

Procedure. Ref.: SVT\_OPM\_5061 (1,1) LOAD+ DUMP DPU CODE

Procedure Title: Load and Dump of DPU Code

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#### Purpose of Procedure:

This procedure executes the Load and Dump of the DPU Loadable Code. The DPU Loadable code is nominally maintained by KAL however for the initial switch ON (or if the KAL power has been cycled) this code must be re-loaded.

The following list refers to the OBSM Procedures used to execute this task:

FCP\_OPM\_9920 - Load OM DPU Application Code

FCP\_OPM\_9925 - Checksum and Load OM DPU Application Code

This procedure is foreseen to be used during the OM SVT.

Initial State: OM ON in FULL SAFE Mode ICU code Loaded

Final State: OM ON in FULL SAFE Mode with ICU and DPU Code loaded.

Step	Time	Activity/Remarks	Command	TM Verification
1		Confirm OM in FULL SAFE Mode		<u>AND: H100</u> H5395 "OM STATE" = SAFE
2		Reset DPU. Executes a Hardware reset of the DSPs	<u>H7201</u> RESET DSP	<u>AND: H100</u> H5395 "OM STATE" = SAFE H5450 "DPU STATE" = BOOT
3	00:00:12	Wait up to 12 s for the DA_DPU_BOOT_READY  (aka Fred from the Dead)  Packet 92201 (PK Dump 1145 OM4)		<u>AND: H110</u>  H5450 "DPU STATE" = BOOT H5455 "BLUE 1 DSP STAT" = OFF H5460 "BLUE 2 DSP STAT" = OFF H5465 "RED DSP STAT" = OFF H5470 "BLUE 1 DSP DC" = OFF H5475 "BLUE 2 DSP DC" = OFF H5365 "TRACKING" = ON H5480 "SWAP UNIT ID" = INITIALIZE H5485 "DPU TASK ID" = INITIALIZE
4		LOAD DPU RAM PROGRAM BANK 0  OBSMS System required to support loading of OM DPU Image.		
4.1		Load DPU RAM Program Bank 0  MID = 20 (hex), Addresses E0 0000 - E0 FFFF 14680064 dec  Multiple TCs.	<u>H4020</u> MEML DPU BANK 0  **H0500 "START ADDRESS" = 14680064	
4.2		Dump DPU RAM Program Bank 0  MID = 20, Addresses E0 0000 - E0 FFFF 14680064 dec  Length in number of 24 bit Words used = 38158  Compare Memory Load and dump packets. Packet 94220 (2032 OM6)	<u>H4120</u> MEMD DPU BANK 0  **H0500 "START ADDRESS" = 14680064 **H0510 "LENGTH" = 38158	
5		LOAD DPU RAM PROGRAM BANK 3  OBSMS System required to support loading of OM DPU Image.		

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Step	Time	Activity/Remarks	Command	TM Verification
5.1		Load DPU RAM Program Bank 3  MID = 23, Addresses E3 0000 - E3 FFFF 14876672 dec  Multiple TCs.	<u>H4023</u> MEML DPU BANK 3 **H0500 "START ADDRESS" = 14876672	
5.2		Dump DPU RAM Program Bank 3  MID = 23 (hex), Addresses E3 0000 - E3 FFFF 14876672 dec  Length in number of 24 bit Words used = 2066  Compare Memory Load and dump packets. Packet 94223 (2035 OM6)	<u>H4123</u> MEMD DPU BANK 3 **H0500 "START ADDRESS" = 14876672 **H0510 "LENGTH" = 2066	
6		LOAD DPU RAM PROGRAM BANK 5  OBSMS System required to support loading of OM DPU Image.		
6.1		Load DPU RAM Program Bank 5  MID = 25, Addresses E5 0000 - E3 FFFF 15007744 dec  Multiple TCs.	<u>H4025</u> MEML DPU BANK 5 **H0500 "START ADDRESS" = 15007744	
6.2		Dump DPU RAM Program Bank 5  MID = 25 (hex), Addresses E5 0000 - E5 FFFF 15007744 dec  Length in number of 24 bit Words used = 6208  Compare Memory Load and dump packets. Packet 94225 (2037 OM6)	<u>H4125</u> MEMD DPU BANK 5 **H0500 "START ADDRESS" = 15007744 **H0510 "LENGTH" = 6208	
7		LOAD DPU RAM PROGRAM BANK 7  OBSMS System required to support loading of OM DPU Image.		
7.1		Load DPU RAM Program Bank 7  MID = 27 (hex), Addresses E7 0000 - E7 FFFF 15138816 dec  Multiple TCs.	<u>H4027</u> MEML DPU BANK 7 **H0500 "START ADDRESS" = 15138816	
7.2		Dump DPU RAM Program Bank 3  MID = 27, Addresses E7 0000 - E7 FFFF 15138816 dec  Length in number of 24 bit Words used = 11266  Compare Memory Load and dump packets. Packet 94227 (2039 OM6)	<u>H4127</u> MEMD DPU BANK 7 **H0500 "START ADDRESS" = 15138816 **H0510 "LENGTH" = 11266	
8		END OF PROCEDURE		