

STB100 Beacon Test Bench  
 Technical Specifications  
 Revision 1.10

		Options		Uncertainty
		-add AIS (Rx)	-add AIS (Rx&Tx)	
<b>406 MHz Measurements</b>				
Measures all Cospas-Sarsat Channels	•			-
15 HEX ID	•			-
Full HEX	•			-
Decodes all Cospas-Sarsat protocols	•			-
Frequency (Ext Ref)	•			± 1 Hz
Frequency (Int Ref)	•			± 50 Hz
Leaving factory	•			± 1.0 ppm/yr
Long Term				
Frequency Stability <sup>1</sup> (using Ext Reference)	Nominal Frequency	•		± 2.5 x 10 <sup>-11</sup>
	Short Term	•		
	Medium Term – Mean Slope	•		
	Medium Term - Residual	•		
Power <sup>2</sup>	•			± 0.25 dB
Power rise time	•			± 0.5 ms
Pre-burst level	•			± 1.0 dB
Pulse Repetition period	•			± 10 ms
Bit rate	•			± 0.1 bps
CW preamble time	•			± 0.8 ms
Total transmission time	•			± 0.8 ms
Rise time	•			± 10 µs
Fall time	•			± 10 µs
Phase deviation: positive	•			± 0.02 rad
Phase deviation: negative	•			± 0.02 rad
Modulation phase symmetry	•			± 0.005
<b>121.5/243 MHz Measurements</b>				
Frequency (Ext Ref)	•			± 30 Hz
Frequency (Int Ref)	•			± 60 Hz
Leaving factory	•			± 1.0 ppm/yr
Long Term				
Peak Power	•			± 1.0 dB
Sweep Direction	•			-
Audio Frequency - upper	•			± 30 Hz
Audio Frequency - lower	•			± 30 Hz
Audio Sweep Range	•			± 60 Hz
Modulation Index	•			± 5%
Sweep Rep Rate	•			± 0.1 Hz
Duty Cycle	•			± 2%
<b>AIS Measurements</b>				
Frequency (AIS1 & AIS2) (Ext Ref)		•	•	± 30 Hz
Frequency (AIS1 & AIS2) (Int Ref)		•	•	± 60 Hz
Leaving factory		•	•	± 1.0 ppm/yr
Long Term				
Power		•	•	± 1.0 dB
AIS Messages Decode		•	•	-
Tx AIS Transceiver (Class A & B)			•	-
<b>Graphic Measurements</b>				
-406 spectrum mask graphics data	•			-
-406 output power during burst graphic data	•			-
-406 phase modulation graphics data	•			-

<sup>1</sup> User must supply a stable 10MHz Reference  
<sup>2</sup> 35-39 dBm

Miscellaneous Measurements	Range	Uncertainty
Vin @ DC PWR IN	1V to 30V	± 2%
Vout @DC PWR OUT	1V to 30V	± 2%
Iout @DC PWR OUT	5mA to 8A	± 2% (>100mA)
leakage current @DC PWR OUT	200 nA to 40 µA	± 5%
Vdropout (Vin to Vout)	100 mV at 2 A	-
Aux Analog Input (Aux ADCn)	0 – 12V	± 2%
Temperature (probe 1 and probe 2)	-60°C to +75°C	± 0.5 C°

Interface Parameters		
<b>50 Ω RF Input</b>		
Connector		BNC-f
VSWR		1.20:1
Dynamic Range	406 MHz Burst	+20 dBm to +43 dBm
	121.5 MHz/243 MHz	+5 dBm to +35 dBm
	AIS	+20 dBm to +43 dBm
Absolute Maximum Input Level (Burst)		+43 dBm
Absolute Maximum Input Level (Continuous)		+35 dBm
<b>Antenna RF Input</b>		
RF Range		>5 m
406 MHz		>5 m
121.5 MHz/243 MHz		>5 m
AIS		>30 m
Connector		SMA-m (RP)
Absolute Maximum Input Level		10 dBm
<b>10 MHz Input</b>		
Connector		SMA-f
VSWR		1.20:1
Input Level Range		-10 to +10 dBm
<b>GPS ANT Input</b>		
Connector		SMA-f
Bias		+5V current limited
<b>USER I/O Connector</b>		
Connector		D-subminiature, 26 pin, HD
Functions:		
-AUX I/O		-8 I/O lines, 5V TTL Tolerant
-AUX ADC		-8 analog inputs, 0V -12 V
-RELAY1		-Relay1 NC/NO 60V 2A
-RELAY2		-Relay2 NC/NO 60V 2A
-PPS Out		-GPS 1 PPS Output
-GPS Tx		-GPS Tx
-GPS Rx		-GPS Rx
-Ground		-Ground
<b>PPS OUT</b>		
Connector		SMA-f
Level		Logic level
<b>AC Power Input</b>		
Connector		IEC 320 Appliance Input
Fuse		240V 1A
Voltage		85-264 VAC
Frequency		47-63 Hz
<b>Environmental and Mechanical</b>		
Operating Temperature Range		+10°C to +35°C
Storage Temperature Range		-20°C to +60°C
Temperature Probe type		RTD
Dimensions: w x l x h		mm (inches)
		210 (8.3) x 280 (11.1) x 64 (2.5)
Weight		2.73 kg (6.0 lbs)