

# 12

SPECIFICATIONS	Cage Code	Sheet 1 of 14	Class	Size	DWG. NO.	Rev
	59782		B	A	01024319	A

	TRANSMIT					
1a	IF Input frequency	MHZ		52-88		Standard TC70 (-01 thru -18)
1b						
2	IF input level for rated P1 dB output	dBm		-27 nominal		TXL=0
3	IF input level for no damage	dBm		10 max		
4	Gain adjustment range	dB		25 min		system gain adjustment range
5	Gain Adjustment step size	dB		1 nominal		Typical
6	IF/RF Inversion			None		
7	RF Output frequencies, std (E)	GHz		5.850-6.425		
8						
9						
10						
11	RF Output tuning step size	MHZ		2.5		
12	Linear gain over total RF BW & rated temperature	dB		67±2 63±2 40±2		P1dB=+37 dBm, TXL=0 P1dB=+33 dBm, TXL=0 P1dB=+10 dBm, TXL=0
13	Gain variation over IF BW	dB p-p		2 max		at any fixed temperature
14	Gain slope over IF BW	dB/MHZ		0.400 max		
15	Power Output @ P1 dB@ 25 deg. C	dBm		39/37/33/10 min		
16	IMD, third order, @ total output BO ref P1 dB	dBc/dB		-33 min / @ 6 total OBO		
17	Output spurious and noise density, in band, max. <10 kHz @ P1dB	dBc		-30dBc max fundamental, -36dBc max Total		
18	Output spurious and noise density, in band, >10 kHz @ P1dB	dBm		-20 max -40 max		37/33 dBm P1dB output RFT 10 dBm P1dB output RFT
19	Output spurious and noise density, out of band	dBm/Hz		≤ -154dBm/Hz in Rx Band		
20	Second Harmonics, @ BO ref P1dB	dBc/dB		-45 max		
21	Group delay, linear and parabolic	ns				DELETE
22	Group delay ripple	ns p-p		20 max		
23	IF input return loss	dB		14 min		
24	IF input impedance	ohms		50		nominal
25	RF Output return loss	dB dB		9.6 min 14 min		2 to 8 Watt (No output isolator in RFT) 10 milliWatt
26	RF Load VSWR, max, full spec	n:1		2.0		
27	RF Load VSWR, max, no damage	n:1		Any		
28	RF Output phase noise mask, @ 10 Hz	dBc/Hz		-30 max		
29	RF Output phase noise mask, @ 100 Hz	dBc/Hz		-60 max		
30	RF Output phase noise mask, @ 1000 Hz	dBc/Hz		-70 max		
31	RF Output phase noise mask, @ 10 kHz	dBc/Hz		-80 max		
32	RF Output phase noise mask, @ 100 kHz	dBc/Hz		-90 max		
33	Frequency stability, daily			+/-5 x 10E-9		
34	Frequency stability, annual			+/-5 x 10E-7		
35	Frequency stability over temperature range			+/-5 x 10E-7		target +/-5x10E-8, Remec to advise cut-in
36	Transmit output level, muted	dBm		-20 max -40 max		39/37/33 dBm P1dB output RFT 10 dBm P1dB output RFT

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	RECEIVE				
37	Low Noise Receiver type		LNC		
38	Noise Temp	deg K (dB)	65 (0.9)		
39	Noise Temp	deg K (dB)	45 (0.63)	Option	
40	Rx synthesizer		common w/Tx		
41a	IF output frequency	MHZ	52-88	Standard TC70	
41b	IF output frequency	MHZ	122-158	Special Option TC14	
42	RF/IF nominal gain incl LNC over total RF output BW	min / max dB	90 / 95	@ 25° C at RXL≤5 at center frequency	
43	IF output level range (gain) adjust, min	dB	25 min		
44	Gain Adjustment step size	dB	1 nominal		
45	RF/IF Inversion		None		
46	R F Input frequencies, std (E)	GHz	3.625-4.200		
47	R F Input frequencies, Russian option	GHz	3.650-4.150	not available	
48	R F Input frequencies, Insat option (I)	GHz	4.5-4.8		
49	R F Input frequencies, Palapa option (P)	GHz	3.4-3.7		
50	RF Output tuning step size	MHz	2.5		
51	Gain variation over total RF output BW	dB p-p	5 max		
52	Gain variation over IF BW	dB p-p	3 max		
53	Gain variation vs rated temperature	dB p-p	8 max		
54	Gain slope over IF BW	dB/MHZ	0.400 max		
55	RF power input , full spec	dBm		DELETE	
56	RF power input, no damage	dBm	10		
57	RF power input, 0.1 dB compression	dBm/dBm		DELETE	
58	IMD, third order, @ specified total input level	dBc/dBm	-20 max / -86	RXL set for total output power of +5 dBm	
59	Output noise power density, in band	dBm/Hz	-70 max		
60	LO Leakage, 3 KHz BW, no input	dBm	-40 max		
61	IF leakage, Tx to Rx IF	dBm	-60 max		
62	Image rejection	dB	60 min		
63	Group delay, linear and parabolic	ns		DELETE	
64	Group delay ripple	ns p-p	20 max		
65	IF output return loss	dB	14 min		
66	IF output impedance	ohms	50	nominal	
67	IF Output VSWR	n:1		DELETE	
68	RF Output phase noise mask, @ 10 Hz	dBc/Hz	-30 max		
69	RF Output phase noise mask, @ 100 Hz	dBc/Hz	-60 max		
70	RF Output phase noise mask, @ 1000 Hz	dBc/Hz	-70 max		
71	RF Output phase noise mask, @ 10 kHz	dBc/Hz	80 max		
72	RF Output phase noise mask, @ 100 kHz	dBc/Hz	-90 max		
73	Frequency stability, daily		same as Tx		
74	Frequency stability, annual		same as Tx		
75	Frequency stability over temperature range		same as Tx		

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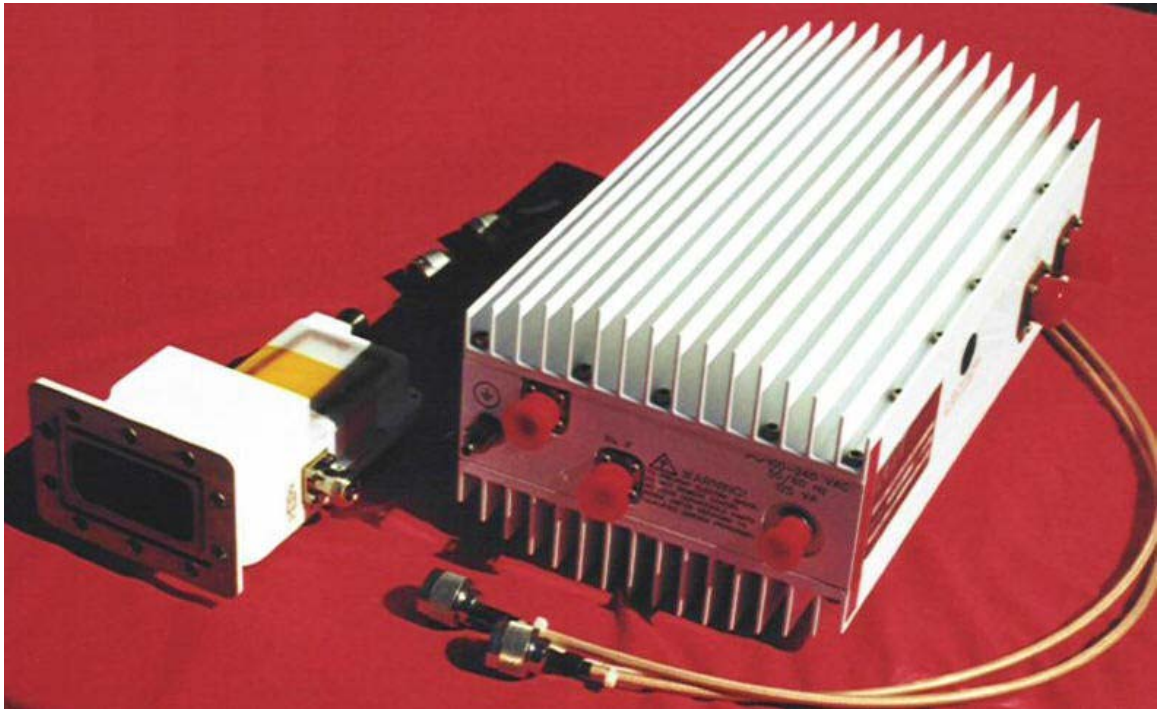
76	Spurious response, in-band	dBm/kHz	-25 max / 10	RF input is -86 dBm; Rx gain is 90 dB
	RFT SYSTEM			
77	Prime power voltage	Volts	90 - 260 AC	Remec to solve Pwr. Supply prob. for 85VAC
78	Prime power frequency	Hz	47-63	
79				
80	Prime power consumption, max +39 dBm RF output RFT +33 dBm RF output RFT +10dBm RF output RFT	Watts Watts Watts	100 max 75 max 45 max	
81				DELETE
82	Size per ODU	in	See Fig 1, 2, &3	
83	Weight	lbs.	20 max	
84	Cooling ODU		conv	
85	RF Input connector (LNC)		CPR-229	
86	RF Output connector		Type N-F	
87	IF connectors		Type N-F	
88	External 10 MHz reference level, Reference only	dBm	102 ref. only	Remec to solve Ext. Ref prob. for phase Noise and spurious
89	M&C Interfaces		RS-232/422/485	per Remec ICD W 60077
	ENVIRONMENTAL			
90	Temperature, operating full spec	deg C	-40 to +60	
91	Temperature, operating survival	deg C	-50 to +80	
92	Humidity, operating full spec	%	100	
93	Rain	mm/hr	51 max	
94	Snow	mm/hr	50 max	
95	Salt fog		Mil 810/509.2	
96	Altitude operating full spec	feet	15000 max	
97	Altitude, survival	feet	50000 max	
98	Solar radiation, operating full spec	Btu/hr/sq ft	360@ 50 deg C	
99	Vibration operational full spec	g2/Hz random	0.0002, 5 - 350 Hz +3dB/octave 350-500 Hz 0.00074, 500 Hz	
100	Vibration survival	g2/Hz random	2.41g-rms/1 pk	
101	Shock operational full spec	pk g	TBD	Remec to test and advise acceptable limits
102	Shock survival, unpackaged	pk g	40	
103	Safety/emissions		ETS 300159	
104	ESD operational no degradation	kV	10	
105	ESD survival all surfaces	kV	15	

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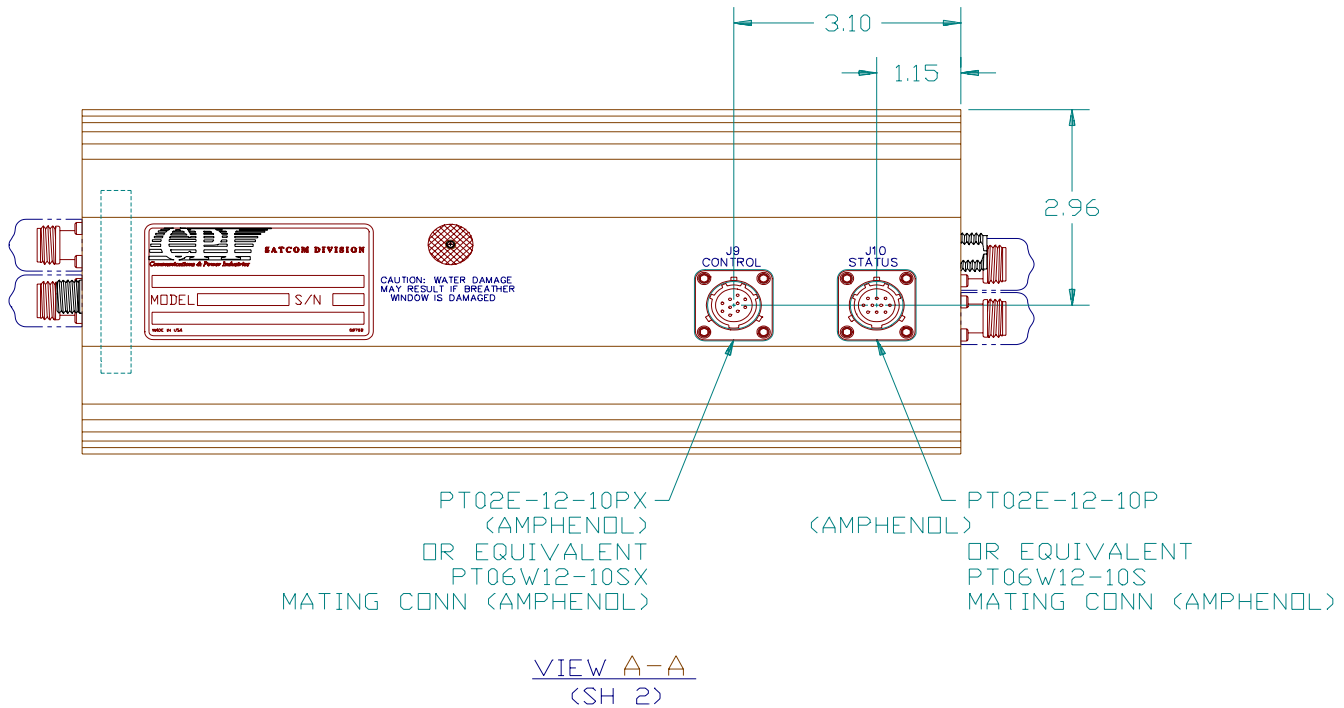
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PART NO:  
DW30163 REV. B



NOTES: UNLESS OTHERWISE SPECIFIED

- HOUSING MATERIAL:  
ALUMINUM ALLOY 6061-T6
- WEIGHT:  
APPROX 18 LBS
- FINISH:  
POWDER COAT OVER CHEM FILM  
COLOR: CARDINAL WHITE
- CONNECTORS:  
ALL CONNECTORS ARE N-TYPE  
EXCEPT AS SHOWN

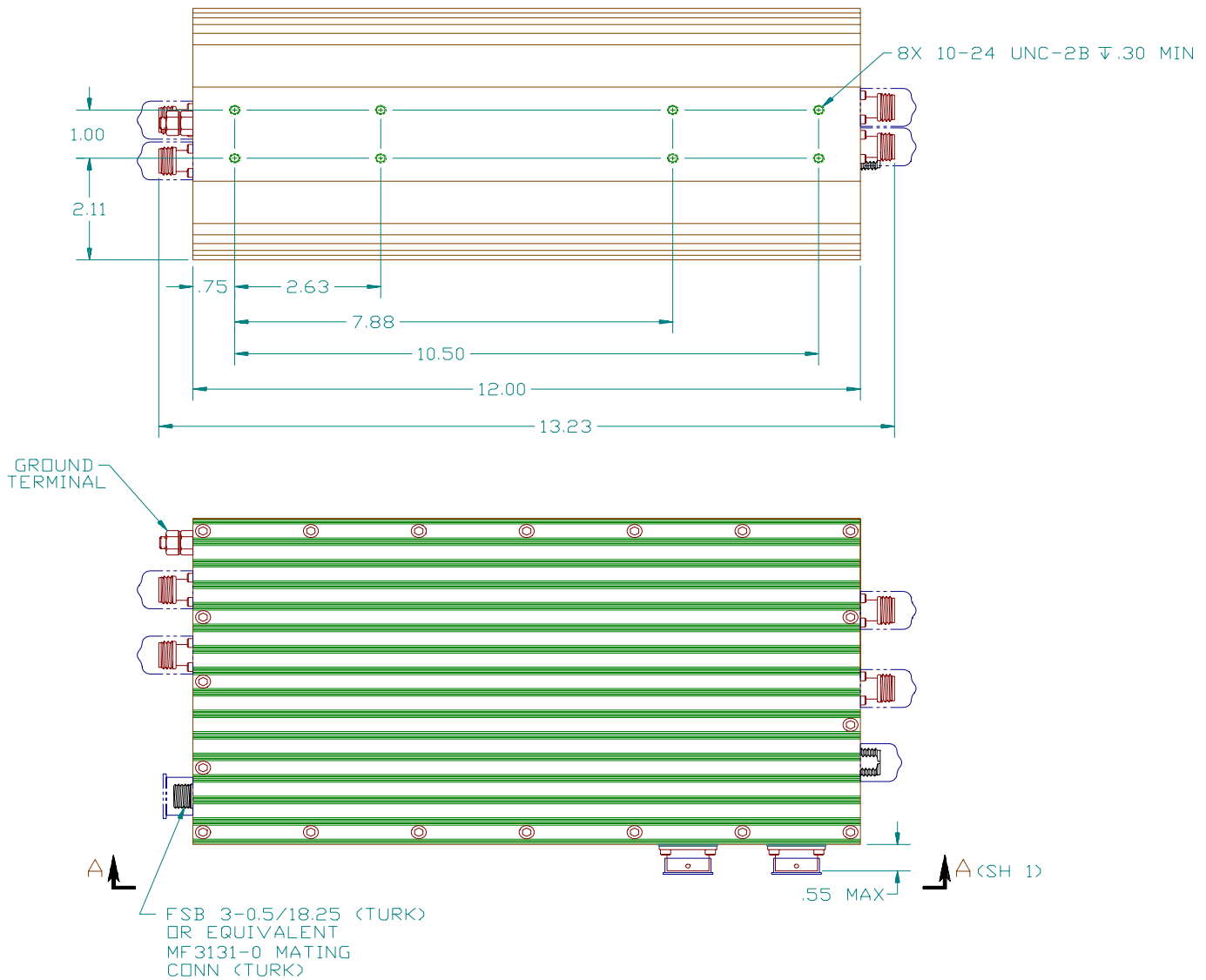
Figure 1

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DRAWING NO	DW30163	REV	B
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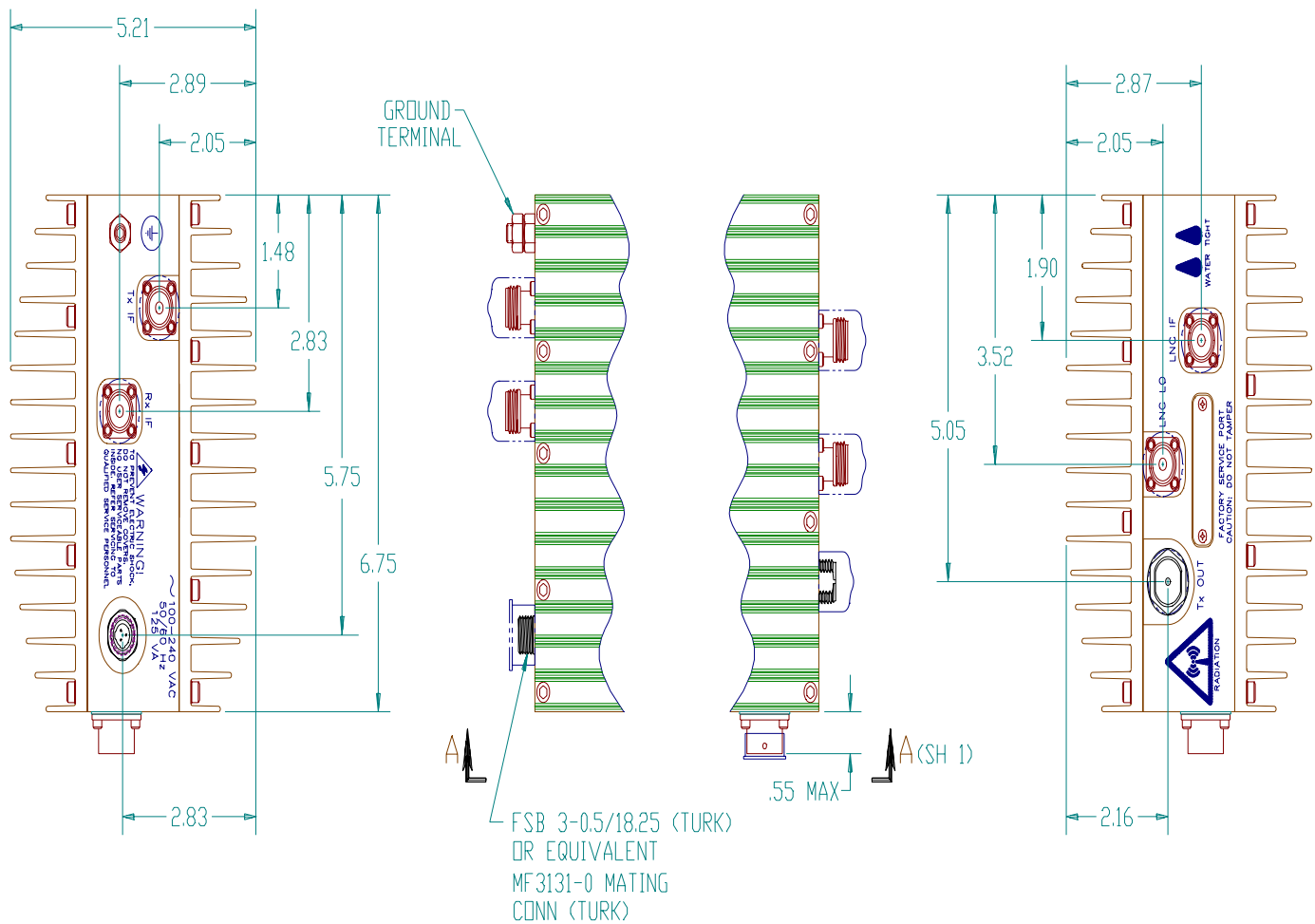
Figure 2

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DRAWING NO	DW30163	REV	B
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Figure 3

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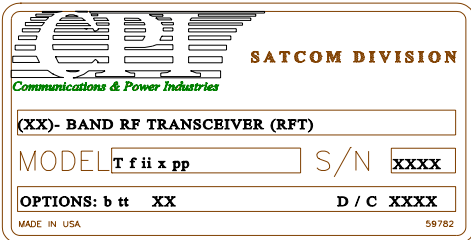


Figure 4

REFERENCE (Para. 6 )

TYPE LABEL WITH APPROPRIATE INFORMATION FOR PRODUCT AS FOLLOWS:

(XX) -BAND: (XX) = C, X, Ku, Ka

MODEL: =REQUIRED Number Code FOR Space Locations 1-7 per CPI Dwg 01022441

S/N: XXXX = SUPPLIER CONTROLLED SERIAL NUMBER

OPTIONS: = REQUIRED Number Code FOR Space Locations 8-10, FOLLOWED BY XX = SPECIAL OPTIONS Number Code 03 per Dwg 01022441.  
D/C: XXXX = SUPPLIER CONTROLLED DATE CODE

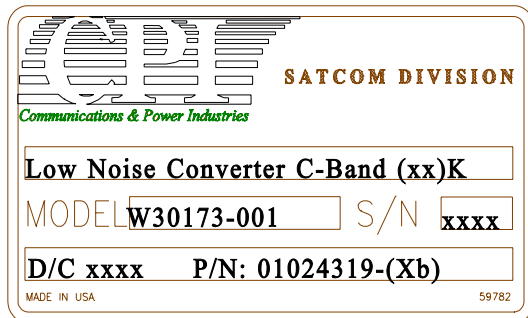


Figure 5

REFERENCE (Para. 6 )

TYPE LABEL WITH APPROPRIATE INFORMATION FOR PRODUCT AS FOLLOWS:

C-Band (xx)K: (xx) = 45 or 65 deg K Noise Temp

MODEL: = AS SHOWN IN PARA. 10

S/N: XXXX = SUPPLIER CONTROLLED SERIAL NUMBER

D/C: XXXX = SUPPLIER CONTROLLED DATE CODE

P/N: (-Xb): X= Noise Temp, 4 = 45deg, 6 = 65deg  
b = Rx Freq Number Code for Space Location 8 per CPI Dwg 01022441

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NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: 6061-T6 ALUMINUM ALLOY
2. FINISH: POWDER COAT CARDINAL T009-WH11 POLYESTER TGIC FULL GLOSS WHITE

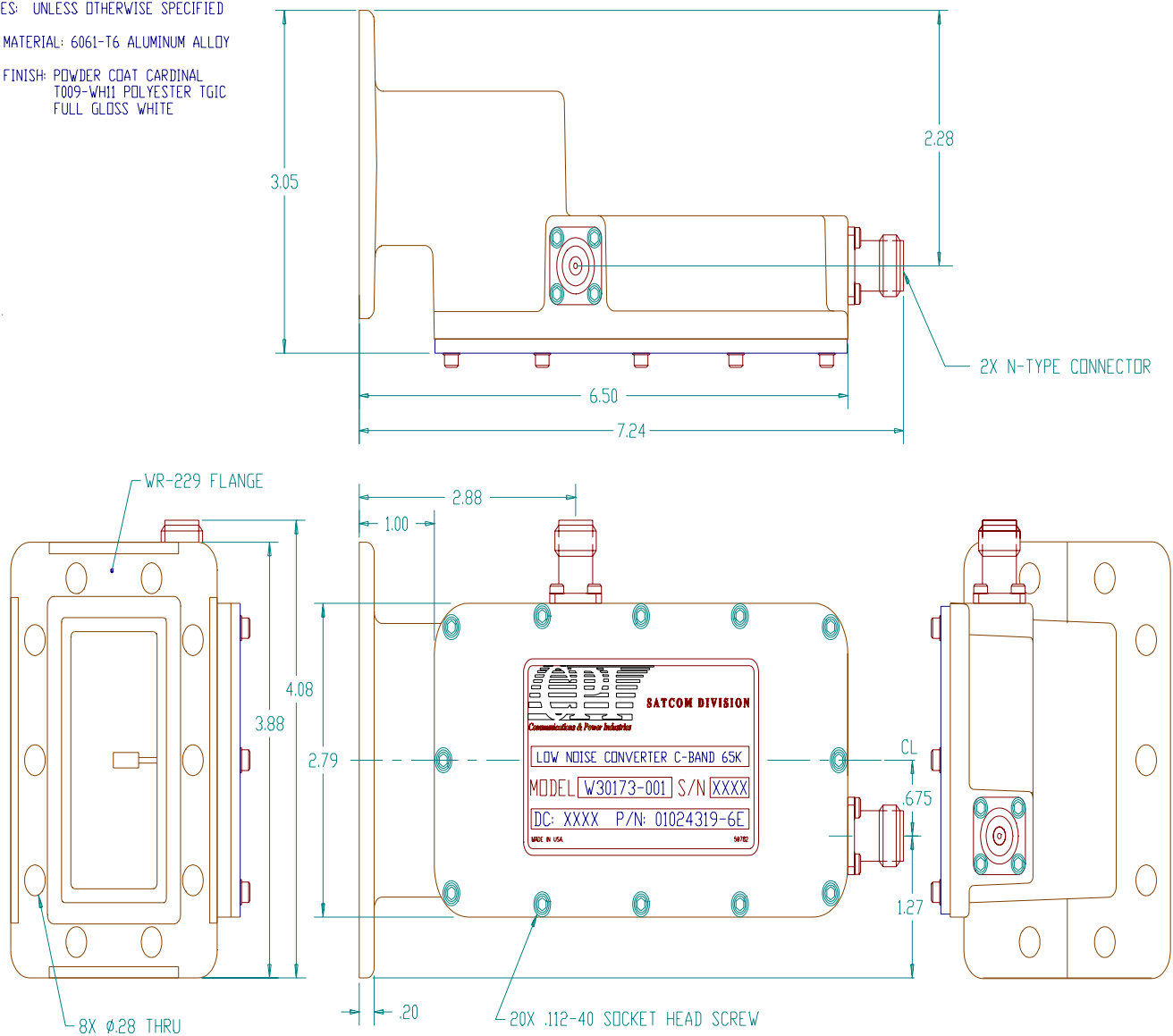


Figure 6

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