

Narrative Exhibit

This modification requests authority to add two Earth station locations as points of communication for the currently licensed¹ Dove 2 satellite and to add the 2.4 GHz ISM transceiver to the communications capability. The Dove 2 launch is currently scheduled for mid April 2013 aboard the Soyuz rocket.

Additional Antenna Descriptions

Morehead State University - Morehead, KY

Latitude/Longitude: 38 11 30 N, 83 26 20 W

Primary² Antenna: 21 m parabolic antenna with 2.4 GHz capable feed

Secondary Antenna: tripod-mounted, circularly polarized UHF helical

Half Moon Bay, CA

Latitude/Longitude: 37 23 4 N, 122 24 48 W

Primary Antenna: 3 m parabolic antenna with X-band/S-band combined circularly polarized feed

Secondary Antenna: tripod-mounted, circularly polarized UHF helical

NTIA Formatted Data for Additional Transmitters

2.) THE SATELLITE TRANSMITTER ANTENNA GAIN AND BEAMWIDTH (XAD),
EXAMPLE, XAD01 16G030B

XAD01 05G090B (2.4 GHz patch antenna on Dove 2)

3.) THE SATELLITE TRANSMITTER ANTENNA AZIMUTH (XAZ), NARROWBEAM, NB,
EARTH COVERAGE, EC, EXAMPLE, XAZ01 EC OR LEAVE BLANK FOR SPACE-TO-
SPACE OPERATIONS.

XAZ01 NB (2.4 GHz patch antenna on Dove 2)

¹ Call sign WG2XFY, file number 0100-EX-PL-2012, granted 1/31/2013

² The 21 m antenna has been previously licensed for an unrelated experiment, refer to call sign WE9XNM, file number 0596-EX-ST-2010 for further information

4.) THE EARTH STATION RECEIVER ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS AND THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS (RAD)

RAD01 52G0.41B000-360A00348H025 (Morehead 21 m)

RAD02 11G030B000-360A00348H004 (Morehead UHF helical)

RAD03 31G3.33B000-360A00046H004 (Half Moon Bay 3 m)

RAD04 11G030B000-360A00046H004 (Half Moon Bay UHF helical)

5.) THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION

RAZ01 V05 (Morehead 21 m)

RAZ02 V05 (Morehead UHF helical)

RAZ03 V05 (Half Moon Bay 3 m)

RAZ04 V05 (Half Moon Bay UHF helical)

7.) THE TRANSMITTER ANTENNA ORIENTATION (XAP), EXAMPLE XAP01 J , AND THE RECEIVER ANTENNA ORIENTATION (RAP), EXAMPLE RAP01 J , WHERE J REPRESENTS LINEAR POLARIZATION. OTHER POLARIZATIONS INCLUDE H FOR HORIZONTAL, V FOR VERTICAL, S FOR HORIZONTAL AND VERTICAL, L FOR LEFT HAND CIRCULAR, R FOR RIGHT HAND CIRCULAR, T FOR RIGHT AND LEFT HAND CIRCULAR, E FOR ELLIPTICAL AND O FOR OBLIQUE ANGLED CROSSED.

XAP01 R (Morehead 21 m)

XAP02 R (Morehead UHF helical)

XAP03 R (Half Moon Bay 3 m)

XAP04 R (Half Moon Bay UHF helical)

XAP05 R (2.4 GHz patch antenna on Dove 2)