

# BT200 Beacon Tester

## Technical Specification

### Revision 2.10

BT200	add ELT	add AIS (Rx)	add AIS (Rx&Tx)	add SGB
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BT200	add ELT	add AIS (Rx)	add AIS (Rx&Tx)	add SGB
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Description	BT200	add ELT	add AIS (Rx)	add AIS (Rx&Tx)	add SGB	Uncertainty
<b>406 MHz First Generation Beacon (FGB)</b>						
Measure all Cospas-Sarsat Frequency Channels	•					-
15 HEX ID and Full HEX ID	•					-
Decode Message – EPIRB & PLB	•					-
Decode Message – ELT		•				-
Frequency						
Leaving Factory	•					± 50 Hz
Long Term						± 1.0 ppm/yr
Power Output	•					± 0.25 dB*
Power Rise Time	•					± 0.5 ms
Pre-Burst Level	•					± 1 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>406 MHz Second Generation Beacon (SGB)</b>						
Decode Message SGB EPIRB & PLB					•	-
Decode Message SGB ELT (ELT & SGB Option Required)		•				-
23 HEX ID and Full HEX ID					•	-
Power Output					•	± 0.25 dB*
Power Rise/Fall Time					•	± 0.1 ms
Pre-Burst and Post-Burst Level					•	± 1.0 dB
Total Transmission Time					•	± 0.25 ms
Nominal Frequency						
Leaving Factory					•	± 50 Hz
Long Term						± 1.0 ppm/yr
Chip Rate Average					•	± 0.05 cps
Chip Rate Variation					•	± 0.05 cps <sup>2</sup>
I, Q Relative Offset					•	± 0.5 %
I, Q Peak to Peak Amplitude					•	± 0.5 %
Out-of-Band Emissions					•	± 0.1 %
Error Vector Magnitude (EVM)					•	± 1.0 %
<b>Graphic Measurements</b>						
-406 Spectrum Mask Graphics Data	•					-
-406 Output Power During Burst Graphic Data	•					-
-406 Phase Modulation Graphics Data	•					-
<b>121.5 MHz Measurements</b>						
Frequency						
Leaving Factory	•					± 60 Hz
Long Term						± 1.0 ppm/yr
Peak Power	•					± 1.0 dB
Sweep Direction	•					-
Audio Frequency – Upper and Lower	•					± 30 Hz
Audio Sweep Range	•					± 60 Hz
Modulation Index	•					± 5%
Sweep Rep Rate	•					± 0.1 Hz
Duty Cycle	•					± 2%
<b>243 MHz Measurements</b>						
Frequency						
Leaving Factory		•				± 60 Hz
Long Term						± 1.0 ppm/yr
Peak Power		•				± 1.0 dB
Sweep Direction		•				-
Audio Frequency – Upper and Lower		•				± 30 Hz
Sweep Range		•				± 60 Hz
Modulation Index		•				± 5%
Sweep Rep Rate		•				± 0.1 Hz
Duty Cycle		•				± 2%

\*Between 35-39 dBm

AIS Measurements					Uncertainty
Frequency (AIS1 & AIS2)					
Leaving Factory					± 60 Hz
Long Term					± 1.0 ppm/yr
Power					
AIS Messages Decode					± 1.0 dB
Tx AIS Transceiver (Class A & B)					-
<b>Miscellaneous Parameters</b>					
<b>RF Range (Antenna mode)</b>					
406 MHz		>5 m			
121.5 MHz/243 MHz		>1 m			
AIS		>5 m			
RF Input VSWR		1.20:1			
<b>Dynamic Range</b>					
Direct Mode	121.5 MHz	+5 dBm to +35 dBm			
	243 MHz	+5 dBm to +35 dBm			
	406 MHz	+20 dBm to +40 dBm			
	AIS	+20 dBm to +43 dBm			
Screen Box Mode	121.5 MHz	-16 dBm to +20 dBm			
	243 MHz	-17 dBm to +24 dBm			
	406 MHz	-4 dBm to +30 dBm			
	AIS	+10 dBm to +30 dBm			
Maximum Input Power (Continuous RF)					+34.8 dBm
Maximum Input Power (406, 121.5, 243)					+40 dBm, Max 1 s @ ≤ 20% Duty Cycle
Maximum Input Power (AIS)					+43 dBm, Max 27 mS @ ≤ 2% Duty Cycle
Operating Temperature Range					+5°C to +50°C
Storage Temperature Range					-20°C to +60°C
Ingress Rating					IP67
RF Input Cable Termination					BNC-female
<b>Dimensions and Weight</b>					
BT200: w x l x h mm (inches)		135 (5.31) x 70 (2.76) x 20.0 (0.79)			
Weight		222 g (0.49 lbs)			
Hard Case: w x l x h mm (inches)		363 (14.29) x 284 (11.18) x 124 (4.88)			
Weight		1.90 kg (4.2 lbs)			



Developed and manufactured in Canada

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Patent Pending