

S76 Rev 174 Rings (Ingress) Occ

①  
DoY 314  
Rev 174

DOY 314-315

DSS 43 & 34 Team D

RSR1A/B WUSR1A/B RSR2A/B VSR1A/B

Engineering team: Aseel, Elias, Danny, Gregory

ACE: Herlen

NOPE: Lu

2250 ACE Briefing

Off Earth point @ BOT

XMTR on time changed from DKF

@ 002200 18kW, MAC Template  
no rangings, no commanding

XMTR off 032534

Weather overcast

Wind 18.5 km/hr

Equipment no red

(S SNT)  
not working

2252 Lu to 43

As suggested by Kevin Row...

Configure XRCP to O2 output

XLCP to O1 output

2253 ACE to 43

You'll be tracking

Again

43 X 60

43 S 50

34 X ~~54~~

34 Ka ~~54~~

accounted for Earth depletion... etc motion, Earth rotation

2329 40 reporting they rebooted WVS2

Danny said it wasn't working. Called Sue. She suggested rebooting. Danny called Mitch. He asked station to reboot.

WVS2 still not working (Sue & Chuck doubted it would fix the problem). Danny put 34 1-way on VSR 1

0022 43 Xmt on  
17.3 kW

0043 Small spur in X-band 43.  $-9$  to  $-7$  dB

Start at 2326

It's got Doppler (sky freq. changing) so doesn't seem to be station. Residual is flat.

Think it's Cousini!  
sk is off Earth point for VIMS observation,  
but may not be completely off-Earth point

0100 34 Briefings

DIL only

Sk off-Earth point now.

on-point 030320

3-way w/ 43 032040

Weather Partly overcast

Equipment no red

wind speed 15.7 km/hr

43X DCC6 43S DCC3  
34X DCCA 34Ka DCC5

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0238 Asked 34 & 43 to enable SNT  
43 said S SNT is not working.  
Can enable X only

0240 SNT Measurement  
43 X 20.365  
43 S —  
34 X 22.866  
34 Ka ~~38.536~~ 31.835

0241 Asked 43 & 34 to disable SNT except  
34 Ka-band

0250 Weather update from 43  
Overcast starting to clear  
80% clear  
9.3 km/hr  
79.1 °

~0300 Ka-band

030050 Told NOPE we're seeing strong X-band  
signal. Ka-band is pretty strong

030130 34 ~~ca~~ 1/L on X & Ka  
43 1/L X-band

0304 S-band 1/L

030520 Asked 34 to enabled monopulse  
⇒ ~3 dB jump

0310	Pc/No	fgain	
RSRs	43 X	54.47	60
	43 S	43.11	50
	34 X	48.40	54
	34 Ka	48.93	54

WVSR	43 X	54.4	60
	43 S	43.1	50
RSR	34 X	48.2	54
	34 Ka	48.9	54

Mono corrections A3 n5 EL corr n8 Elevation n51°

- 0322 Switch to 2-way 34 said mono disabled  
Disable it?
- 0323 43 1/L X & S  
should've said 3-way → yes, & re-enable after 2-way acquisition
- 34 1/L X-band, but freq. Search Ka-band.  
NOPE told them to make sure they are configured 3-ways
- 032534 34 1/L Ka-band
- 0326 34 enabled monopulse
- 0327 Told NOPE I apologize, I told 34 to enable monopulse after 2-way acquisition & I should've said 3-way. I may have confused them  
NOPE → no problem
- 0330 NOPE told 34 that so far mono seems to be working well with 3dB improvement

0330 2-way/3-way Pc/No

43 X	54.23
43 S	42.74
34 X	48.35
34 Ka	48.85

WVS22 ~~430~~ N/A Haha ☺

~ 0335 Started seeing some ka-band degradation.

Elias said humidity is at 43% (u0352)

0410 Told NOPE we're seeing some degradation @ ka-band, but think it's prob due to weather

0410 Pc/No 2-way/3-way official baseline ELnd0°

43 X	54.27
43 S	43.09
34 X	48.18
34 Ka	48.35

0417 Told 34 that we've seen fluctuations @ Ka-band over past 30 mins or so, but got worse during past 5 mins, wondering if have more clouds or higher winds

→ wind stable, but more clouds

0418 Ka 47.65 @ 34 .. Elevation 38°  
X 47.99

0423 Lu telling 34 that they put note in BM that if manpage gets disabled as we go through the nrgs, do not re-enable w/o RS approval (was just about to reward them)

0432 Told 43 & 34 that in a couple of minutes, we're going to start to go through nrgs & when we get to nrg B at n0500 we expect that your receivers will go out of lock. when that happens, you don't need to re-acquire until we get out of nrg B at n0500.

0432 Start scans nrgs!

Two mins before timeline

Ka-band not looking too good!

043818 Ring H! Very close to Exam's timeline

Within seconds of Exam's timeline

0455 34 Ka O/L. mono not operating

Told 34 not to re-enable mono

34 want me to disable mono

34 It's showing that it's disabled on our side,

34 is it not on your side

34 still running

34 ut it run please

0501 5-band intermittent

0501 WSR X-band RVR down! Denny switched to PSR. Started reading OSO ~~0501~~

5-band OK (Started 0444)

Handwritten notes in top left corner including "0444", "Started", and "5-band OK".

050350 Lu telling 34 to configure X-band channel in open-loop mode (was just about to ask him to ask 34 to do that)

0509 Told Lu that about 5 mins ago we got problems w/ X-band on WVSRI & got error message that signal may be missing. We had to ~~configure~~ <sup>switch to</sup> another revr  
Lu => What station  
=> 43

0513 Ask 34 if mono is still running  
=> yes  
me => but no corrections have been applied since revr is lost lock ~~about~~ 5 mins before revr B  
=> yes  
me => so once we get signal can re-enable -> yes. me | will let u know when

0515 Talk w/ Lu .. what is monopulse & running?

New APC-A S/W

only station w/ old one is PSS-SS

Lu => new software?! Now running changed to yellow. After signal, will go green  
me => what's difference bet. running & disabled? will it re-enable automatically?  
Lu => Think so. He saw at 34 during ORT

0529 Check w/ station. If mono is running, when Ka-band revr goes back I/L, does mono get disabled automatically or you have to manually do it 34 => not sure. Prob automatically  
me => OK, pls don't disable. Keep it enabled  
34 => Told that once reach threshold, re-enables automatically

053030 Tol 43 & 34 signals back to full strength. Re-acquire

053155 34 I/L on Ka-band.  
mono re-enabled

Station reporting  
no → <sup>Did</sup> ~~was~~ it automatically start running  
34 → yes  
(We confirmed on phone w/ Danny)

0550 34 reporting signal level fluctuations  
⇒ copy. That's expected

0553 Still have all 3 signals! Ring mixed w/ atmosphere.  
Ka-band

055409 Ka-band O/L  
back I/L  
mono back enabled

⇐ We don't want mono I/L & out of lock like that!

0555 Ka O/L

0556 Ka @ edge of 16 kHz (on left)

060430 34 X O/L closed-loop

060520 34 reporting to ACE they are O/L X & Ka

0608 43 X O/L closed-loop

060909 Station 43 reported LOS X-band



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061222 43 closed-loop O/L S-band

061330 43 reported. Said it's earlier than timeline.  
Try to run open-mode <sup>me</sup> we see it in open  
loop by v. weak. they don't

061430 Lu asking 34 to configure X-band in open loop  
need to try to require

w061545 Danny seeing S-band 1-way signal  
Had it all the way until it was turned off.

0628 ~12° elevation!

063200 Told 43 & 34 we are done w/  
experiment. Everything went as planned  
& we got all the data. Thank you  
very much for your outstanding support.  
Please wait for ACE to release you.

ACE & NCPA thanked Station

Playback 0235 - 0635

Congrats Gregory on  
completing your first Cousinsi support!