TELEDYNE
PARADISE DATACOM
A Teledyne Technologies Company

Configuration Sheet

Order Number **20026269-01-01**

Modem Serial Number:	31400187	MBoard Serial Number:	Q3248-000459	SAFCode:	Y000000B203800000C0D22117254B9607
Model Number:	Q-Flex	MAC Address:	00:11:29:A0:06:FC		
Model Type:	P3202	Checksum:	24		
PSU Type:	AC	Software Ver:	3.0.36B	Firmware Ver:	RC.0.0.42b
BUC PSU:	None	Kernel Ver:	3.1.1#2020SMP4	Uboot Ver:	34878
Build Date:	3/20/2014 9:52 AM				

Option Cards

Part No	Model	Serial Number	Revision	Notes
P3720	EIA530	P3720-000116	3	
P3607	PCMA1	P3607-000301	5	
P3604	DVBS2	P3604-000089	6	

TELEDYNE
PARADISE DATACOM
A Teledyne Technologies Company

Test Results Sheet

Chassis Serial No: 31400187 Model Q-Flex

Summary Results

Test Description	Pass/Fail
Tx Power Calibration	Pass
Data Transparency	Pass
Uncoded & BER test with switch	Pass
Tx Frequency Resolution	Pass
Tx Carrier Null and Sideband Suppression Cal	Pass
Tx Carrier Null Test	Pass
Tx Spectral Regowth Test	Pass
Tx Harmonic Rejection Test	Pass
Tx Spurious Test	Pass
Tx Phase Noise & Close Carrier Spurious Test	Pass
Rx Constellation Test	Pass
10MHz Station Clk & Data Transparency Test	Pass
Rx Power Calibration	Pass
Tx & Rx 10MHz REF Test.	Pass
Tx BUC & Rx LNB PSU DC Test.	Pass
Front Panel Membrane Test.	Pass
Check USB Sockets	Pass
Final Config Tx Spurious Test	Pass

Tx Power Calibration

	50MHz	90MHz	105MHz	176MHz	950MHz	1450MHz	1850MHz	2050MHz
0dBm	-0.09	-0.06	-0.05	0.14	0.00	0.03	0.01	0.01
-25dBm	-24.9	-24.9	-24.9	-24.9	-	-	-	-
-30dBm	-	-	-	-	-29.8	-29.9	-29.8	-29.9

Tx Frequency Resolution

Calibrated DAC value = 121,
Result at modem freq = 1000.0000MHz, measured freq = 1000000007Hz, delta = 7Hz

Next

Tx IQ Calibration

	140MHz	953MHz	1285MHz	1740MHz	1998MHz	2047MHz
18kbps	-58.1	-57.4	-39.9	-56.1	-53.1	-51.0
32kbps	-56.4	-58.8	-39.3	-58.6	-59.9	-54.1
128kbps	-53.3	-57.6	-38.7	-56.6	-55.7	-53.5
2Mbps	-50.6	-51.9	-38.4	-53.1	-51.9	-50.7

Tx Spectral Regrowth

Spectral regrowth tested at 54000000bps.
Slope on IF modulated carrier = 0.09dBc,
Upper spectral IF regrowth = -46.52dBc,
Lower spectral IF regrowth = -46.66dBc,
Spectral regrowth tested at 54000000bps.
Slope on LBand modulated carrier = 0.23dBc,
Upper spectral LBand regrowth = -42.12dBc,
Lower spectral LBand regrowth = -42.20dBc,

Harmonic Rejection

Frequency	2cd harmonic
50.000000	61.08
90.000000	63.31
950.000000	68.68
1025.000000	65.92
1500.000000	85.53

Tx Spurious

Wide Span Test
Worst case = 1500000 kHz, -58.02 dBc
Narrow Span Test
Worst case = 1500000 kHz, -58.02 dBc

Next

Tx Phase Noise

Offset Freq	500Hz	1kHz	10kHz	1000kHz	1MHz	
L Band	-85.25dBc/Hz	-87.39dBc/Hz	-90.52dBc/Hz	-99.85dBc/Hz	-118.7dBc/Hz	
IF	-85.94dBc/Hz	-87.66dBc/Hz	-90.75dBc/Hz	-97.93dBc/Hz	-119.1dBc/Hz	

Sum of all L Band spurious -44.56dB.

Sum of all IF spurious -43.27dB.

10MHz Station Clock

Tests performed at 50000000 bps
The modem detected a station clock
Test 1 2 configuration: 16QAM, TPC 7/8, IP Terr interface,
Station clock = 5MHz, Tx clock = Station, Rx clock = Sat

Test 1 result: Modem runs error free for 3000 mS
Test 2 result: 2 errors injected were recieved as expected
The modem detected a station clock failure correctly
Test 3 configuration; 2.048 Mbps, Service = IBS/SMS, QPSK, TPC 0.75, Terr I/F = RS422
Station clock = 5MHz, Tx clock = Int, Rx clock = Station
The modem detected a station clock
Test 3 4 configuration: 2.048kbps, QPSK, TPC 3/4, IBS, RS422 Terr interface,
Station clock = 5MHz, Tx clock = Int, Rx clock = Station

Test 3 result: Modem runs error free for 3000 mS
Test 4 result: 2 errors injected were recieved as expected

RX Power Calibration

Frequency	90MHz	160MHz	1303MHz	1803MHz
-20dBm	-20.59dBm	-21.97dBm	-19.00dBm	-20.02dBm
-50dBm	-47.85dBm	-49.47dBm	-48.88dBm	-51.19dBm

Next

10MHz Reference Test

Tx 2050 MHz On level = -1.780dBm.
Tx 2050 MHz On/Off ratio is -90.18dBc .
Tx 10MHz On level = 2.120dBm.
Tx 10MHz On/Off ratio is -59.14dBc.
Measured Tx 2nd harmonic level = -50.110dBm
Rx 10MHz On level = 3.630dBm.
Rx 10MHz On / Off ratio = -53.07dBc.

Measured Rx 2nd harmonic level = -44.220dBm

DC Tests

Receive LNB PSU 13V = 13.17V
Receive LNB PSU 15V = 15.18V
Receive LNB PSU 18V = 17.77V
Receive LNB PSU 24V = 23.68V
Tx path DC Off voltage = 0.00V
Rx path DC Off voltage = 0.00V

Uncoded BER Test

Test1. BPSK data rate = 33 no FEC is transparent.
Test 2. L Band BPSK, FEC off, data rate = 33 Mbps. Results: + Measured BER: 2.80e-3 @ Eb/No: 6.16. EbNo margin: 0.88

Test 3. IF QPSK, Vit rate 1/2, data rate 10000000 Mbps test results. Measured BER: 3.80e-4 @ Eb/No: 3.55. EbNo margin: 0.60

Next