General Specification
for
RCA4450H46D0

Revision history

Revision Code	Author	Date	Engineering Change Order
A	Charlie CHO	3.Jun.2019	- Draft
B	Charlie CHO	13.Jun.2019	- Change weight & dimension, add a requirement for Rain
C	Charlie CHO	2.Sep.2019	- Add a mechanical drawing

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ELECTRICAL SPECIFICATIONS	**@ 50 Ohms load, 28 Vdc, Tc ≒ 35 ℃**	
Parameter	**Specification**	**Remark**
Frequency Range	4400 ~ 4950 MHz	
Saturated Output Power	40 W min.	@ CW, 50 ohms load
Small Signal Gain	47 dB min.	Pin = - 15 dBm CW, 50 ohms load
Large Signal Gain	44 dB min.	Pin = 0 dBm CW, 50 ohms load
Small Signal Gain Flatness	Peak to Peak 4 dB	Pin = - 15 dBm CW, 50 ohms load
Large Signal Gain Flatness	Peak to Peak 3 dB	Pin = 0 dBm CW, 50 ohms load
Spurious	Less than - 60 dBc	Non-Harmonics in band
Maximum Input Power for no damage	Short term : 8 dBm (20msec) Long term : 5 dBm	@ CW, 50 ohms load
Input VSWR	Less than 1.5 : 1	
Output VSWR	Less than 2.0 : 1	Built in Isolator
Maximum load VSWR for amplifier survival	Infinite, all phase	
Enable/Disable Switching Time	10 us max.	
DC Input Voltage	28 ± 1 Vdc	
Shutdown Current (Isd)	0.35 A max	@ PA disabled, RF OFF
Quesiscent Current (Idq)	1.4 A max.	@ PA enabled, RF OFF
Current Consumption (Idd)	3.8 A typ. 4.5 A max.	@ Pout = 20W CW, 50 ohms load
Current Consumption (Idd)	6 A typ. 7 A max.	@ Pout = 40W CW, 50 ohms load
RF Input Signal Format	CW	

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Interface Pin Description

Connector	Description	Specification
I/O Interface (D-Sub 9Pin Male)	1. Enable(Active Low)	Internally pulled-up @ 5V with 10KΩ Does not exceed 25mA Enable : TTL Low or GND Disable : TTL High(3.3-5V) or OPEN
	2. Forward Power Monitor	Logarithmic Detector(≒0.05V/dB)
	3. N.C	
	4. Reflected Power Monitor	Logarithmic Detector(≒0.05V/dB)
	5. Temperature Monitor	VT= 10(mV) * Tc(℃) + 500(mV), Tc = Case Temperature± 5℃
	6. Vcc	
	7. Vcc	
	8. GND	
	9. GND	

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ENVIRONMENTAL SPECIFICATIONS

Designed to meet MIL-STD 810G & MIL-STD 461E

Parameter	Specification	Remark
Operating Case Temperature	-40 ~ +85 ℃	At a hottest point of the mechanical case of amplifier module
Storage Temperature	-40 ~ +85 ℃	
Altitude	MIL-STD-810G, Method 500.5 , Procedure I Storage Air Transfer (37,000 ft) , Procedure II Operation (30,000 ft)	2 hours continuous pressurisation + min. 2 hours test
Humidity	MIL-STD-810G, Method 507.5 RH%95 ±%4, 60°C ±3°C max. temp. 30°C ±3°C initial temp.	24 hours x min. 10 cycles
Vibration	MIL-STD-810G Method 514.6 Cat 13 Propeller aircraft Procedure I-General Vibration, Procedure II-Handling,	1 hour test at each axis.
Shock	MIL-STD-810G Method 516.6 Procedure I-Functional Shock Table 516.5-I [40g (20g Shock mounted), 11ms, Saw Tooth], Procedure II- Materiel to be Packaged Procedure IV- Transit Drop	
Rain	MIL-STD-810G Method 506.5 Procedure III-Drip Test	
EMC/EMI	MIL-STD 461E RE102, CE102	

MECHANICAL SPECIFICATIONS

Parameter	Specification	Remark
Dimension	155 * 120 * 28 mm	w/o connectors
Weight	Less than 1150 g	
RF Input Connector	SMA Female	
RF Output Connector	SMA Female	
I/O Interface Connector	Filtered D-Sub 9Pin Male	Capacitor Value : 4700 pF
Cooling	Adequate Heat-sink required	

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2019/9/2	2020/3/9		C	RFcore co.,Ltd
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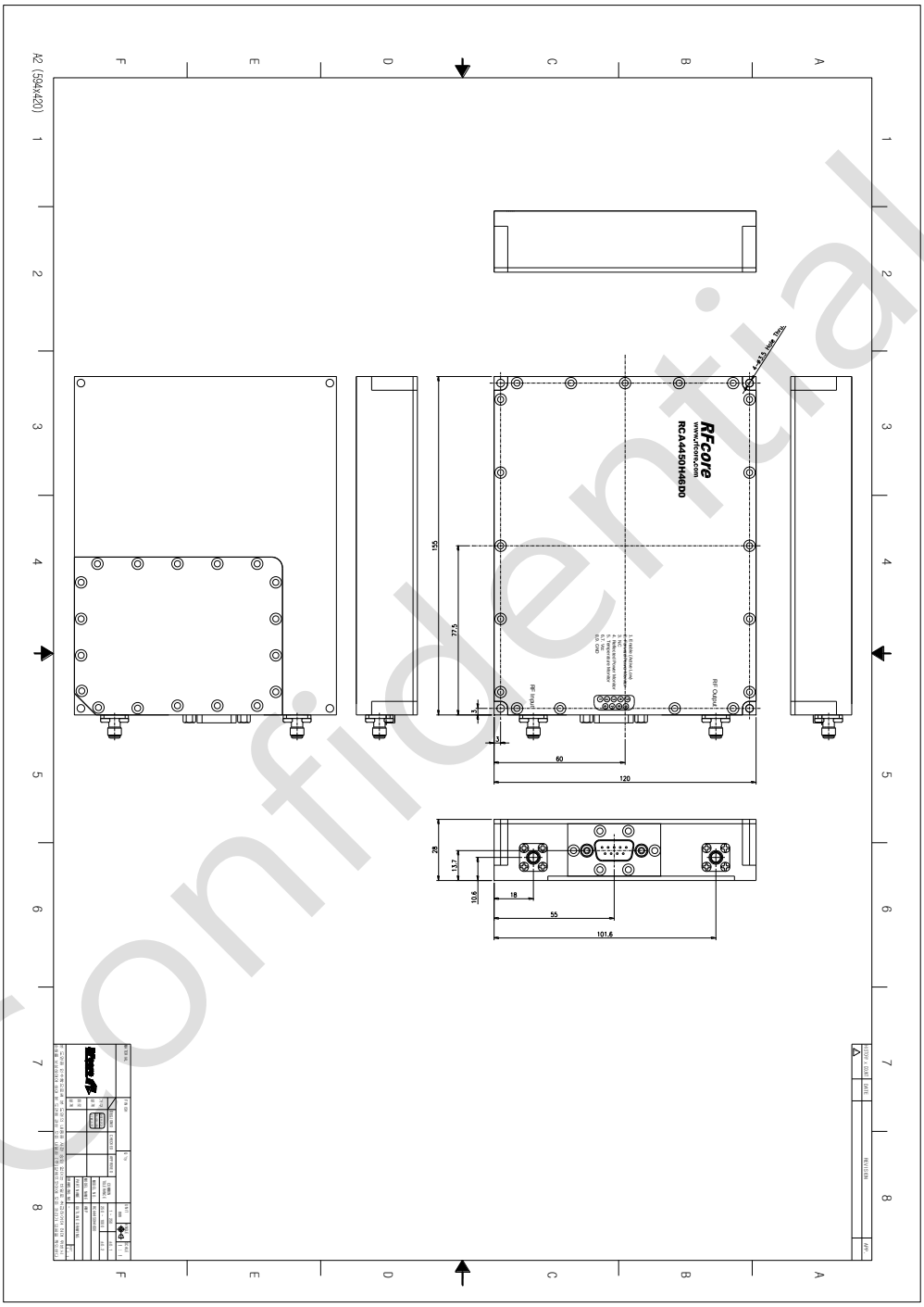
MECHANICAL DRAWING



DRAWING REFERNECE: This is subject to change without notice.

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