

Configure TX2  
File: H\_CRP\_TTC\_T20X.xls  
Author: E. Picallo



## Procedure Summary

### Objectives

This procedure describes the steps needed to configure the transmitter 2 (with values different from the nominals ones), when the downlink and the uplink are already established.

This procedure does not use the logical addressing

### Summary of Constraints

The XPND2 is configured using TC(8,4,115,9), thus the status of the ASW function "TTC Management" has to be "running".

Note that:

- the value of the TM modulation index by default is 1.2
- the value of the RNG by default is 0.6
- the value of the Output power level by default is -4dBm
- the External reference and Internal bit pattern generator are always OFF.

Note that the configuration of the transmitter after power up (default values at LCL16 ON) are:

- TM modulation index 1.2 rad
- RNG modulation index 0.5 rad
- Output power level 0 dBm

### Spacecraft Configuration

#### Start of Procedure

CDMU in default configuration;  
Downlink active via TX2 and TWTA2;  
TM bit rate set to any value.

#### End of Procedure

CDMU in default configuration;  
Downlink active via TX2 and TWTA2;  
TM bit rate unchanged;  
XPND2 configuration changed.

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

HRRT20X

### Referenced Displays

ANDs	GRDs	SLDs
ZAZ7I999		
ZAZ7J999		

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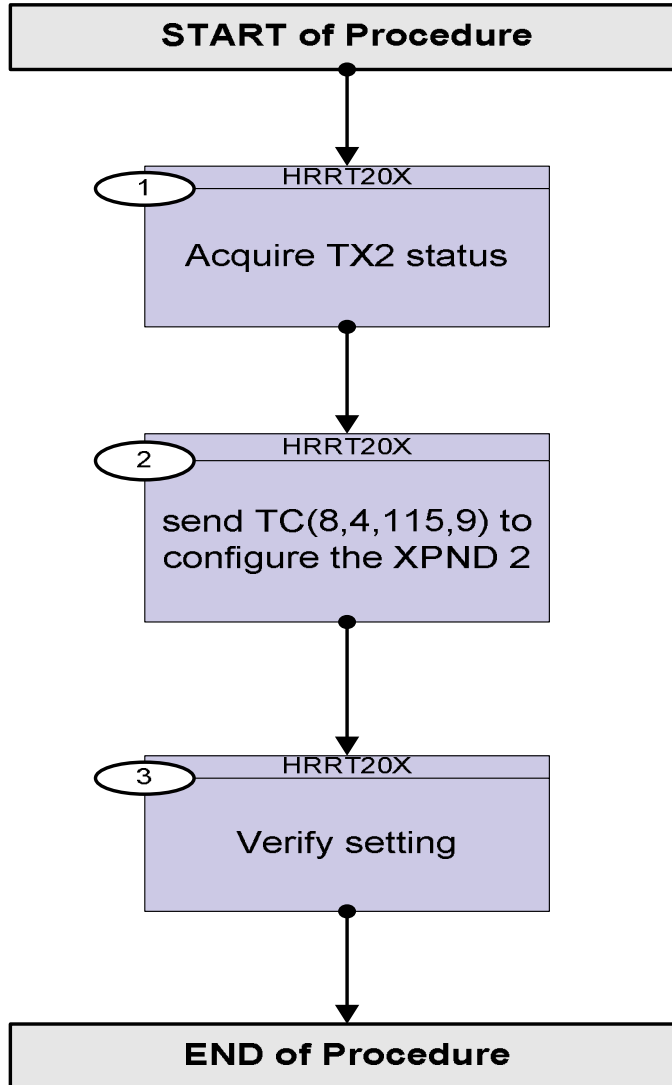
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
15/07/08	1	1	Created	R. Miniscalco	
06/11/08	2	2	TC DCT18170 Configure Xpnd mask update	E. Picallo	

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### Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name :HRRT20X (Configure TX2) TX2 change configuration from default  TimeTag Type: N Sub Schedule ID: Formal Parameter List : XpndConfDW1_RMI RM_ID= XpndConfDW1_TMI TM_ID= XpndConfDW2OPLS OutPower=				
1		Acquire TX2 status		Next Step: 2
		Verify RX2 Lock status Telemetry X2 Rx Lock - RL RMB45442		AND=ZAZ7I999
		Verify Low Rate-1 modulator statusTelemetry X2 LowRate-1 MD RMB51442		AND=ZAZ7I999
		Verify Low Rate-2 modulator statusTelemetry X2 LowRate-2 MD RMB52442		AND=ZAZ7I999
		Verify Medium Rate Modulator status Telemetry X2 MedRate-MRM RMB50442		AND=ZAZ7I999
		Verify High Rate modulator status Telemetry X2 HIRateMD-HRM RMB49442		AND=ZAZ7I999
		Verify Coherent Mode status Telemetry X2 Coher MOD-CM RMB47442		AND=ZAZ7I999
		Verify Ranging Modulator status Telemetry X2 Rang MD - RM RMB48442		AND=ZAZ7I999
		Verify Telemetry Modulation Index Telemetry X2 TM MD ID-TMI RMB54442		AND=ZAZ7I999
		Verify Ranging Modulation Index Telemetry X2 RNGMD ID-RMI RMB53442		AND=ZAZ7I999
		Verify Power level at transmitter output Telemetry X2 OutPowLevSet RMB56442		AND=ZAZ7I999
		Verify encoder status Telemetry TME_BITRATE DEMRF160		AND=ZAZ7J999
2		send TC(8,4,115,9) to configure the XPND 2		Next Step: 3
		<b>WARNING:</b> Ranging is not possible with high bit rate. If the TM bit rate is equal to 1.5 Mbps RNG has to be set to zero and RNG Mod Index is irrelevant in this case.		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand  XpndConfigure_Templ  Command Parameter(s) : XpndId DH018170 XpndB XpndConfMask1Unus DH220170 0 <dec> (Def) XpndConfMask1_ER DH221170 OFF (Def) XpndConfMask1_CM DH222170 OFF (Def) XpndConfMask1_RM DH223170 OFF (Def) XpndConfMask1_HRM DH224170 OFF (Def) XpndConfMask1_MRM DH225170 OFF (Def) XpndConfMask1LRM1 DH226170 OFF (Def) XpndConfMask1LRM2 DH227170 OFF (Def) XpndConfMask1_RMI DH228170 Update XpndConfMask1_TMI DH229170 Update	DCT18170	
		XpndConfMask2_PG DH230170 XpndConfMask2Unus DH231170 XpndConfMask2OPLS DH232170 XpndConfDW1Unus DH020170 XpndConfDW1_ER DH021170 XpndConfDW1_CM DH022170 XpndConfDW1_RM DH023170 XpndConfDW1_HRM DH024170 XpndConfDW1_MRM DH025170 XpndConfDW1LRM1 DH026170 XpndConfDW1LRM2 DH027170 XpndConfDW1_RMI DH028170 XpndConfDW1_TMI DH029170 XpndConfDW2_PG DH030170 XpndConfDW2Unus DH031170	OFF (Def) 0 <dec> (Def) Update 0 <dec> (Def) OFF (Def) OFF (Def) OFF (Def) OFF (Def) OFF (Def) OFF (Def) OFF (Def) OFF (Def) OFF (Def) RM_ID TM_ID OFF (Def) 0 <dec> (Def)	
		XpndConfDW2OPLS DH032170  TC Control Flags :  GBM IL DSE --Y -- --  Subsch. ID : 10 Det. descr. : TEMPLATE Configure Xpnd TC(8,4,115,9)	OutPower	
3		Verify setting		Next Step: END
		Verify Low Rate-1 modulator status Telemetry X2 LowRate-1 MD RMB51442		AND=ZAZ7I999
		Verify Low Rate-2 modulator status Telemetry X2 LowRate-2 MD RMB52442		AND=ZAZ7I999
		Verify Medium Rate Modulator status Telemetry X2 MedRate-MRM RMB50442		AND=ZAZ7I999
		Verify High Rate modulator status Telemetry X2 HIRateMD-HRM RMB49442		AND=ZAZ7I999
		Verify Coherent Mode status Telemetry X2 Coher MOD-CM RMB47442		AND=ZAZ7I999
		Verify Ranging Modulator status Telemetry X2 Rang MD - RM RMB48442		AND=ZAZ7I999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Ranging Modulation Index Telemetry X2 RINGMD ID-RMI RMB53442		AND=ZAZ7I999
		Verify Telemetry Modulation Index Telemetry X2 TM MD ID-TMI RMB54442		AND=ZAZ7I999
		Verify Power level at transmitter output Telemetry X2 OutPowLevSet RMB56442		AND=ZAZ7I999
<b>End of Procedure</b>				