

ONE WEEK PASSES PREDICTION, GROUND STATION ANTENNA AZIMUTH ELEVATION, AND TRACKING RANGE OF HORYU-IV

Kyushu Institute of Technology
Laboratory of Spacecraft Environment Interaction Engineering



Date	Version Number	Contents
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Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
1	02/17/2016	19:27:50	271.3	-0.2	2821.4
		19:28:50	268.4	3.4	2449
		19:29:50	264.3	7.5	2086
		19:30:50	258.5	12.5	1740.33
		19:31:50	249.4	18.5	1426.6
		19:32:50	234.6	25.5	1172.3
		19:33:50	211.4	31.1	1024.1
		19:34:50	183.7	30.8	1029.4
		19:35:50	160.7	24.9	1186.2
		19:36:50	146.4	17.9	1445.5
		19:37:50	137.6	11.9	1762
		19:38:50	131.9	7.0	2109.1
		19:39:50	127.9	2.9	2472.9
		19:40:42	125.3	-0.2	2799.5
2	02/17/2016	21:10:15	260.6	-0.2	2814.2321
		21:11:15	254.4	2.4	2531.2
		21:12:15	246.5	5.1	2278.9
		21:13:15	236.8	7.5	2074.4
		21:14:15	225.2	9.3	1933.8
		21:15:15	212.2	10.2	1872.1
		21:16:15	199.0	9.8	1897.2

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
2 (continue)	02/17/2016	21:17:15	186.7	8.3	2005.7
		21:18:15	176.2	6.0	2184.8
		21:19:15	167.6	3.4	2418.2
3	02/18/2016	12:44:11	193.3	2.4	2513.5
		12:45:11	185.2	5.0	2272.3
		12:46:11	175.3	7.3	2081.2
		12:47:11	163.6	9.0	1955.7
		12:48:11	150.8	9.7	1909.4
		12:49:11	137.9	9.1	1948.3
		12:50:11	126.1	7.6	2067.4
		12:51:11	116.1	5.4	2253.8
		12:52:11	107.8	2.8	2491.7
		12:53:11	101.1	0.2	2767.3
		12:53:20	100.1	-0.2	2815.2
4	02/18/2016	14:23:59	230.6	3.4	2430.6
		14:24:59	226.4	7.5	2070.2
		14:25:59	220.2	12.5	1728.6
		14:26:59	210.7	18.5	1421
		14:27:59	195.5	25.2	1176.1
		14:28:59	172.2	30.4	1040.3
		14:29:59	144.9	29.7	1057.2

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
4 (continue)	02/18/2016	14:30:59	123.3	23.9	1220.4
		14:31:59	109.5	17.3	1481.9
		14:32:59	100.9	11.5	1798.6
		14:33:59	95.2	6.8	2145.2
		14:34:59	91.3	2.8	2508.4
		14:35:49	88.8	-0.2	2821.7
5	02/18/2016	16:04:09	257.0	-0.2	2813.3
		16:05:09	255.8	3.5	2429.3
		16:06:09	254.1	8.0	2043.5
		16:07:09	251.5	13.7	1665.4
		16:08:09	247.1	21.6	1303.5
		16:09:09	238.2	33.4	978.2
		16:10:09	214.5	50.3	741.6
		16:11:09	155.7	56.3	692.5
		16:12:09	118.0	40.0	863.7
		16:13:09	105.1	25.9	1161.2
		16:14:09	99.3	16.7	1511.4
		16:15:09	96.1	10.3	1884.2
		16:16:09	94.1	5.3	2267.5
		16:17:09	92.7	1.3	2655.5
16:17:34	92.3	-0.2	2819.8		

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
6	02/18/2016	17:45:46	269.7	-0.2	2820.7
		17:46:46	268.3	3.5	2436.1
		17:47:46	266.2	7.9	2052.5
		17:48:46	263.1	13.6	1677.4
		17:49:46	257.9	21.2	1320.2
		17:50:46	247.7	32.3	1002.2
		17:51:46	223.1	46.9	775.2
		17:52:46	172.2	51.4	730.9
		17:53:46	136.9	37.8	896.9
		17:54:46	122.7	25.0	1187.7
		17:55:46	116.0	16.2	1533.1
		17:56:46	112.3	9.9	1902.7
		17:57:46	109.9	5.1	2283.8
		17:58:46	108.2	1.1	2670.2
		17:59:07	107.7	-0.2	2811.2
7	02/18/2016	19:27:35	270.1	-0.2	2821.1
		19:28:35	266.4	3.2	2467.1
		19:29:35	261.3	7.1	2121.6
		19:30:35	254.2	11.5	1799.9
		19:31:35	243.8	16.5	1519
		19:32:35	228.7	21.4	1306.6

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
7 (continue)	02/18/2016	19:33:35	208.2	24.5	1200.8
		19:34:35	186.0	23.5	1229.6
		19:35:35	167.6	19.3	1384.7
		19:36:35	154.6	14.2	1629.8
		19:37:35	145.8	9.4	1930.3
		19:38:35	139.6	5.2	2263.3
		19:39:35	135.2	1.5	2615.3
		19:40:05	133.4	-0.2	2798.9
8	02/19/2016	12:42:07	210.7	-0.2	2789.3
		12:43:07	205.2	2.8	2474.7
		12:44:07	198.0	6.0	2184.7
		12:45:07	188.8	9.2	1935.2
		12:46:07	176.9	12.1	1744.9
		12:47:07	162.6	14.0	1635.6
		12:48:07	147.0	14.3	1624
		12:49:07	132.2	12.8	1712.3
		12:50:07	119.7	10.1	1886.2
		12:51:07	109.9	6.9	2124.4
		12:52:07	102.3	3.7	2407
		12:53:07	96.5	0.7	2719.4
		12:53:24	95.0	-0.2	2816.5

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
9	02/19/2016	14:22:26	241.1	-0.2	2802
		14:23:26	238.8	3.4	2428.2
		14:24:26	235.5	7.7	2055.2
		14:25:26	230.6	13.1	1695.7
		14:26:26	222.8	19.9	1362.3
		14:27:26	208.9	28.7	1081.3
		14:28:26	183.7	37.2	904.5
		14:29:26	148.8	37.7	896.6
		14:30:26	122.3	29.6	1061.5
		14:31:26	107.7	20.7	1336.1
		14:32:26	99.5	13.7	1666.3
		14:33:26	94.5	8.3	2024.2
		14:34:26	91.1	3.9	2396.4
		14:35:26	88.7	0.2	2775.9
		14:35:33	88.5	-0.2	2821.6
10	02/19/2016	16:03:48	261.7	-0.2	2814.1
		16:04:48	260.7	3.5	2428.7
		16:05:48	259.2	8.0	2041.8
		16:06:48	256.9	13.8	1662.1
		16:07:48	252.9	21.7	1297.8
		16:08:48	244.9	33.9	968.5

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
10 (continue)	02/19/2016	16:09:48	222.4	52.0	725.9
		16:10:48	158.3	59.3	672.6
		16:11:48	119.1	41.3	845.4
		16:12:48	107.0	26.5	1145.9
		16:13:48	101.7	17.0	1498.2
		16:14:48	98.8	10.4	1872.6
		16:15:48	97.1	5.4	2256.9
		16:16:48	95.9	1.4	2645.7
		16:17:14	95.4	-0.2	2819
11	02/19/2016	17:45:27	271.1	-0.2	2820.8
		17:46:27	269.3	3.4	2442
		17:47:27	266.6	7.8	2063.1
		17:48:27	262.6	13.3	1694.8
		17:49:27	256.1	20.5	1347.8
		17:50:27	244.0	30.3	1045.7
		17:51:27	218.9	41.6	840
		17:52:27	177.6	44.0	808.9
		17:53:27	146.8	33.8	969.6
		17:54:27	131.8	23.1	1249.6
		17:55:27	124.0	15.1	1586.4
		17:56:27	119.4	9.2	1949.7

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
11 (continue)	02/19/2016	17:57:27	116.4	4.6	2326.2
		17:58:27	114.3	0.7	2709.2
		17:58:42.	113.9	-0.2	2810.1
12	02/19/2016	19:27:25	267.6	-0.2	2820.4
		19:28:25	263.0	3.0	2486.1
		19:29:25	256.9	6.5	2166.9
		19:30:25	248.6	10.7	1879.9
		19:31:25	237.3	14.1	1643.5
		19:32:25	222.5	17.2	1483.2
		19:33:25	204.9	18.4	1425.4
		19:34:25	187.3	17.1	1482.4
		19:35:25	172.4	14.0	1642
		19:36:25	161.1	10.1	1877.8
		19:37:25	152.8	6.3	2164.2
		19:38:25	146.6	2.8	2482.9
13	02/20/2016	12:41:16	220.2	-0.2	2789.1
		12:42:16	215.7	3.1	2445.2
		12:43:16	209.6	6.8	2120.2
		12:44:16	201.4	10.8	1826.3
		12:45:16	189.9	14.9	1582.7

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
13 (continue)	02/20/2016	12:46:16	174.5	18.5	1416.4
		12:47:16	155.9	19.9	1357.2
		12:48:16	137.3	18.5	1418.6
		12:49:16	121.9	15.0	1586.5
		12:50:16	110.5	10.9	1831.5
		12:51:16	102.3	6.9	2126.2
		12:52:16	96.3	3.3	2452.0
		12:53:16	91.8	0.0	2796.9
		12:53:19	91.6	-0.2	2817.1
14	02/20/2016	14:21:59	247.8	-0.2	2802.7
		14:22:59	246.1	3.5	2420.4
		14:23:59	243.5	7.9	2039.9
		14:24:59	239.7	13.5	1669.7
		14:25:59	233.4	21.0	1320.5
		14:26:59	221.4	31.4	1016.1
		14:27:59	195.3	43.7	810.4
		14:28:59	151.1	45.7	786.3
		14:29:59	119.9	34.4	957.5
		14:30:59	105.7	23.2	1245.5
		14:31:59	98.4	15.2	1587.3
		14:32:59	94.2	9.3	1953.8

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
14 (continue)	02/20/2016	14:33:59	91.5	4.6	2332.4
		14:34:59	89.6	0.7	2716.9
		14:35:15	89.1	-0.2	2821.1
15	02/20/2016	16:03:28	265.5	-0.2	2814.5
		16:04:28	264.5	3.5	2428.9
		16:05:28	262.9	8.0	2042.2
		16:06:28	260.6	13.8	1662.6
		16:07:28	256.6	21.7	1298.6
		16:08:28	248.4	33.8	969.8
		16:09:28	225.7	51.8	728.0
		16:10:28	162.4	58.8	675.2
		16:11:28	123.5	41.1	847.8
		16:12:28	111.2	26.4	1147.8
		16:13:28	105.9	16.9	1499.9
		16:14:28	103.0	10.4	1874.1
		16:15:28	101.1	5.4	2258.3
		16:16:28	99.9	1.4	2647.0
16:16:54	99.5	-0.2	2817.8		
16	02/20/2016	17:45:10	271.6	-0.2	2820.6
		17:46:10	269.1	3.4	2444.1
		17:47:10	265.6	7.7	2073.6

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
16 (continue)	02/20/2016	17:48:10	260.5	12.9	1717.5
		17:49:10	252.4	19.4	1388.6
		17:50:10	238.4	27.6	1113.3
		17:51:10	214.0	35.3	941.1
		17:52:10	181.4	35.7	932.0
		17:53:10	155.8	28.4	1090.1
		17:54:10	141.0	20.1	1357.6
		17:55:10	132.5	13.4	1682.5
		17:56:10	127.1	8.0	2036.5
		17:57:10	123.5	3.7	2405.9
		17:58:10	120.9	0.0	2783.2
		17:58:14	120.8	-0.2	2808.7
17	02/20/2016	19:27:22	263.8	-0.2	2819.2
		19:28:22	258.2	2.7	2512.0
		19:29:22	251.0	5.7	2230.2
		19:30:22	241.7	8.7	1990.4
		19:31:22	230.1	11.3	1810.2
		19:32:22	216.2	12.9	1709.3
		19:33:22	201.4	13.0	1702.2
		19:34:22	187.4	11.5	1790.1
		19:35:22	175.4	9.0	1959.9

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
17 (continue)	02/20/2016	19:36:22	165.8	6.0	2191.9
		19:37:22	158.3	3.0	2467.9
		19:38:22	152.4	0.0	2774.0
		19:38:26	152.0	-0.2	2798.1
18	02/21/2016	11:01:11	192.3	-0.2	2778.5
		11:02:11	185.2	2.1	2536.1
		11:03:11	176.5	4.2	2333.7
		11:04:11	166.3	5.9	2186.8
		11:05:11	155.0	6.9	2107.9
		11:06:11	143.2	6.9	2104.9
		11:07:11	131.9	6.1	2178.2
		11:08:11	121.6	4.5	2320.5
		11:09:11	112.8	2.5	2519.6
		11:10:11	105.5	0.2	2762.6
		11:10:20	104.4	-0.2	2805.0
19	02/21/2016	12:40:33	228.9	-0.2	2789.3
		12:41:33	225.3	3.3	2431.0
		12:42:33	220.4	7.3	2081.1
		12:43:33	213.4	11.9	1754.0
		12:44:33	203.0	17.3	1466.8
		12:45:33	187.3	22.8	1248.9

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
19 (continue)	02/21/2016	12:46:33	165.6	26.2	1141.6
		12:47:33	142.0	25.1	1176.2
		12:48:33	123.0	20.4	1341.4
		12:49:33	110.1	14.9	1596.9
		12:50:33	101.5	9.8	1905.9
		12:51:33	95.6	5.5	2245.5
		12:52:33	91.4	1.8	2602.8
		12:53:08	89.5	-0.2	2817.1
20	02/21/2016	14:21:35	253.8	-0.2	2803.3
		14:22:35	252.4	3.5	2417.0
		14:23:35	250.5	8.0	2032.3
		14:24:35	247.5	13.8	1656.1
		14:25:35	242.4	21.6	1297.6
		14:26:35	232.3	33.1	978.8
		14:27:35	206.9	48.7	753.6
		14:28:35	152.6	52.8	717.5
		14:29:35	117.8	37.9	893.8
		14:30:35	104.6	24.9	1191.2
		14:31:35	98.4	16.1	1540.4
		14:32:35	94.9	9.8	1912.3
14:33:35	92.7	5.0	2294.7		

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
20 (continue)	02/21/2016	14:34:35	91.2	1.1	2682.1
		14:34:56	90.8	-0.2	2820.2
21	02/21/2016	16:03:09	268.4	-0.2	2814.6
		16:04:09	267.2	3.5	2427.4
		16:05:09	265.4	8.0	2042.0
		16:06:09	262.7	13.7	1664.5
		16:07:09	258.0	21.6	1303.8
		16:08:09	248.7	33.2	980.6
		16:09:09	224.5	49.6	747.4
		16:10:09	167.6	55.0	701.6
		16:11:09	130.8	39.3	873.5
		16:12:09	117.7	25.6	1170.3
		16:13:09	111.7	16.5	1519.8
		16:14:09	108.4	10.1	1892.0
		16:15:09	106.3	5.2	2274.9
		16:16:09	104.8	1.2	2662.6
16:16:32	104.4	-0.2	2816.3		
22	02/21/2016	17:44:54	271.0	-0.2	2819.9
		17:45:54	267.8	3.3	2455.2
		17:46:54	263.3	7.3	2098.3
		17:47:54	257.0	12.1	1761.2

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
22 (continue)	02/21/2016	17:48:54	247.3	17.8	1459.3
		17:49:54	232.3	24.0	1220.6
		17:50:54	210.1	28.5	1088.6
		17:51:54	184.5	27.9	1102.9
		17:52:54	163.7	22.8	1258.3
		17:53:54	149.8	16.6	1511.6
		17:54:54	140.9	11.1	1821.5
		17:55:54	135.0	6.4	2163.0
		17:56:54	130.8	2.5	2522.1
		17:57:40	128.4	-0.2	2807.3
23	02/22/2016	10:59:57	204.2	-0.2	2777.2
		11:00:57	198.1	2.6	2485.9
		11:01:57	190.2	5.4	2223.9
		11:02:57	180.5	8.1	2008.9
		11:03:57	168.6	10.2	1858.2
		11:04:57	155.0	11.3	1788.9
		11:05:57	141.1	11.0	1810.6
		11:06:57	128.2	9.4	1920.3
24	02/22/2016	12:39:58	236.7	-0.2	2789.7
		12:40:58	233.9	3.4	2417.6
		12:41:58	230.0	7.6	2051.2

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
24 (continue)	02/22/2016	12:42:58	224.3	12.8	1701.4
		12:43:58	215.3	19.2	1382.8
		12:44:58	200.3	26.8	1123.8
		12:45:58	175.7	33.1	974.6
		12:46:58	145.6	32.6	987.0
		12:47:58	122.4	25.8	1155.7
		12:48:58	108.4	18.4	1425.7
		12:49:58	100.1	12.2	1750.1
		12:50:58	94.7	7.2	2102.9
		12:51:58	91.0	3.1	2470.9
		12:52:53	88.5	-0.2	2816.7
25	02/22/2016	14:21:13	259.0	-0.2	2803.7
		14:22:13	257.9	3.5	2416.6
		14:23:13	256.3	8.1	2030.0
		14:24:13	253.8	13.8	1650.8
		14:25:13	249.6	21.9	1287.7
		14:26:13	240.9	34.0	961.4
		14:27:13	216.9	51.8	725.1
		14:28:13	154.4	57.5	681.5
		14:29:13	117.3	40.1	860.4
		14:30:13	105.2	25.8	1162.9

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
25 (continue)	02/22/2016	14:31:13	99.9	16.6	1515.9
		14:32:13	96.9	10.1	1890.4
		14:33:13	95.1	5.2	2274.8
		14:34:13	93.8	1.2	2663.6
		14:34:36	93.4	-0.2	2818.9
26	02/22/2016	16:02:50	270.4	-0.2	2814.2
		16:03:50	268.8	3.5	2430.1
		16:04:50	266.5	7.9	2047.9
		16:05:50	263.1	13.5	1675.1
		16:06:50	257.3	21.1	1321.5
		16:07:50	246.2	31.8	1009.8
		16:08:50	220.8	45.3	792.7
		16:09:50	173.5	48.5	757.6
		16:10:50	140.2	36.1	925.5
		16:11:50	126.0	24.1	1214.5
		16:12:50	118.9	15.7	1557.9
		16:13:50	114.9	9.6	1925.9
		16:14:50	112.3	4.8	2305.6
16:15:50	110.5	0.9	2691.0		
16:16:09	110.1	-0.2	2814.5		
27	02/22/2016	17:44:41	269.2	-0.2	2818.7

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
27 (continue)	02/22/2016	17:45:41	265.2	3.1	2472.0
		17:46:41	259.7	6.9	2135.9
		17:47:41	252.1	11.1	1826.9
		17:48:41	241.3	15.6	1562.6
		17:49:41	226.1	19.8	1370.4
		17:50:41	206.8	22.1	1283.9
		17:51:41	186.6	20.9	1324.2
		17:52:41	169.7	17.2	1480.9
		17:53:41	157.4	12.7	1722.0
		17:54:41	148.7	8.3	2016.6
		17:55:41	142.5	4.3	2343.7
		17:56:41	137.9	0.9	2690.5
		17:57:00	136.7	-0.2	2805.9
28	02/23/2016	10:58:59	214.5	-0.2	2776.8
		10:59:59	209.3	2.9	2449.8
		11:00:59	202.6	6.3	2144.7
		11:01:59	193.5	9.9	1877.0
		11:02:59	181.6	13.3	1665.9
		11:03:59	166.7	15.7	1536.1
		11:04:59	149.9	16.3	1509.3
		11:05:59	133.7	14.7	1590.7

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
28 (continue)	02/23/2016	11:06:59	120.3	11.8	1765.3
		11:07:59	109.9	8.3	2008.3
		11:08:59	102.1	4.8	2297.4
		11:09:59	96.3	1.5	2616.4
		11:10:33	93.6	-0.2	2807.2
29	02/23/2016	12:39:28	243.9	-0.2	2790.2
		12:40:28	241.7	3.5	2411.1
		12:41:28	238.7	7.9	2034.2
		12:42:28	234.2	13.3	1669.6
		12:43:28	226.9	20.5	1329.4
		12:44:28	213.4	30.1	1039.5
		12:45:28	187.0	40.0	854.6
		12:46:28	148.4	40.6	847.1
		12:47:28	120.6	31.0	1021.1
		12:48:28	106.4	21.4	1305.4
		12:49:28	98.7	14.0	1642.9
		12:50:28	94.1	8.5	2006.0
		12:51:28	91.0	4.0	2382.0
		12:52:28	88.9	0.3	2764.4
12:52:35	88.6	-0.2	2815.7		
30	02/23/2016	14:20:52	263.3	-0.2	2803.9

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
30 (continue)	02/23/2016	14:21:52	262.3	3.5	2419.9
		14:22:52	260.8	8.0	2032.6
		14:23:52	258.5	13.8	1652.4
		14:24:52	254.6	21.8	1287.8
		14:25:52	246.4	34.1	958.8
		14:26:52	223.4	52.5	718.1
		14:27:52	158.0	59.2	670.2
		14:28:52	119.9	40.8	848.4
		14:29:52	108.2	26.1	1151.8
		14:30:52	103.0	16.8	1505.8
		14:31:52	100.2	10.2	1881.0
		14:32:52	98.5	5.3	2265.9
		14:33:52	97.3	1.3	2655.1
		14:34:16	96.9	-0.2	2817.1
31	02/23/2016	16:02:32	271.4	-0.2	2813.5
		16:03:32	269.3	3.5	2433.0
		16:04:32	266.3	7.8	2056.8
		16:05:32	261.9	13.2	1692.7
		16:06:32	254.6	20.3	1352.5
		16:07:32	241.5	29.6	1061.2
		16:08:32	216.1	39.4	870.9

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
31 (continue)	02/23/2016	16:09:32	178.3	40.6	853.1
		16:10:32	149.9	31.5	1016.9
		16:11:32	135.2	21.8	1294.6
		16:12:32	127.2	14.3	1628.3
		16:13:32	122.3	8.7	1988.9
		16:14:32	119.1	4.2	2363.2
		16:15:32	116.8	0.4	2744.5
		16:15:42	116.5	-0.2	2812.4
32	02/23/2016	17:44:34	266.3	-0.2	2817.1
		17:45:34	261.3	2.9	2490.5
		17:46:34	254.6	6.2	2185.1
		17:47:34	245.9	9.7	1915.9
		17:48:34	234.3	13.1	1701.5
		17:49:34	219.8	15.5	1565.4
		17:50:34	203.3	16.2	1529.1
		17:51:34	187.3	14.8	1599.6
		17:52:34	173.7	11.9	1763.8
		17:53:34	163.1	8.5	1998.2
		17:54:34	155.1	5.0	2280.4
		17:55:34	149.0	1.8	2593.9
		17:56:12	145.9	-0.2	2804.5

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
33	02/24/2016	10:58:11	223.7	-0.2	2776.9
		10:59:11	219.5	3.1	2429.7
		11:00:11	213.9	7.0	2093.4
		11:01:11	206.0	11.3	1785.1
		11:02:11	194.8	15.9	1523.5
		11:03:11	179.1	20.1	1337.4
		11:04:11	159.1	22.2	1261.8
		11:05:11	138.7	20.8	1316.0
		11:06:11	122.1	16.9	1485.8
		11:07:11	110.2	12.2	1737.0
		11:08:11	101.8	7.9	2039.1
		11:09:11	95.9	4.0	2371.7
		11:10:11	91.5	0.6	2722.8
		11:10:25	90.7	-0.2	2807.2
34	02/24/2016	12:39:02	250.3	-0.2	2790.8
		12:40:02	248.7	3.5	2407.9
		12:41:02	246.4	8.0	2024.9
		12:42:02	242.9	13.7	1651.5
		12:43:02	237.0	21.3	1297.9
		12:44:02	225.5	32.4	987.6
		12:45:02	198.8	46.1	776.3

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
34 (continue)	02/24/2016	12:46:02	150.3	48.3	753.4
		12:47:02	118.3	35.3	933.0
		12:48:02	104.8	23.5	1228.8
		12:49:02	98.1	15.3	1575.9
		12:50:02	94.2	9.3	1946.1
		12:51:02	91.8	4.6	2327.3
		12:52:02	90.1	0.7	2713.8
		12:52:17	89.7	-0.2	2814.3
35	02/24/2016	14:20:33	266.8	-0.2	2803.7
		14:21:33	265.6	3.5	2416.2
		14:22:33	264.0	8.1	2029.5
		14:23:33	261.5	13.8	1650.3
		14:24:33	257.3	21.8	1287.3
		14:25:33	248.5	34.0	961.2
		14:26:33	224.4	51.6	725.4
		14:27:33	162.3	57.2	682.4
		14:28:33	125.4	39.9	861.8
		14:29:33	113.2	25.7	1164.4
		14:30:33	107.8	16.5	1517.5
		14:31:33	104.9	10.1	1892.1
14:32:33	103.0	5.2	2276.5		

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
35 (continue)	02/24/2016	14:33:33	101.7	1.2	2665.3
		14:33:56	101.3	-0.2	2815.0
36	02/24/2016	16:02:15	271.4	-0.2	2812.4
		16:03:15	268.7	3.4	2440.7
		16:04:15	264.8	7.6	2074.8
		16:05:15	259.1	12.6	1725.4
		16:06:15	250.3	18.9	1406.6
		16:07:15	235.7	26.3	1145.9
		16:08:15	211.9	32.6	991.4
		16:09:15	182.2	32.4	994.8
		16:10:15	158.8	26.0	1154.4
		16:11:15	144.4	18.6	1418.1
		16:12:15	135.7	12.4	1738.3
		16:13:15	130.2	7.4	2088.3
		16:14:15	126.3	3.2	2454.2
16:15:12	123.7	-0.2	2810.1		
37	02/24/2016	17:44:34	261.8	-0.2	2815.1
		17:45:34	255.8	2.5	2524.5
		17:46:34	248.1	5.3	2261.6
		17:47:34	238.6	7.9	2044.5
		17:48:34	227.0	10.1	1890.0

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
37 (continue)	02/24/2016	17:49:34	213.7	11.2	1814.7
		17:50:34	199.9	10.9	1828.7
		17:51:34	187.1	9.4	1929.8
		17:52:34	176.1	7.1	2105.1
		17:53:34.000	167.1	4.4	2337.4
		17:54:34	160.0	1.6	2610.7
		17:55:12	156.2	-0.2	2803.1
38	02/25/2016	10:57:32	232.0	-0.2	2777.4
		10:58:32	228.7	3.3	2413.2
		10:59:32	224.2	7.4	2055.6
		11:00:32	217.6	12.3	1718.5
		11:01:32	207.6	18.1	1418.3
		11:02:32	191.8	24.4	1184.9
		11:03:32	168.6	28.8	1064.5
		11:04:32	142.7	27.6	1095.5
		11:05:32	122.3	22.2	1266.6
		11:06:32	109.1	15.9	1531.1
		11:07:32	100.7	10.5	1848.6
		11:08:32	95.0	6.0	2195.2
		11:09:32	91.1	2.1	2558.1
11:10:12	89.0	-0.2	2806.6		

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
39	02/25/2016	12:38:39	255.9	-0.2	2791.2
		12:39:39	254.7	3.5	2405.8
		12:40:39	252.9	8.1	2019.6
		12:41:39	250.1	13.8	1641.5
		12:42:39	245.3	21.8	1280.6
		12:43:39	235.7	33.8	958.7
		12:44:39	210.0	50.5	731.3
		12:45:39	151.5	54.5	698.6
		12:46:39	116.7	38.2	882.8
		12:47:39	104.3	24.8	1186.3
		12:48:39	98.7	15.9	1539.3
		12:49:39	95.5	9.7	1913.7
		12:50:39	93.5	4.9	2297.9
		12:51:39	92.1	0.9	2686.6
		12:51:58	91.8	-0.2	2812.5
40	02/25/2016	14:20:14	269.3	-0.2	2803.3
		14:21:14	267.9	3.5	2416.9
		14:22:14	266.0	8.0	2032.1
		14:23:14	262.9	13.7	1655.9
		14:24:14	257.8	21.5	1297.6
		14:25:14	247.6	33.0	979.2

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
40 (continue)	02/25/2016	14:26:14	222.0	48.4	754.8
		14:27:14	168.3	52.2	719.7
		14:28:14	133.7	37.6	896.5
		14:29:14	120.5	24.7	1194.1
		14:30:14	114.3	15.9	1543.3
		14:31:14	110.7	9.7	1915.2
		14:32:14	108.5	4.9	2297.7
		14:33:14	107.0	1.0	2685.1
		14:33:33	106.6	-0.2	2812.5
41	02/25/2016	16:02:01	270.4	-0.2	2811.0
		16:03:01	266.8	3.3	2448.6
		16:04:01	261.9	7.2	2099.3
		16:05:01	254.9	11.8	1772.9
		16:06:01	244.6	17.1	1486.2
		16:07:01	229.2	22.4	1267.8
		16:08:01	207.9	25.8	1158.0
		16:09:01	184.7	24.9	1187.6
		16:10:01	165.7	20.3	1347.4
		16:11:01	152.6	14.8	1598.2
		16:12:01	143.9	9.8	1903.7
		16:13:01	137.9	5.5	2240.6

Pass No	Date (MM/DD/YYYY)	Time (JST)	Azimuth (deg)	Elevation (deg)	Range (km)
41 (continue)	02/25/2016	16:14:01	133.6	1.8	2595.7
		16:14:35	131.6	-0.2	2807.6