Email: sales @diamondmw.com
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X-band 900W Pulsed GaN High Power Amplifier (HPA)

Product Reference: DM-X1K0-03

Electrical performance specified at 40V, 20°C and into terminating VSWR <1.3:1 unless otherwise stated

Spec ref.	Description	Units	limits	Value	Comment
1.00	**Electrical Performance**				
1.01	Lowest Frequency	GHz		8.9	
1.02	Highest Frequency	GHz		9.3	
1.03	Peak pulsed output power (Psat)	W	min	900	At output of N-type connector into VSWR <1.3:1.
1.04	Output power variation (Psat)	dB	max	0.5	Deviation from median power across the band
1.05	RF input power	dBm	max	0±1	
1.06	Pulse droop (on 100µs pulse)	dB	max	0.6	typically 0.5
1.07	HPA turn on time (from standby)	ns	nom	200	Measured between 10% and 90% points. Can be customised to be faster
1.08	RF Gating Pulse width (min)	µs	min	2	Shorter time is feasible but not specified
1.09	Duty cycle	%	max	15	Not to be exceeded with any pulse width, or damage may occur
1.10	PRI	µs	min	13.3	At minimum pulse width only. Constrained by duty cycle.
1.11	Power Supply	Vdc	min	40	
1.12	Power supply variation	V	max	+0.5	
1.13	Mean DC current	A	max	18	At maximum (15%) duty
1.14	Power added efficiency @15% duty	%	min	20	At maximum (15%) duty
1.15	Termination return loss	dB	min	17.7	To achieve specified performance
1.16	Worst case load VSWR		max	3:1	Not to be exceeded, else damage may occur at high power output
2.00	**Environmental & Physical**				
2.01	Input RF connection			SMA-F	
2.02	Output RF connection			N-Female	
2.03	Operating temperature	°C		0 to +60	Heatsink required. Max temperature at interface must not exceed 60°C
2.04	Operating humidity level				Non-condensing atmosphere
2.05	Weight	kg	nom	5	
2.06	Ingress Protection rating	IP		55	
2.07	Dimensions (exc connectors & fixings)	mm		301x303x41	Diamond Microwave drawing ref: 02-00172x01
3.00	**Operating Modes**				
3.01	Standby (RF power output disabled)				HPA is enabled/disabled with "RF_Enable" signal (TTL or 3.3V LVCMOS). Signal high = HPA enabled
3.02	Pulsed (RF power ON)				Amplifier will amplify any CW or nested RF signal present at RF Input, during "RF_Gate" control pulse (TTL or 3.3V LVCMOS)
3.03	Alarm (Output)				Alarm signal (3.3V LVCMOS-Low) for any alarm state. Connect "Alarm" (externally) to "RF_Enable" to auto-disable HPA
4.00	**TCP/IP Control & Monitoring (each amplifier)**				IP Address set prior to dispatch. LED indicates LAN status
4.01	Output Peak RF Power				Reported via webpage
4.02	Reflected Power				Reported via webpage
4.03	Termination return loss				Reported via webpage
4.04	Operating DC Voltage				Reported via webpage. Alarm and HPA disabled if threshold exceeded
4.05	Operating DC Current				Reported via webpage. Alarm if threshold exceeded
4.06	Electronics Temperature				Reported via webpage.
4.07	PA section Temperature				Reported via webpage. Alarm and HPA disabled if threshold exceeded
4.08	Duty cycle				Reported via webpage. Alarm and HPA disabled if threshold exceeded

End User undertaking is required for export licence application

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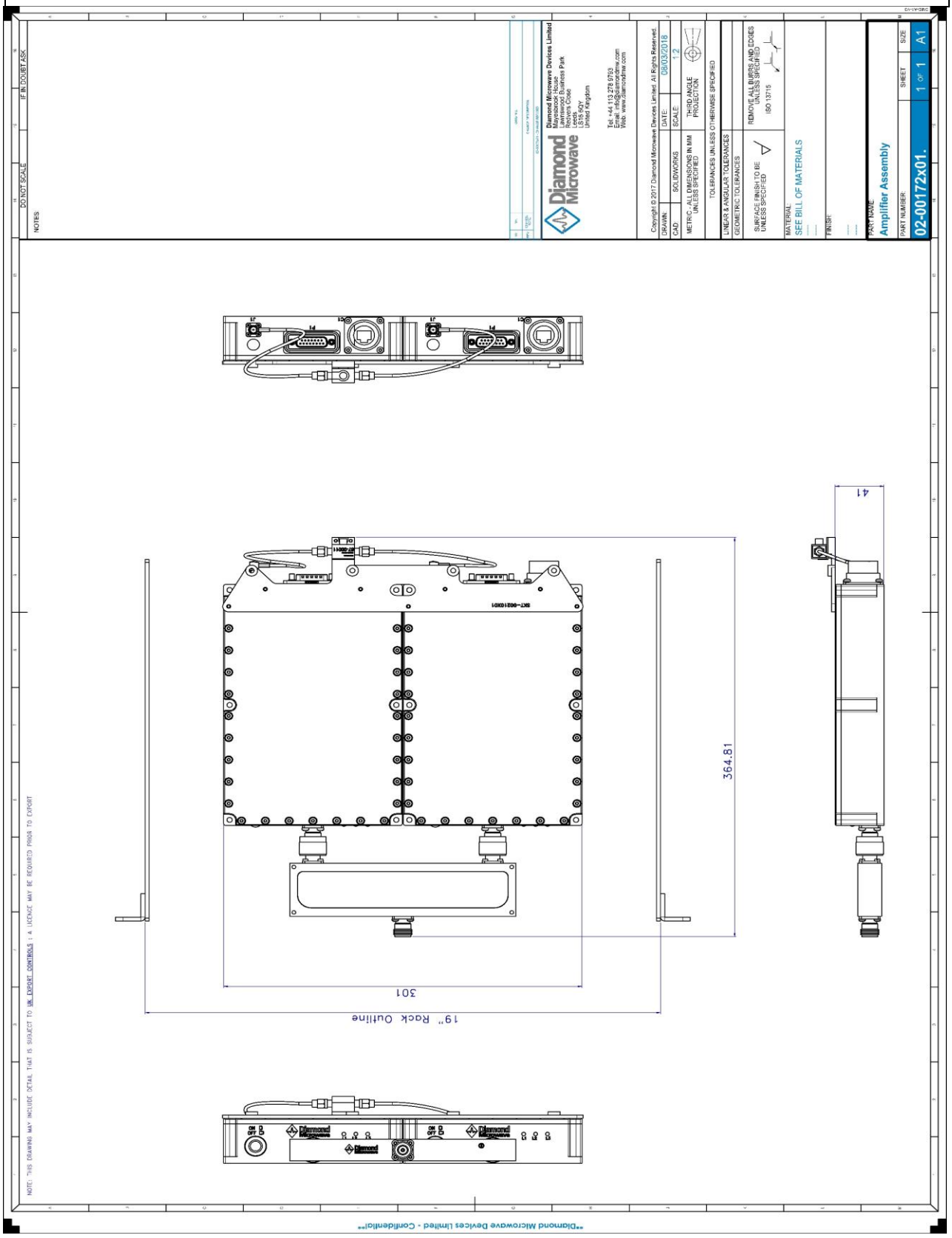

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