

3. Following the launch of the IKONOS-1 satellite on April 27, 1999, Space Imaging informed the Commission that communications with the satellite could not be achieved and that the satellite had been lost. Space Imaging further informed the Commission that it expected to satisfy the July 1999 construction milestone and January 2000 launch milestone of the IKONOS-2 satellite. This satellite was subsequently renamed "IKONOS." Space Imaging successfully placed the IKONOS satellite into orbit on September 24, 1999.

4. On March 10, 2000, Space Imaging submitted a second technical amendment to the pending space station modification application.⁴ This amendment withdrew or clarified certain elements of the previous amendment. Space Imaging concurrently filed an STA request to operate the IKONOS satellite in accordance with the amended technical parameters. We granted that STA on March 29, 2000.⁵ The modification application and subsequent amendments are unopposed.

III. DISCUSSION

5. In the pending modification application, as amended, Space Imaging seeks to clarify certain technical parameters in its space station license. The technical changes requested are discussed separately below.

A. X-Band Downlink E.I.R.P.

6. Space Imaging was originally licensed to conduct telemetry, tracking and control ("TT&C") functions for its IKONOS satellite in the 8345.968-8346.032 MHz band (downlink) with a maximum equivalent isotropically radiated power (e.i.r.p.) of -5.2 dBW. Space Imaging initially requested in its technical amendment that this maximum downlink e.i.r.p. be reduced to -11.7 dBW. In a subsequent amendment, Space Imaging stated that the maximum e.i.r.p. value of -11.7 dBW was erroneously stated and that the correct value of the maximum e.i.r.p. should be -7.2 dBW. Because the revised maximum TT&C downlink e.i.r.p. of -7.2 dBW represents a reduction in downlink power from Space Imaging's original license, and hence involves no increased interference to any other systems operating in this frequency band, we grant the requested modification.

7. Space Imaging also has withdrawn its request to decrease the maximum e.i.r.p. for its downlink data carrier operating in the 8025-8345 MHz band from 30.8 dBW to 29.5 dBW. Instead, Space Imaging maintains that the originally stated - and authorized - level of 30.8 dBW is a more accurate reflection of the highest downlink e.i.r.p. level that can occur. Accordingly, since there is no modification to this parameter, Space Imaging can operate its downlink e.i.r.p. as originally authorized by the International Bureau ("Bureau").

⁴ See File No. SAT-AMD-20000310-00063.

⁵ An extension to this STA was granted on September 29, 2000.

B. S-Band TT&C Uplink E.I.R.P.

8. In order to provide a more robust telecommand uplink for the IKONOS system, Space Imaging also has requested authority to conduct TT&C functions in the 2025-2110 MHz band (uplink) at a higher maximum e.i.r.p. than originally authorized by the Bureau. Specifically, Space Imaging proposes to operate, under normal conditions, its uplink TT&C in the 2025-2110 MHz band at a maximum e.i.r.p. of 40.2 dBW rather than the original value of 36.5 dBW (a 3.7 dB increase). In emergency situations, such as loss of spacecraft attitude, Space Imaging seeks to operate its uplink TT&C in the 2025-2110 MHz band at a maximum e.i.r.p. of 51.2 dBW rather than the original value of 48.5 dBW (a 2.7 dB increase). We do not anticipate any problem with Space Imaging's proposed TT&C operations. These modest increases in maximum uplink e.i.r.p. for this TT&C carrier will enhance system reliability and control. As stated in Space Imaging's original authorization, any use of the 2025-2110 MHz band by Space Imaging for TT&C must be on a non-harmful interference basis to all other systems operating in accordance with the Commission's Table of Frequency Allocations.

C. Other Technical Changes

9. Space Imaging also provided updated information concerning certain technical characteristics of the IKONOS system in its two technical amendments. Specifically, Space Imaging: (i) clarified that the emission designator of the IKONOS S-band TT&C uplink carrier should be 68K0G2DBN to account for the ITU definition of "necessary bandwidth;" (ii) provided certain minor changes in the physical characteristics of the spacecraft pertaining to weight and electrical output power; and (iii) updated the IKONOS orbit parameters correctly to account for the satellite's sun-synchronous NGSO orbit and twenty-minute operational period. Because these minor changes merely reflect updated system parameters and do not increase the potential for interference from the IKONOS satellite, we grant the requested minor modifications.

10. Finally, Space Imaging provided additional information concerning the use of the 9.1 meter and 5.4 meter earth stations that was not provided in its initial application, as amended. The transmitted uplink e.i.r.p. from these earth stations is addressed in paragraph 8 above. Because the transmitted downlink e.i.r.p. levels to these earth stations are no greater than those authorized by the Bureau in Space Imaging's initial authorization, use of these earth stations does not increase the potential for interference to other systems from the Space Imaging downlink. Moreover, the Bureau has already licensed Space Imaging to operate 9.1 meter and 5.4 meter earth stations in connection with the IKONOS system. Accordingly, the requested modification is granted. Space Imaging, of course, must continue to operate its earth stations in accordance with the associated earth station authorizations.

IV. CONCLUSION

11. Based on the foregoing, we find that grant of Space Imaging's modification application, as amended, would serve the public interest, convenience and necessity.

V. ORDERING CLAUSES

12. Accordingly, IT IS ORDERED that application File Nos. SAT-MOD-19980612-00052; SAT-AMD-19980826-00069; SAT-AMD-19990114-00009 and SAT-AMD-20000310-00063 ARE GRANTED and Space Imaging is authorized to operate the IKONOS satellite in accordance with the technical parameters set forth in the modification application and related amendments.

13. IT IS FURTHER ORDERED that this Order and Authorization is effective upon release.

FEDERAL COMMUNICATIONS COMMISSION

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