

X-Band Data N2 Downlink RF Power Budgets - Main Line					
Component	G [dB]	Input Power [dBm]	Output Power [dBm]	Max Input Power [dBm]	Comments
DUT					
Transmitted Power @ Transmitter port	-	-	40,0	N/A	EWC30 Pout at output DSN filter (900830_X-040-753_User_Manual_Annex FM2_v1.0)
Connector Saver #2	-0,1	40,0	39,9	-	R340200302B Attenuation corresponds to SV Microwave 95077 measured previously
RF Cable W10	-1,2	39,9	38,8	47,8	MCJ088D, G from cable characterization.
Connector Saver #3	-0,1	38,8	38,7	-	R340200302B . Attenuation corresponds to SV Microwave 95077 measured previously
DSN Filter	-0,6	38,7	38,1	-	Attenuation corresponds to EM filter measured previously
Connector Saver #4	-0,1	38,1	38,0	-	SV Microwave 95077. Attenuation corresponds to other SV Microwave 95077 measured previously
CEGSE - Main line					
Input Power @ CEGSE port	-	38,0	-	-	
RF Cable W2	-1,2	38,0	36,8	47,8	MCJ088D + (Adapter#3) PE9212. Attenuation corresponds to other MCJ088D measured previously
RF Cable W3	-0,5	36,8	36,3	47,8	MCJ088D, G from cable characterization.
RF Cable W4	-1,0	36,3	35,3	47,8	PE91337 (AD#1) + MCJ088D + (Adapter#1) PE9312 , G from characterization.
Bidirectional Coupler (IN-OUT)	0,0	35,3	35,2	50,0	Mini-circuits ZGBDC35-93HP+, G from characterization.
Fixed Attenuator	-19,6	35,2	15,6	43,0	Mini-circuits BW-N20W20+, G from characterization.
RF Cable W5	-1,3	15,6	14,4	47,8	PE91337 (AD#2) + MCJ088D-0-0197-3Q03Q0 + PE91337 (AD#3). G from cable charaterization.
CEGSE Variable Attenuator 10dB step	-0,7	14,4	13,7	30,0	Agilent 8496B-001, G from characterization.
RF Cable W6	-1,5	13,7	12,2	-	UT-141-FORM-0315-380580/A, G from characterization.
SMA to N adapter	-0,1	12,2	12,1	-	PE9104. Attenuation is estimated.
Output Power @ CEGSE port	-	-	12,1	-	
Interconnection Elements - Main line					
RF Cable XRF4.02	-4,2	12,1	7,9	54,7	UFB197C-0-1969-7GU7GU, G from characterization.
GS-GSE - Main line					
Received Power @ GSE port	-	7,9	-	-	
X Band External Attenuators	-30,1	7,9	-22,2	33	G from characterization.
RF Cable XRF3.13	-2,2	-22,2	-24,3	51,7	PE301-60, G characterization from XFR3.13.
X-Band Matrix and Attenuator (N2-DC2)	-30,6	-24,3	-54,9	30	Measured Value from XBMA03.
	0,0				Variable attenuation.
RF Cable XRF3.06	-1,2	-54,9	-56,1	48	MCJ088D. G characterization from XRF3.06.
X-Band Downconverter N2	29,1	-56,1	-31,0	10,0	Measured Gain: 25,1dB@4dB attenuation. NF 11dB from ATR.
	-4,0				Internal variable attenuator from XBDC.
RF Cable XRF3.08	-0,5	-31,0	-31,6	51,7	PE301-60. G characterization from XRF3.08.
Demodulator (D)		-31,6	N/A	-10	Nominal values: -30dBm to -40dBm, -10dBm to -50dBm acceptable values.
X-Band Data Downlink RF Power Budgets - Instrumentation line					
Component	G [dB]	Input Power [dBm]	Output Power [dBm]	Max Input Power [dBm]	Comments
CEGSE - Instrumentation line					
Bidirectional Coupler (IN-CPL IN)	-34,4	35,3	0,8	-	Mini-circuits ZGBDC35-93HP+, G from characterization.
RF Cable W8	-0,8	0,8	0,0	47,8	MCJ088D-0-0137-38V320 PM, G from characterization.
Output Power @ TP Downlink port			0,0	-	
Interconnection Elements - Instrumentation line					
RF Cable W15	-1,4	0,0	-1,4	54,7	MRF 64639 227197-004, G from characterization.
DC Block DCB1.01	-0,3	-1,4	-1,7	-	PE8210, G from characterization.
PXI @ Input port		-1,7		30,0	
RF Cable XRF3.60	-7,0	0,0	-7,0	54,7	UFA 210A-0-3937-70U300, 10m, G from characterization.
DC Block	-0,4	-7,0	-7,4	-	PE8213, G from characterization.
PXA @ Input port		-7,4		30,0	
X-Band Data Downlink Resume (N2)					
Parameter	Condition				
	Nominal	Maximun Levels			
CEGSE Variable Attenuator 10dB step	-0,7	-			
X-Band Downconverter Attenuation	-4,0	0,0			
Pin Demodulator	-31,6	-27,6			
Offset PXI	-41,7				
Offset PXA	-47,4				