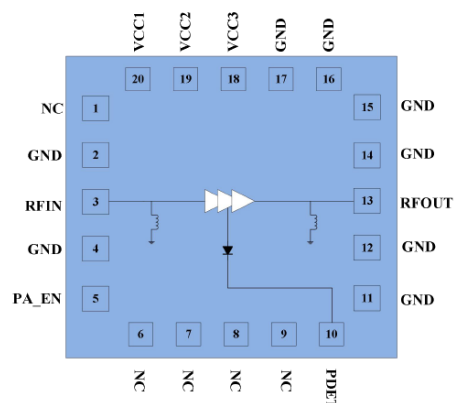


Features

- Fully Matched Input and Output
- 5V Single Supply Voltage
- Psat: 32 dBm (Typical)
- Gain: 30dB
- Integrated DC Power Detector(Voltage Output)
- 20-pin QFN 4.0mm x 4.0mm x 0.90mm, MSL3
- RoHS Compliant & Halogen Free



Functional Block Diagram

Applications

- WLAN-Enabled Wireless Video Systems
- Tablets, Notebooks
- Wireless Routers, Access Points, Wireless Gateways
- Mobile Devices, Customer Premise Equipment(CPE)
- 802.11ax PC Cards; PCMCIA Cards; Mini-Cards and Half Mini-Cards

Ordering Information

- AC5338 5GHz to 6.5GHz Power Amplifier, MOQ=100pcs

PINNING INFORMATION

Table 1: Pin Description

PIN	NAME	DESCRIPTION	SIMPLIFIED OUTLINE
1/6/7/8/9	NC	Non Connected	
2/4/11/12/14/15/ 16/17	GND	Ground	
3	RFIN	RF Input	
5	PA_EN	Power Amplifier Enable	
10	PDET	Power Detector	

		(Output Voltage)	
13	RFOUT	RF Output	
18	VCC3	Supply Voltage	
19	VCC2	Supply Voltage	
20	VCC1	Supply Voltage	

Figure 3: Pinout (X-ray Top View)

Absolute Minimum and Maximum Ratings

Table 2: Absolute Minimum and Maximum Ratings

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V _{CC1} ,V _{CC2} ,V _{CC3}	Supply Voltage	-0.3	+5.5	V
V _{IN}	DC input on control pins (PA EN)	-0.3	+3.6	V
R _{FIN}	RF input power(ANT 50 Ω load),CW		+10	dBm
T _{ST}	Storage Temperature	-40	+150	°C
T _J	Junction Temperature		+170	°C

Exceeding any one or a combination of the Absolute Maximum Rating Conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may adversely affect reliability.

Recommended Operating Conditions

Table 3: Recommended Operating Conditions

SYMBOL	PARAMETER	MIN.	TYP.	MAX.	UNIT
V _{CC1} ,V _{CC2} ,V _{CC3}	Supply voltage	3.1	5.0	5.25	V
Control Logic:	High	1.4		3.6	V
	Low	0		0.4	
T _{OP}	Operating temperature	-40	+25	+85	°C

Electrical specifications for the device are measured at specified conditions. Parametric performance is not guaranteed over all recommended operating conditions.

Notes:

(1) RF Output Power is used during production test.

(2) Case Temperature references the board temperature at the ground paddle on the backside of the package.

Logic

Table 5: Truth Table

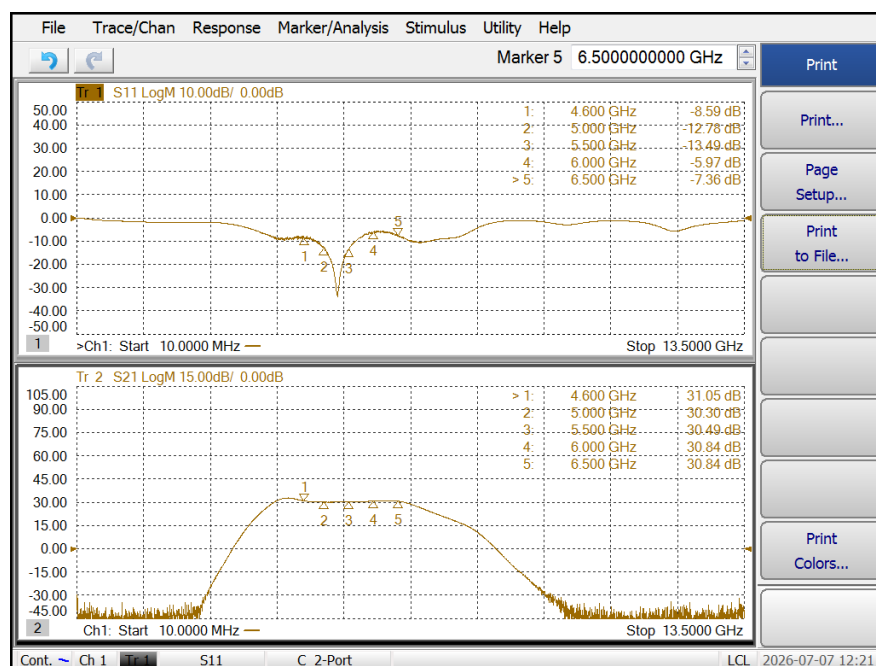
Mode	PA_EN
Transmit	1
All Off	0

Electrical Specifications

Table 4: Electrical Specifications

(T = +25°C, V_{CC1} = V_{CC2} = V_{CC3} = +5V, All Unused Ports Terminated with 50 Ω Unless Otherwise Noted)

PARAMETER	Condition	MIN.	TYP.	MAX.	UNIT
Frequency		5000		6500	MHz
Gain			30		dB
Quiescent Current	RF OFF		320		mA
Input Return Loss			10		dB
Output Return Loss			10		dB
Psat		30	32		dBm
Power Detector Output	RF OFF		0.14		V
	@+16 dBm		0.35		V
	@+23 dBm		0.70		V
	@+27 dBm		1.05		V
	@+30 dBm		1.6		V



Freq(MHz)	Psat(dBm)	Psat(W)
4800	30.6	1.15
4900	30.8	1.20
5000	30.8	1.20
5100	30.82	1.21
5200	31.09	1.29
5300	31.4	1.38
5400	31.7	1.48
5500	31.97	1.57
5600	32.12	1.63
5700	32.18	1.65
5800	32.4	1.74
5900	32.2	1.66
6000	32.56	1.80
6100	32.3	1.70
6200	32.32	1.71
6300	32.35	1.72
6400	32.1	1.62
6500	32.3	1.70

APPLICATION INFORMATION

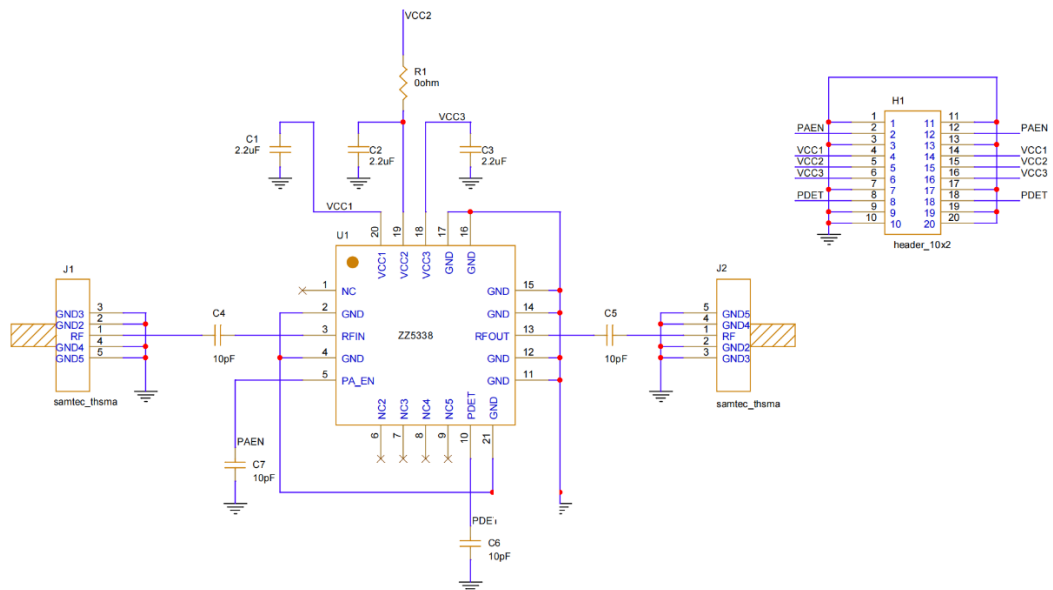
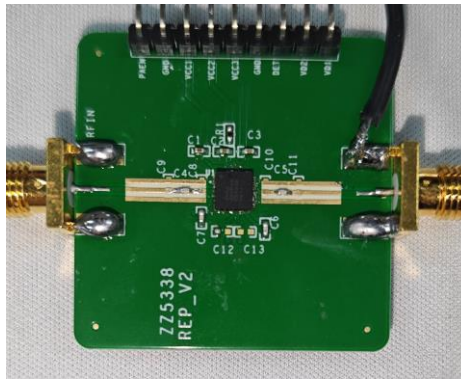


Figure 4: Application Circuit Schematic



PACKAGE OUTLINE

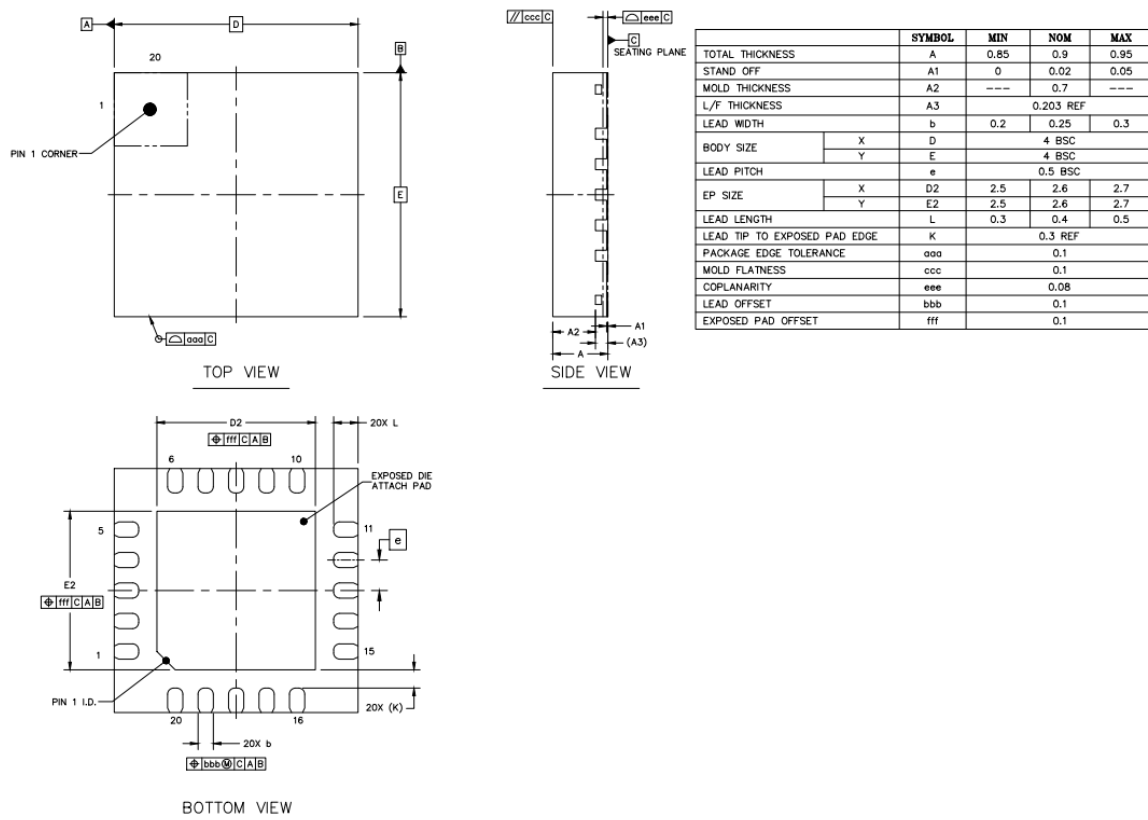


Figure 5: Package Outline

ESD PRECAUTIONS & MSL RATING

Table 6: Handling Precautions

PARAMETER	RATING	STANDARD
ESD – Human Body Model (HBM)	Class 1B	ESDA / JEDEC JS-001-2017
ESD – Charged Device Model (CDM)	Class C1	ESDA / JEDEC JS-002-2018
MSL – Moisture Sensitivity Level	Level 3	IPC/JEDEC J-STD-020



SOLDERABILITY

Compatible with both Lead-free (260°C Max. reflow temperature) and Tin/Lead (245°C Max. reflow temperature) soldering processes.

Package lead plating: Matte Tin over Copper

RoHS COMPLIANCE

This device is compliant with the 2011/65/EU RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment), as amended by Directive 2015/863/EU.