated with the corresponding foreign countries in cooperation with KSAT.

V. INTERFERENCE ANALYSIS

A. Safeguards to Minimize Potential for Interference with Other Satellite Transmissions

There is minimal likelihood of interference among satellites and earth stations in the EESS due to the combination of the large apparent motion of a low altitude orbit and the narrow beam ground station antennas.

As previously mentioned, GeoEye-2 TT&C functions will be incorporated into the existing, currently licensed GeoEye-1 earth stations, which have been coordinated. Those facilities use a 5.4 meter Full-Motion ViaSat parabolic antenna. The S-band TT&C uplink (commanding) 3dB beam-width is 2.3 degrees with 99% of its radiated power contained within 4.4 degrees of the antenna boresight. The earth stations will employ a small 64 KHz TT&C uplink channel and state-of-the-art filtering. GeoEye will share the S-band with other non-governmental satellite networks through the same techniques that have successfully worked on the prior generations of EESS spacecraft. These successful techniques included the utilization of narrow uplink channels, narrow uplink beam widths, and state-of-the-art RF filtering.

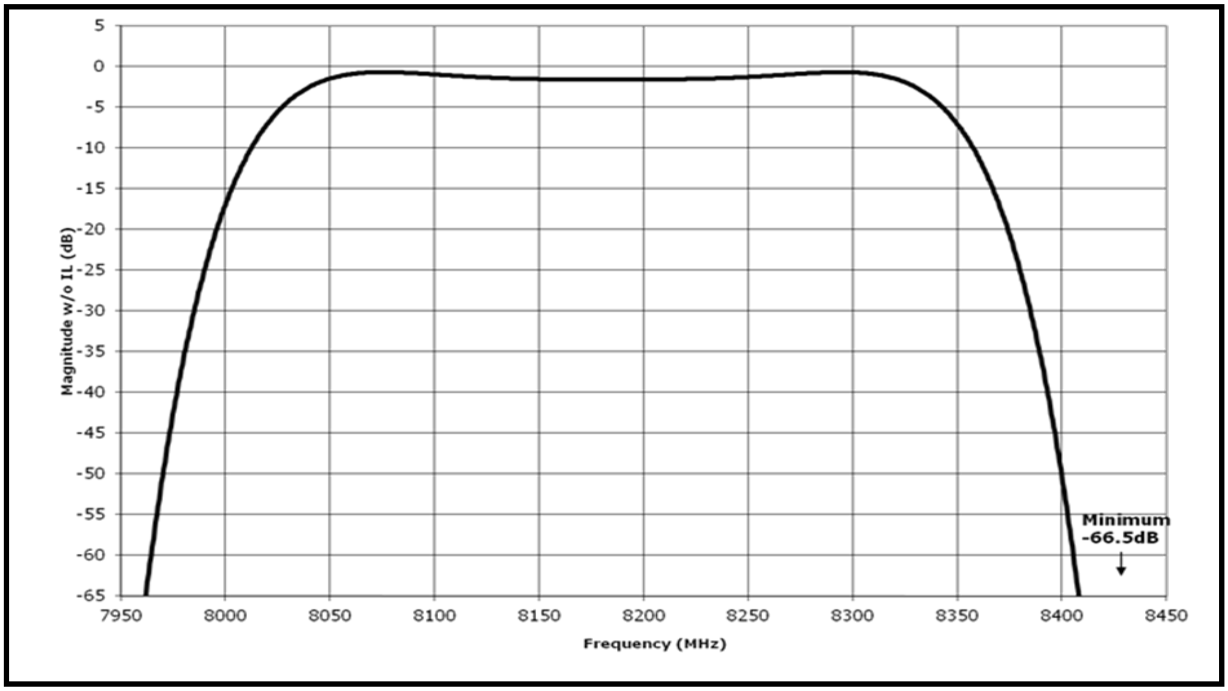
As demonstrated in this Technical Annex (Figures 2-5 and 2-10), the power flux densities and emission levels produced by GeoEye-2 are well within the permissible tolerances provided by the NTIA and also by the ITU. Moreover, GeoEye-2 transmissions will be coordinated with government authorized users in connection with this application.

In the unlikely event that two EESS space stations did attempt to transmit on the same frequencies from the same point in the sky to earth stations in close proximity, the consequence would at worst be that those particular downlink transmissions would fail, and the information would have to be re-transmitted on the next orbital pass.

To ensure compliance with the ITU Recommendation ITU-R SA.1157 *Protection Criteria for Deep Space Research*, the GeoEye-2 Mission Data Downlink uses an Aeroflex bandpass filter with an 8 to 8.4 GHz pass band. Attenuation in stop-band (deep-space) @ 8400 MHz is ~50 dB increasing to >66 dB beyond 8450 MHz.

This Aeroflex filter also ensures that GeoEye-2 also adheres to the spectral emission mask found in Section 5.6.3 of the NTIA Manual of Regulations (Figure 2-14).

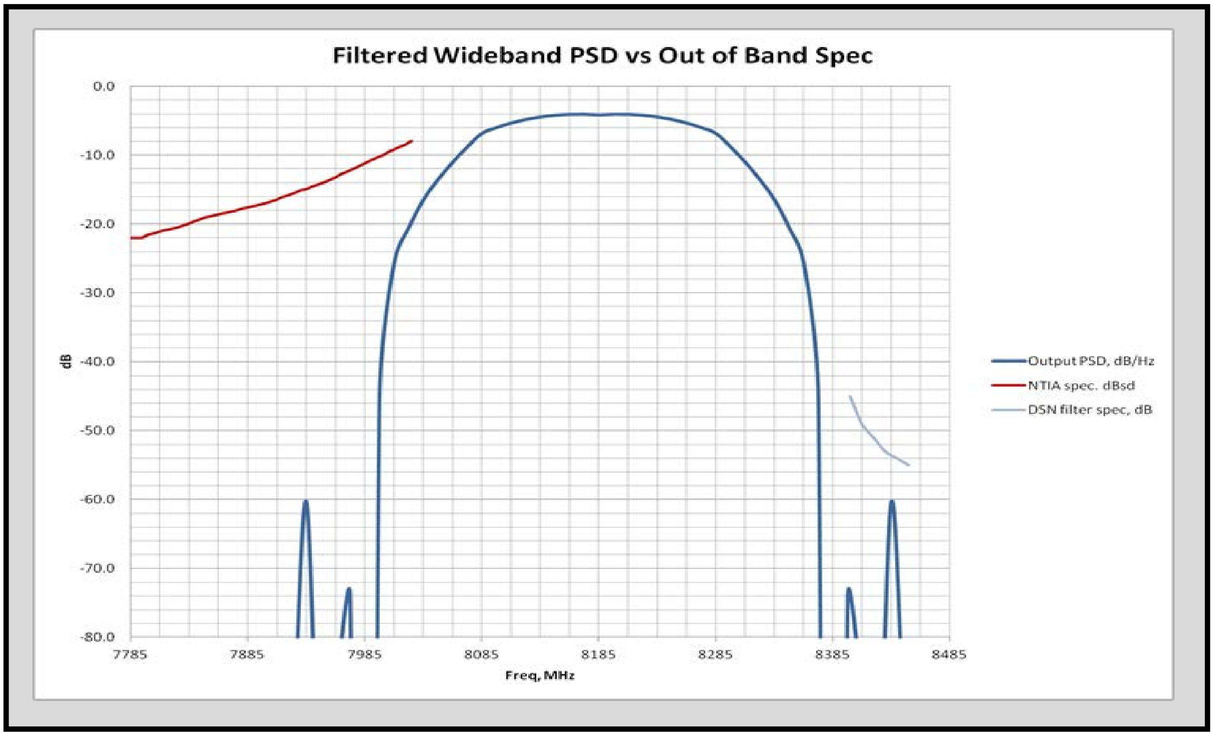
Figure 2-14
GeoEye-2 X-Band Filter Performance



GeoEye-2 will also adhere to the spectral emission mask found in Section 5.6.3 of the NTIA Manual of Regulations. Figure 2-15 provides a visual comparison of the GeoEye-2 filtered wideband Power Spectrum Density (PSD) to the NTIA specification requirements for the lower frequency out of bandwidth frequency spectrum.

FCC Form 312
GeoEye License Corp.
Exhibit 1

Figure 2-15
GeoEye-2 X-Band Filter Performance



GeoEye understands that the 8185 MHz is not the arithmetic mean between the lower (8025 MHz) and upper (8400 MHz) edges of the EESS allocation in the X Band. However, the GeoEye-2 filtering process will ensure that GeoEye-2 uses only spectrum between 8025 and 8400 MHz and that out-of-band emissions outside the 8025-8400 MHz range are stay within acceptable levels prescribed by Section 25.202(f) of the Commission's rules. The filter that GeoEye-2 will employ is a newer version of the Aeroflex filter used by Digital Globe on the WorldView 110A space station, which was approved by the Commission in 2005. *See DigitalGlobe, Inc.*, Order and Authorization, IBFS File No. SAT-MOD-20040728-00151, 20 FCC Rcd 15696 (IB 2005).

VI. ORBITAL DEBRIS MITIGATION PLAN

The GeoEye-2 satellite Orbital Debris Mitigation Plan is also being submitted to NOAA. Because NOAA regulates the post-mission disposal plans of commercial remote sensing satellites, the Commission has recognized that it need not conduct an independent review of the orbital debris-related matters raised by an EESS satellite application. GeoEye nevertheless provides information about its orbital debris mitigation plan as a courtesy in Attachment A.

FCC Form 312
GeoEye License Corp.
Exhibit 1

CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING ENGINEERING INFORMATION

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this pleading, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this pleading, and that it is complete and accurate to the best of my knowledge and belief.

/s/
____

Sherffield Whaley
Space Systems Project Manager
GeoEye, Inc.
2325 Dulles Corner Boulevard
Herndon, Virginia 20171
(303) 254-2189

ATTACHMENT A: ORBITAL DEBRIS MITIGATION PLAN

The GeoEye-2 satellite is designed to minimize orbital debris with respect to NASA and NOAA commercial satellite requirements. No orbital debris will be generated as part of the nominal planned GeoEye-2 mission. In addition, the propulsion subsystem can be used to lower the satellite into a disposal orbit which will result in a timely re-entry and disposal of all space hardware at the end of the imaging mission.

1. Spacecraft Hardware Design

The GeoEye-2 spacecraft has a fully redundant design that is resistant to micrometeorite or debris smaller than one centimeter. The propulsion system design includes a greater than 35% fuel margin in excess of anticipated mission requirements. Any fuel remaining at the end of the GeoEye-2 mission can be used to lower the GeoEye-2 orbit and accelerate its rate of orbital decay.

GeoEye-2 has 7 moving mechanical deployment assemblies that are released on orbit. The 5 solar arrays and camera door are released by paraffin release mechanisms. The high-gain gimbaled antenna is released via pin-puller. None of these assembly releases produce any orbital debris.

GeoEye-2 will use an Atlas V/401 launch vehicle. Space station separation is achieved via Space Vehicle qualified Split Spool Release Device (SSRD) design. The launch vehicle Centaur Forward Adapter and all associated attached hardware will be placed into an earth escape trajectory following separation from the second stage. The Centaur Forward Adapter escape burn is not performed until a minimum safe separation distance is achieved with the space station. No orbital debris is anticipated as a result of launch or orbit insertion.

2. Minimizing Accidental Explosions

The GeoEye -2 satellite is designed to prevent any accidental explosions. There are 3 sources of stored energy on the orbiting GeoEye-2 spacecraft: the propulsion system, the 2 batteries, and the Control Moment Gyroscopes (CMGs).

- The propulsion tank maximum expected operating pressure is 375 psia (2.75 MPa). It is proof designed to 600 psia (4.14 MPa) with a burst design to 800 psia (5.52 MPa). It has been burst demonstrated at 600 psia (4.14 MPa). The entire propulsion system (tank, lines, valves, etc.) is proof tested together to 525 psia. There are no electrical sources of ignition within the tanks or lines and each electronically controlled, redundant valve heater is thermostatically controlled to prevent an "always on" condition which might overheat the system.

• The 2 Lithium Ion 156 Amp-hour batteries, 2 8s52p modules per battery, built by ABSL. Due to the inherent design of Lithium Ion batteries, there is no danger of explosion caused by internal battery pressure build-ups.

• The four control moment gyroscopes (CMGs) supplied by Honeywell Aerospace enable the spacecraft to operate with an acceleration of 1.04 deg/sec^2 and a vehicle rate up to 2.7 deg/sec. The energy of concern in the CMG derives from the rotating flywheels. Each CMG has an internal health check that monitors temperatures and motor currents. Each CMG will perform an autonomous shut-down if its flywheel experiences an over-speed condition.

At the end of the GeoEye-2 mission, all stored energy sources will be depleted to the maximum extent possible; batteries will be discharged, pressure vessels will be depressurized to minimum levels, CMGs will spin down, and fuel (propellant) remaining in the tank will be depleted to lower the space station to the lowest possible disposal orbit.

3. Nominal Mission Orbit

The GeoEye-2 nominal mission orbit will be maintained using onboard propulsion and have the following characteristics:

- Sun synchronous, (Right ascension of the ascending node will precess 360 degrees in one sidereal year.)
- Circular
- Orbit equatorial radius = 681 kilometers
- Inclination: 98.11 degrees
- Descending node (equator) crossing time = 10:30 ±20 minutes.

The propulsion system design includes enough fuel to allow for 2 orbit altitude changes of up to +/- 150 km.

4. Safe Flight Profiles

GeoEye-2 includes a propulsion system to maintain the design orbit. The spacecraft design orbit is a sun synchronous, circular orbit with a descending node crossing time of 10:30 ±10 minutes for its seven year lifetime. The right ascension of the ascending node will complete one 360 degree circle in the period of one sidereal year. The currently planned nominal circular orbit altitude will be maintained at an equatorial radius of 681 ±8 kilometers and the inclination will be maintained at 98.11 ±0.25 degrees.

The GeoEye-2 satellite’s on-board attitude control system in combination with its high performance GPS receiver tracking capabilities gives the GeoEye-2 operations team the capability to support preemptive collision avoidance maneuvers. GeoEye (through its launch service provider Lockheed Martin Commercial Launch

Services) will plan and execute the launch event to preclude a collision with existing space objects. GeoEye will coordinate all orbit change activities (including nominal orbit maintenance and end-of-life deboost operations) with the Joint Space Operations Center (JSpOC) to avoid any potential collisions. GeoEye's public disclosure of its orbital parameters will assist third parties in identifying potential collision risks, and will allow those parties to structure their own orbital parameters to minimize such risks.

GeoEye also participates in the Space Data Center program, which allows for direct comparison of the best available orbital position data for the satellites of participating members and provides contact information to facilitate coordination in the event of a predicted conjunction.

In addition to these external services, GeoEye conducts daily, in-house screenings of satellite predicted ephemerides against the public catalog. This provides three separate sources of information that enable GeoEye orbit analysts to monitor and mitigate potential conjunctions.

The only habitable orbiting objects at this time are the International Space Station and the Chinese Tiangong-1 Space Station. The International Space Station altitude is approximately 385 km and the Chinese Tiangong-1 Space Station altitude is approximately 360 km. Therefore, both are more than 290 km below the nominal GeoEye-2 orbit.

Other planned manned stations likely to be on orbit during GeoEye-2's expected lifetime include the Bigelow Aerospace Sundancer and Bigelow BA-330 modules. None of these spacecraft have made their planned operational orbits publicly available. Should any of these future manned spacecraft orbit near GeoEye-2, GeoEye is confident that its current conjunction assessment and collision avoidance practices will be sufficient.

5. Post-Mission Disposal

At the end of the mission life, when the allocated station keeping fuel has been exhausted, the satellite will be placed in a disposal orbit such that it will naturally re-enter the atmosphere within 25 years. The NASA Debris Assessment Tool (DAS 2.0.1) was used to determine the perigee altitude required to comply with post mission disposal recommendations.

The GeoEye-2 space vehicle has at least 120 kg of propellant that if used for deorbit can provide approximately 120 m/sec of velocity change. From the nominal operational orbit of 681 km this delta-V would lower perigee altitude to 220 km, which would result in re-entry within a year.

The highest perigee altitude that results in less the 25 years lifetime per the Debris Assessment Tool is 530 km and can be reached from the nominal operational orbit with 33 m/sec of delta-V.

6. Debris Casualty Evaluation

The Debris Casualty Area was evaluated using the NASA Debris Analysis Software (DAS) Version 2.0.1. Assessments were made following guidelines 4.6-1 (post mission disposal of space structures) and 4.7-1 (Casualty Risk from Reentry Debris) of the NASA standard NASA-STD 8719.4 "Process for Limiting Orbital Debris." The primary satellite structure is made of aluminum struts and aluminum honeycomb panels. The nominal altitude of 78 km was used for the breakup point of this parent object.

The DAS tool provides a simplified but conservative analysis for uncontrolled reentry. The major spacecraft components were entered in the component list of the assessment page along with materials when possible. A list of the components and the assessment results is provided in Table 1 below.

The total casualty expectation according the Debris Assessment Tool is 1:2100, with a debris casualty area (DCA) of 38 square meters. The major spacecraft components that are predicted to survive reentry are the solar arrays (or portions thereof), portions of the Bus structure, the CMG rotors and MCP structure, the propellant tank, the STA enclosure, the primary and secondary mirrors, and the payload FPU (Figure A-1). Due to the conservative nature of the DAS model, it is expected that a higher fidelity model would result in a lower casualty expectation value.

Figure A-1: Debris Assessment Tool Re-entry Assessment List

Row No.	Name	Qty	Material	Body Type	Thermal Mass (kg)	Diameter /Width (m)	Length (m)	Height (m)	Demise Alt (km)	Total DCA (m^2)	Kinetic Energy (J)
1	GeoEye-2	1	Graphite Epoxy 1	Cylinder	2030	2.6	5.4			37.94	
2	Bus Structure	1	Aluminum 6061-T6	Box	282.33	2.25	2.6	1.52	0	7.92	144260
3	CMG Module Cover	1	Aluminum (generic)	Cylinder	12.3	1	0.6		74	0	0
4	Bus/PL Interface	1	Graphite Epoxy 1	Box	100.58	1.2	1.2	0.3	70.5	0	0
5	Payload I/F Hardware	8	Aluminum 6061-T6	Flat Plate	6.78	0.3	0.3		48.5	0	0
6	MLI Blankets	5	MLI	Flat Plate	4.91	0.6	0.6		76.7	0	0
7	Attachment Brackets	30	Aluminum 6061-T6	Box	1.9	0.1	0.1	0.1	65	0	0
8	STA Enclosure	1	Inconel 600	Box	29.35	0.3	0.4	0.3	0	0.9	68210
9	Misc Mechanisms	57	Aluminum 6061-T6	Box	0.77	0.1	0.1	0.05	69.8	0	0
10	Gimbal-2 Axis	1	Aluminum 6061-T6	Cylinder	14.73	0.3	0.4		63.7	0	0
11	Misc Thermal	2	Aluminum 6061-T6	Box	3.39	0.1	0.2	0.1	65.3	0	0
12	CMG Electronics	4	Aluminum 6061-T6	Box	11.4	0.3	0.6	0.3	68.2	0	0
13	MCP Structure	1	Aluminum 6061-T6	Sphere	70	0.6			0	1.28	318498
14	CMG Case	4	Aluminum 6061-T6	Cylinder	5	0.4	0.2		71.7	0	0
15	CMG Rotor	4	Steel AISI 321	Cylinder	26	0.4	0.2		0	3.12	66051
16	SIRU	1	Aluminum 6061-T6	Box	6.91	0.2	0.3	0.2	65.6	0	0
17	Star Tracker	2	Aluminum 6061-T6	Cylinder	13.17	0.2	0.5		63.1	0	0
18	GPSR	2	Aluminum 6061-T6	Box	3.88	0.15	0.21	0.13	66	0	0
19	Torque Rods	3	Iron	Cylinder	5.57	0.03	1.22		60.3	0	0
20	Magnetometer	2	Aluminum 6061-T6	Box	0.64	0.2	0.2	0.2	76.1	0	0
21	Sun Sensor	2	Aluminum 6061-T6	Box	0.44	0.2	0.2	0.1	76.1	0	0
22	MCU	2	Aluminum 6061-T6	Box	14.76	0.26	0.31	0.23	55.1	0	0
23	GCE	1	Aluminum 6061-T6	Box	5.45	0.14	0.22	0.12	62.1	0	0
24	MCE	1	Aluminum 6061-T6	Box	6.01	0.21	0.25	0.12	61.6	0	0
25	DSU	2	Aluminum 6061-T6	Box	34.07	0.3	0.49	0.26	45.4	0	0
26	Comm Electronics	8	Aluminum 6061-T6	Box	3.46	0.15	0.15	0.08	60.4	0	0
27	Comm Hardware	12	Aluminum 6061-T6	Box	0.73	0.1	0.1	0.1	72.3	0	0
28	Solar Array	5	GaAs	Box	20.4	1.17	2.7	0.05	0	17.74	2863
29	Batteries	4	Aluminum 6061-T6	Box	21.3	0.29	0.36	0.18	42.8	0	0
30	PPDU	1	Aluminum 6061-T6	Box	26.1	0.27	0.47	0.27	53.3	0	0
31	PAPU	1	Aluminum 6061-T6	Box	12.4	0.23	0.27	0.21	55.7	0	0
32	MPIU	1	Aluminum 6061-T6	Box	9	0.36	0.53	0.2	67.2	0	0
33	Diode Box	30	Aluminum 6061-T6	Box	0.2	0.06	0.06	0.06	74.4	0	0
34	Harness	10	Copper Alloy	Cylinder	15.02	0.1	5		73.7	0	0
35	Propellant Tank	1	Titanium (6 Al-4 V)	Cylinder	48.27	1.07	1.07		0	2.79	18615
36	Propulsion Components	18	Aluminum 6061-T6	Box	0.84	0.1	0.1	0.1	71.5	0	0
37	Primary Mirror	1	Zerodur	Box	146.58	1.1	1.1	0.3	0	2.18	262046
38	Secondary Mirror	1	Zerodur	Box	51.58	0.5	0.5	0.1	0	0.97	174542
39	FPU	1	Aluminum 6061-T6	Box	55.68	0.3	0.6	0.3	0	1.05	211221
40	OBA	1	Graphite Epoxy 1	Cylinder	91.52	1.2	1.8		74.9	0	0
41	Payload PSU	1	Aluminum 6061-T6	Box	54.5	0.3	0.76	0.3	44.2	0	0
42	Payload DPU	1	Aluminum 6061-T6	Box	30.06	0.33	0.66	0.33	57.3	0	0
43	Cables	44	Copper Alloy	Cylinder	1	0.01	2		75.8	0	0
44	Payload Mount HW	31	Aluminum 6061-T6	Flat Plate	1	0.3	0.3		73.8	0	0

ATTACHMENT B: NOTICE OF COMMENCEMENT OF SATELLITE CONSTRUCTION

GeoEye
21700 Atlantic Blvd
Dulles VA 20166
703.480.7500
703.480.4659 fax
www.geoeye.com

GeoEye™

March 25, 2010

Robert Nelson
Chief, Engineering Branch
Satellite Division, International Bureau
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: Notification Pursuant to Section 25.113(f) of the Commencement of Construction of a New Satellite

Dear Mr. Nelson:

ORBIMAGE License Corp., Inc. (collectively with its corporate parent, GeoEye, Inc., "GeoEye"), provides this notification to the Commission pursuant to Section 25.113(f) of the Commission's rules that GeoEye is commencing construction, at its own risk, of GeoEye's next-generation, high-resolution Earth-imaging satellite system --- GeoEye-2. GeoEye has selected Lockheed Martin Space Systems Company, a major operating unit of Lockheed Martin Corporation, to build GeoEye-2. Lockheed has already begun purchasing long-lead material and labor for the design, engineering and manufacturing of the satellite and the associated command and control system.

At present, GeoEye anticipates that it will file an application to modify GeoEye's existing EESS NGSO system license (S2348) to include authority for GeoEye-2, although this decision remains subject to future decisions about the configuration of GeoEye-2.

Please contact the undersigned if you have any questions regarding this matter.

Very truly yours,

William L. Warren
Sr. Vice President & General Counsel

Attachment
cc: Fern Jarmulnek, Kathyrn Medley,
Cassandra Thomas
Sankar Persaud
Sylvia Lam

S2348 **SAT-MOD-20050511-00097** **IB2005001014**
ORBIMAGE License Corp.
GeoEye-1

S2144 **SAT-MOD-19980612-00052**
ORBIMAGE License Corp.
IKONOS