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Specification

1. Item

Product	850~870MHz 5W Solidstate Amplifier
Partnumber	ESM-0850-46-45

2. Revision History

Issued / Revision	R&D Approved	Revision Detail

Design	R & D	Approval
		
CYKIM		

Specification

850~870MHz 5W Solidstate Amplifier

Customer:	Date:	Part No.: ESM-0850-46-45

General Specification

No.	Parameter	Specification	Unit
1	Operating Frequency Range	850~870MHz	-
2	Output Power CW	40W min.	-
3	Output Power @ 1 dB Gain Compression Point	25W min.	-
4	Output Power CDMA	5W min.	-
5	Small Signal Gain	44~48dB	-
6	Gain Flatness (ALC On)	±0.5dB	-
7	Third Order Intercept Point 2~Tones, POUT = 5 W Avg., = 500 KHz	+58dBm min. / +59dBm typ.	-
8	Input/Output Return Loss	-14dB	-
9	Noise Figure	7dB typ. / 10dB max.	-
10	Harmonics @ P1 dB Gain Compression Point	-45dBc	-
11	Spurious Signals	-70dBc typ. / -60dBc max.	-
12	Operating Voltage	26~30V	-
13	Supply Current @ POUT = 25 W CW	3.0A typ.	-
14	Supply Current @ POUT = 5 W with 2-tones	2.0A typ. / 2.5A max.	-

Mechanical Specification

No.	Parameter	Specification	Unit
1	Dimensions	127*95.25*25.4	-
2	Weight	1.0	-
3	RF Connectors In/Out	SMA female	-
4	DC Connectors	Dsub, 9 Pins, Male	-
5	Cooling	External Heatsink	-
6	Operating Case Temperature	-20~+75℃	-
7	Storage Temperature	-40~+85℃	-
8	Relative humidity	0~95%	(non-condensing)
9	Altitude (MIL-STD-810F Method 500.4)	30,000Feet typ.	-
10	Shock / Vibration (MIL-STD-810F Method 516.5)	Airborne typ.	-
11	Input Overdrive	+6dBm max.	-
12	Over Power Shutdown	45dBm min.	-
13	Load VSWR @ 25W output power	∞ @ all load phase & amplitude	-
14	Thermal Overload	85℃ shutdown	-

Interface Connector D-sub 9Pin

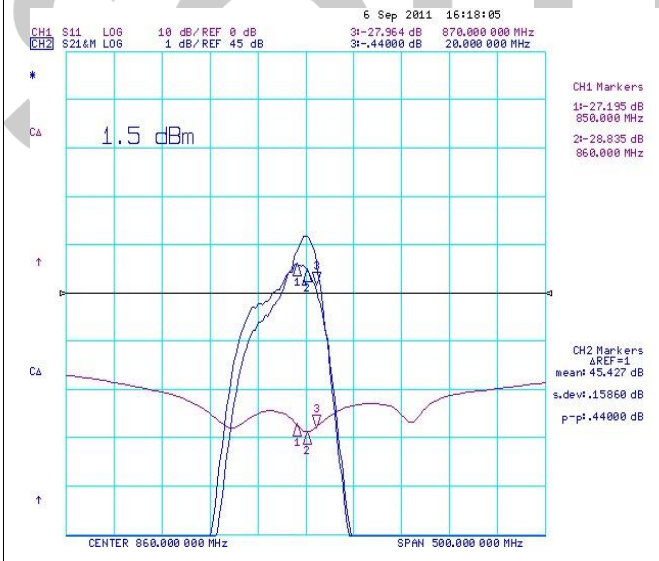
Pin No.	Description	Specifications
1	Forward Power Monitor	Continuous Analog voltage relative to forward power via RMS detector FWDM: 20 ~ 40 dBm @ 0 ~ 5 V (100 mV/dB) 30dBm output = VFWD = 2.5 VDC
2	Reverse Power Monitor	Continuous Analog voltage relative to reflected power via RMS detector REVM: 17 ~ 37 dBm @ 0 - 5V (100 mV/dB) 30dBm output = VREV = 2.5 VDC
3	ALC ON/OFF	ALC ON = TTL “Low” ALC OFF = TTL “High”
4	ALC Level	Continuous adjustable range via analog input levels Setting Point (ASP): 30 ~ 40 dBm @ 0 ~ 5 V (100 mV/dB) Error Range (AER): ±1.5 dB Response Time (ART): 100 mS/dB
5	Mute	Amplifier Enable: TTL “Low” or Open Amplifier Disable: TTL “High”
6	+VDD	+28 ±2 VDC
7	+VDD	+28 ±2 VDC
8	GND	Ground
9	GND	Ground
LED	LED Indicator	Output Power level indicator referenced to ALC setting (Independent of ALC ON or OFF)

TYPICAL PERFORMANCE PLOTS

Plots 1 - Small Signal and P1dB Gain

Top Curve: Small Signal Gain @ PIN = -20dBm

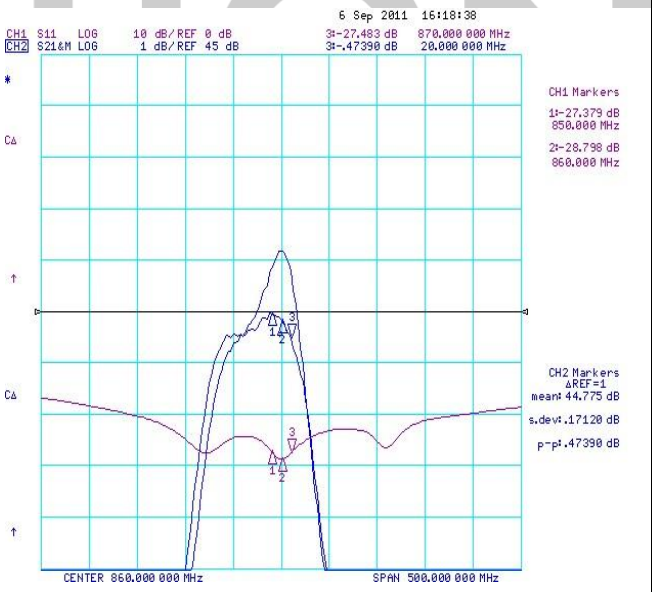
Middle Curve: Power Gain @ P1dB, PIN = +1.5dBm



Plot 2 - Small Signal and PSAT

Top Curve: Small Signal Gain @ PIN = -20dBm

Middle Curve: PSAT @ PIN = +3.5dBm



Plot 3 - ALC Flatness @ 10W & 2W

Top Curve: ALC @ 40dBm, PIN = 0dBm

Bottom Curve: ALC @ 33dBm, PIN = 0dBm