Radio Science Activity – Operations Log

Spacecraft: 82	Year: 2016	Date (local): Nov 24
Station: 34	Pass: 0329	DOY (BOA): 329

Operator(s): Aseel

Activity / Experiment: S97 Occultation ORT (MC) BOA: 329/2050 BOT: 329/2220 EOT: 330/0715 EOA: 330/0730

BRIEFING	PASS	

BRIEFING

Voice Check: ☒

Weather: Clear and calm

Wind:

Equipment Status: Green

Light-Times:

OWLT (hh:mm:ss): 01:29:59

RTLT (hh:mm:ss): 02:59:58

Closed-Loop Receivers:

Band(s): X   Ka

DCC(s): 2   8

SNT: enabled   enabled

Transmitter:

Band(s):   Time:

Uplink Power:

Uplink Transfers:

PASS

Antenna Configuration:

Subreflector:

Ka-band Aberration Correction:

Pointing:

CONSCAN:

Monopulse: Enabled @ 22:21:35 until EOT, except at mode switch

4th-Order Blind Pointing Model: 34ka

DR Number(s):

FSP (RSR / VSR / WVSR / PRSR):	RSR – 2 , A	RSR – 2 , B	(FSP) – (#) , (Side)	(FSP) – (#) , (Side)
Band (and Polarization)	XR	KR		
Ground Mode (Way) at BOT	1W	1W		
Downlink Predicts Set ID	0820329_xx.dlf	082340329_xk.dlf		
Bandwidth (kHz)	1, 16, 50, 100	1, 16, 50, 100		
Sampling Rate (bits)	16	16		
FGAIN (dB-Hz)	38	55		
FRO (Hz) / Time				
SFRO (Hz) / Time	1: -750 (1-way)	1: -3000 (1-way)		
Start Record Time / Play	329/22:05	329/22:05		
Stop Record Time / Play	330/07:20	330/07:20		
Mode Change Time / Mode	2W @ 330/01:34:00	2W @ 330/01:34:00		
Mode Change Time / Mode				
Other: _____				
Other: _____				

Version 06/16/2014

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```
16 329 2050 2220 0715 0730 DSS-34 CAS   TP RSS OCCORT MC 7000 N750    1A1
```
Spacecraft not rolling
No RWA biases scheduled
ACE: Grant

21:53   Brought up RSR. X-band signal already present
21:54:07 sfro X 1 -750
21:57:51 sfro K 1 -3000 (before signal present)
22:02   att auto on A & B
22:14:15 Ka-band signal present in wide bandwidths
              Wrong sfro in 1KHz. Should be -2K not -3K. residual in 16K is -1791
22:15:20 sfro K 1 -2000
22:18:30 sfro K 1 -2050 (put it slightly more to the right). Residual freq 256
22:19   X drop 7 dB as expected due to TLM bit rate change
22:21:35 Monopulse enabled
              1.5 jump in Ka-band power (~46.5 -> 48 dB). Also signal much more stable
22:41:37 Monopulse disabled
              Start 1-way on-point phase cal
23:02:07 End 1-way on-point phase cal
              Monopulse enabled
01:27:00 Monopulse disabled without clearing the offsets, prior to going 2-way
Ka-band 1-way signal stayed within 1 KHz bandwidth
01:34:00 Switched to 2-way
01:43:38 Monopule disabled
              Start 2-way on-point phase cal
02:04:07 End 2-way on-point phase cal
              Monopulse enabled
Nominal track. Going off net. Continue monitoring later
04:11:30 Transmitter off
~06:15   Continue monitoring
              Queue end of track

Ka-band signal stayed within 1 KHz bandwidth

Problems:
Forgot to enable recording on RSR2B. No Ka-band data recorded
Scripted end of pass but used "unvy" instead of "uvfy" to unverify! Danny stopped 330/18:58:25 (Thanks, Danny!)
RSR2 was scheduled by MSL. MSL script failed. Should've used RSR1 (Sorry, Danny!!)

1 KHz data X-band only) played back to /rssg/data/CAS/2016-329/ORT/RSR