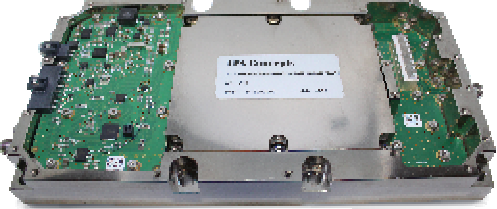
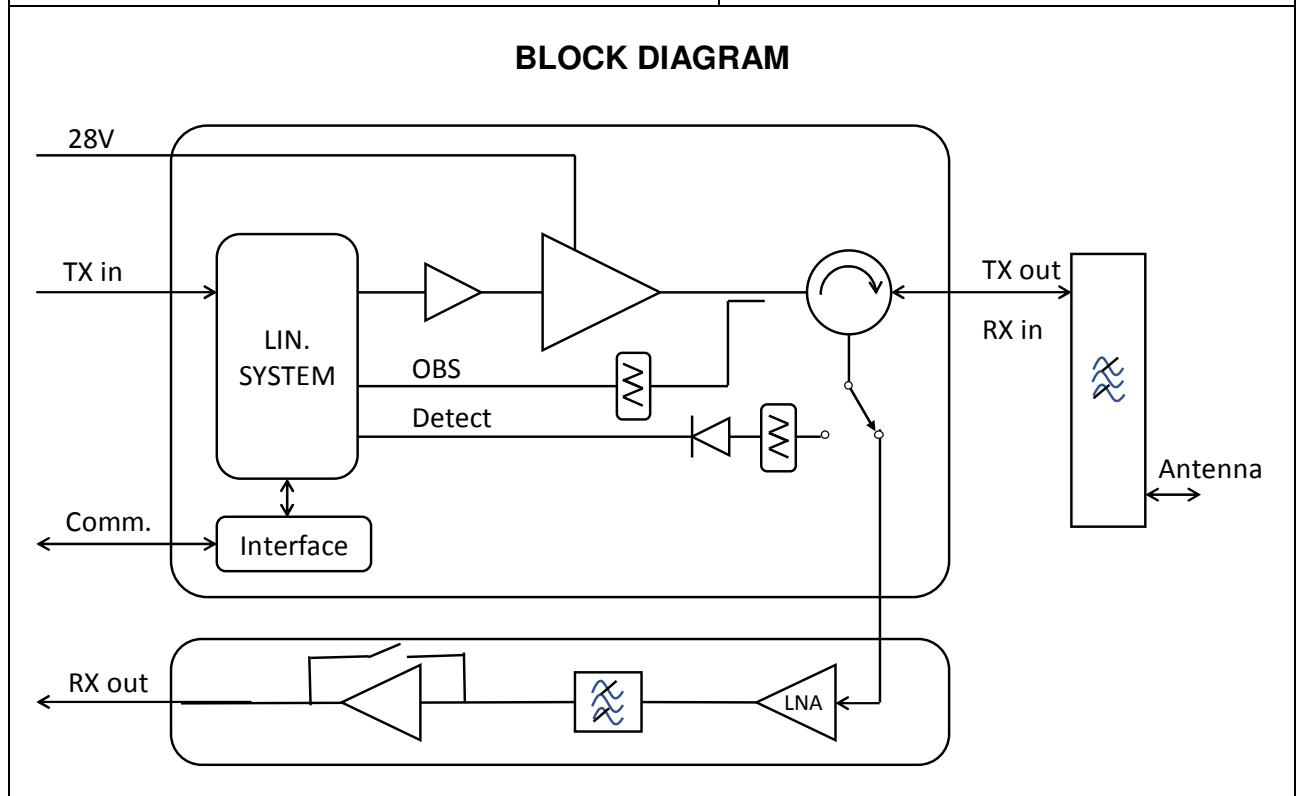


<b>5W BAND 42 TDD RF HEAD</b>	<b>LPA-AH3-05DO-3400M-3600M-T0-00</b>
<b>P1810</b>	
<b>FEATURES</b> <ul style="list-style-type: none"> <li>◆ 3400-3600MHz; 40W Tx PEAK POWER</li> <li>◆ 60MHz INSTANTANEOUS Tx BANDWIDTH</li> <li>◆ INTEGRATED OUTPUT FILTER</li> <li>◆ Rx NF=3.0dB 3400-3600MHz</li> <li>◆ Rx SENSITIVITY &lt; -101.8dBm TO MEET 3GPP MED. RANGE SPECIFICATIONS</li> <li>◆ SINGLE +28V POWER SUPPLY</li> <li>◆ Tx MODE : 0.4A IDLE; 1.0A AT 5W OUT</li> <li>◆ Rx MODE : 0.3A</li> <li>◆ UART MONITORING &amp; CONTROL</li> <li>◆ RoHS COMPLIANT</li> </ul>	<p style="text-align: center;"><b>PACKAGE</b></p>  <p style="text-align: center;"><b>APPLICATIONS</b></p> <ul style="list-style-type: none"> <li>◆ DAS RF HEADS</li> </ul>



Specifications and information are subject to change without notice

## TX Electrical characteristics: 50 ohms; +28V; -25 °C to +85 °C (1)

Ref	parameter	conditions	note	min	typ	max	units
1	Bandwidth		2	3400		3600	MHz
2	Instantaneous bandwidth			5		60	MHz
3	Gain small signal	3500MHz			40.0		dB
4	Gain variation vs frequency	3400-3600MHz	2		1.0	1.5	dBpp
5	Gain variation vs temperature	3500MHz, 0°C à +85°C			1		dB
6	Input return loss	50 ohms				-16	dB
7	Output return loss	50 ohms				-16	dB
8	Peak power	Output Signal PAR = 7dB @ 0.01% Probability on CCDF	3		50		Wp
9	Peak Power variation vs frequency	Output Signal PAR = 7dB @ 0.01% Probability on CCDF	3		5		W
10	ACLR 1 for single carrier LTE	5W Average Output Power	3			-50	dBc
	ACLR 2 for single carrier LTE	Signal Bandwidth 5, 10, 20MHz				-55	dBc
11	ACLR1 3c LTE20	5W Average Output Power	3		-48	-45	dBc
	ACLR2 3c LTE20				-50	-50	dBc
12	Max power 1 carrier LTE	Spectrum Emission Mask	3		6		W
13	Harmonic suppression	CW 5W	2		-65		dBc
14	Tx Noise figure				14	16	dB
15	Voltage supply			27	28	29	V
16	Consumption idle (during Tx)	+28V			0.4		A
17	Consumption at 5W Tx	+28V; 1c-LTE 20MHz PAPR=9dB			1.0		A
18	Linearization system convergence time	5W Average Output Power Signal Bandwidth 5, 10, 20MHz	3, 4			20	s

## RX Electrical characteristics: 50 ohms; +28V; -25 °C to +85 °C (1)

Ref	parameter	conditions	note	min	typ	max	units
1	Bandwidth		2	3400		3600	MHz
2	Gain small signal	3500MHz (bypass=0)			30.0		dB
3	Gain small signal	3500MHz (bypass=1)			10.0		dB
4	Gain flatness	3400-3600MHz	5		1.0	2.0	dBpp
5	Gain variation vs temperature	3500MHz, 0°C à +85°C		-2	0	+2	dB
6	Input return loss	50 ohms				-16	dB
7	Output return loss	50 ohms				-16	dB
8	Noise figure	2600MHz, bypass=0			3.0	3.5	dB
9	Inband IIP3	2600MHz, bypass=0			+5		dBm
10	Inband IIP3	2600MHz, bypass=1			+15		dBm
11	Reference sensitivity power level		6,7		-109.4		dBm
12	Consumption during Rx	+28V			0.3		A

1. unless otherwise specified
2. -10°C to +85°C (temperature sensor indication)
3. LTE E-TM1.1 input Signal PAR = 9dB @ 0.01% Probability on CCDF
4. Time for ACLR1<-45dBc and ACLR2<-50dBc
5. Full gain or bypass gain
6. Reference sensitivity level is measured as defined in 3GPP 36.104 §7.2 using signal in Annexe A.1
7. Throughput is measured and averaged using 100 consecutive frames

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## Tx-Rx control

Ref	Parameter	Conditions	Note	min	nom	max	units
1	TxRx level for Tx		11	1.5		3.3	V
2	TxRx level for Rx		11	0V		0.2	V
3	Tx to Rx switching time	Complete cycle			3		µs
4	Rx to Tx switching time	Complete cycle			5		µs

8. TxRx pulled up (Tx state) internally

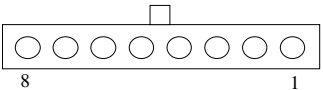
## Maximum ratings & Protections

Ref	characteristic	description	remarks
1	Output mismatch	∞:1 at 10W output	Infinite duration, no shutdown
2	Overvoltage	Shut down if supply>32V	Transients<40V
3	Overcurrent	Shut down if current> 2 A	Output power > +40dBm CW
4	Temperature	Shut down if temp>95°C	Auto recovery (at 85°C)


## Monitoring & control

Ref	characteristic	description	remarks
1	µC	PIC18F25K40	
2	Serial bus	µC UART	Synchronous, 8 bits, 9600bds, 5V CMOS
3	Rx bypass	Through serial bus	
4	Detected output power	Analog output (Pdetect) on DC connector	TBD V at 5W CW output
5	Temperature	Through serial bus	-40°C to +100°C
6	Output power	Through serial bus	+30dBm to +40dBm +/-1 dBm +20dBm to +40dBm +/-2 dBm

## Communication DC Connector Molex NanoFit 105313-1108

Pin description		Mate with 105307-1208	PINOUT
Pin 8 : pin 14 µC (UART Tx)	Pin 4 : Alarm		
Pin 7 : pin 15 µC (UART Rx)	Pin 3 : Gnd		
Pin 6 : Gnd	Pin 2 : NC		
Pin 5 : Valc (Pdetect)	Pin 1 : TxRx control		

## Power Supply DC Connector Molex NanoFit 105313-1102

Pin description		Mate with 105307-1202	PINOUT
Pin 2 : Supply +28V			
Pin 1 : Gnd			

## MTBF

Temperature (sensor)	MTBF	First year failure rate
65°C (10)	>300 000 hours	TBD%

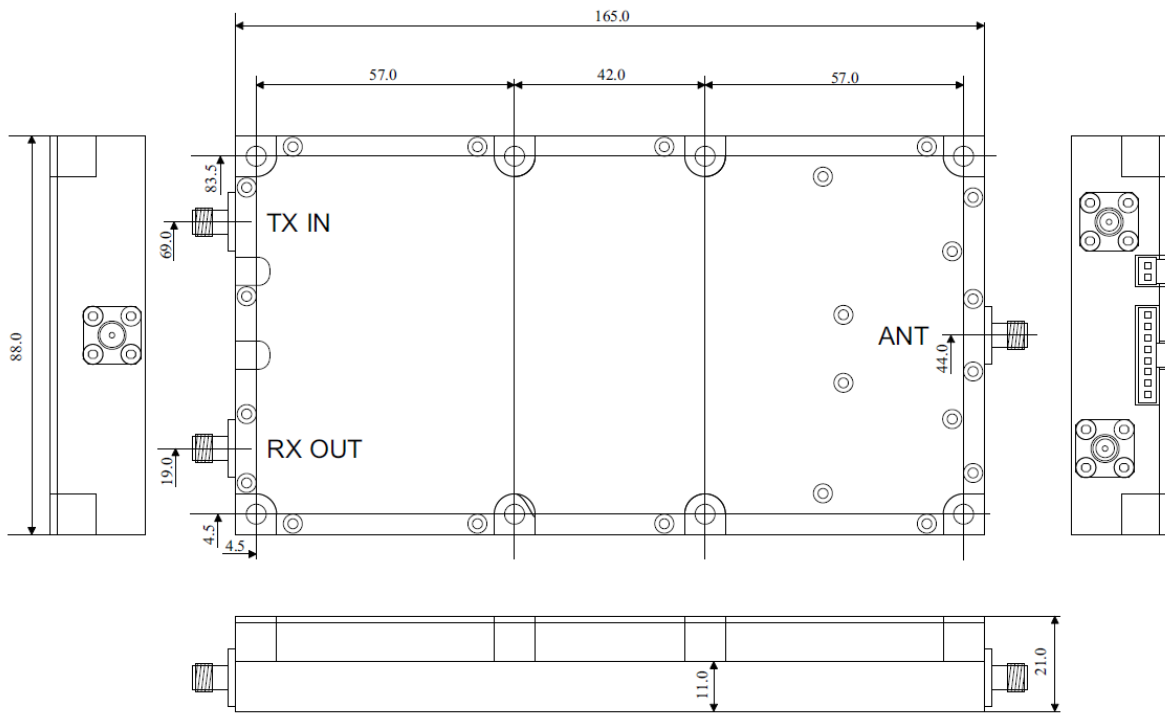
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10. Although specified up to 85 °C, this calculation assumes an average temperature of 65 °C

## Mechanical characteristics

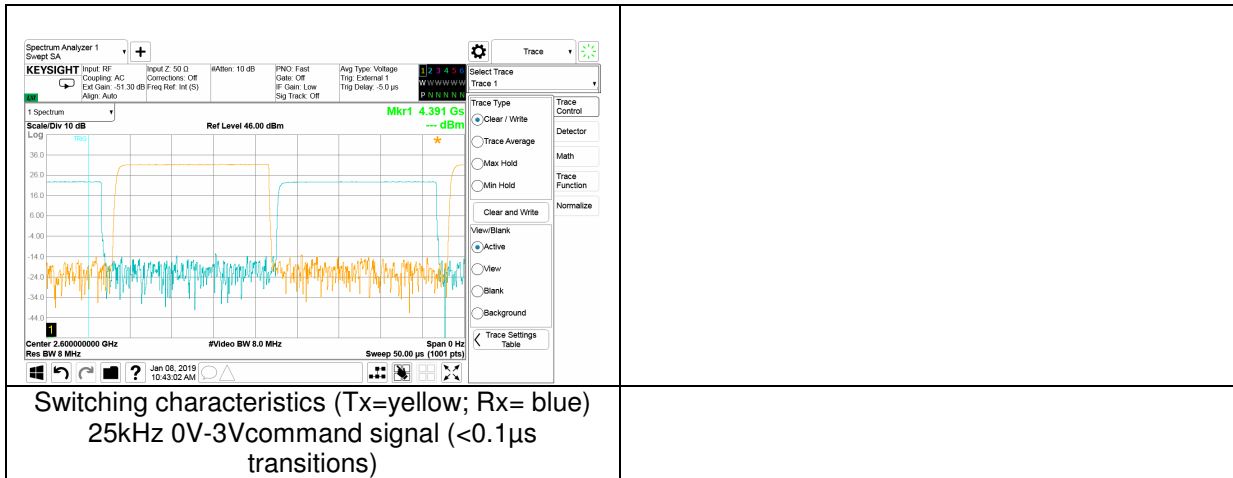
Ref	characteristic	description	remarks
1	Housing dimensions	165mm x 88mm x 21mm	
2	Housing cover finish	Electroless nickel	
3	Mounting	8 M4 screws	
4	Input/Output/Antenna RF connectors	SMA	
5	DC supply connector	Molex 105313-1102	Male type
6	DC controls connector	Molex 105313-1108	Male type
7	Weight	600 grams	

## Package outline:



Specifications and information are subject to change without notice

SWITCHING CHARACTERISTICS



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