



Eyal Microwave Ltd.

Phone: 972-9-7499100 Fax: 972-9-7493669

Kibbutz Eyal D.N. Hasharon Hatichon 45840 Israel

Web: www.eyal-emi.com Email: emi@eyal-emi.com



REVISIONS

REV	ECN NO.	DATE	NAME	SIGN



Eyal Microwave LTD

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	DATE	NAME	SIGN	TITLE: SPECIFICATIONS		
MECH. ENG.	26/01/05	A.G		FOR BROAD BAND 6-18 GHz T/R MODULE MODEL No: TRM- 618-KK P/N:		
LEC. ENG.	26/01/05	L.L				
QC. ENG.	26/01/05	M.C				
CONFIG ENG.						
PROJ. ENG.	26/01/05	L.L				
DRAFT					DWG NO:	
				SIZE: A	CAGE CODE:	SH 1 OF 5



Scope

This specifications document defines the technical spec. for Broadband 6-18 GHz transmit and receive module

1. Module Electrical Specifications

	Specifications	Notes
Frequency Range	6.0÷18.0 GHz	
Promoting Power Driver	2÷5 mW	
PRF	5÷35 KHz	
Duty Cycle	20%	
Transmit/Receive Converting Time:	≤200ns	
Efficiency:	≥ 12%	

2. Transmission Channel

	Specifications	Notes
Output Power	1.5÷2.0 W	@ 12% Efficiency @ 24° C
Output Power Flatness	≤ 1 dB	@ any 30MHz Band
Output Power Flatness	≤ +/-1.5 dB	@ 12 GHz Band @ 24° C
Spurious	≤60dB	(±10MHz)
Phase accuracy	See Par.4.	

3. Receiving Channel

	Specifications	Notes
Gain	≥22dB ±2 dB	±1.5dB OT
Noise Figure	≤6.5 dB @ 24° C ≤7 dB @ O. temperature range	
Attenuation	15.5 dB max.	
Attenuation Step	0.5dB	
Attenuation Accuracy	See Par.5.	
Phase accuracy	See Par. 4.	



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4. Phase Shifter :

	Phase accuracy			Notes
@ Frequency:	6 GHz	12 GHz	18 GHz	
1 st Bit 11.25°	13° ±2°	13.5° ±2°	13° ±4°	
2 nd Bit 22.5°	23° ±2°	23° ±2°	32° ±4°	
3 rd Bit 45°	55° ±4°	43° ±3°	58° ±7°	
4 th Bit 90°	107° ±5°	84° ±7°	99° ±8°	
5 th Bit 180°	214° ±4°	165° ±8°	186° ±16°	
Phase building time:	≤ 100 nSec			

5. Attenuator:

	Specifications	Notes
Attenuation Range	15.5 dB	max
No of Bits	5	
Attenuation Step:	0.5dB	
Attenuation Accuracy	0.5dB ±0.2 1dB ±0.15 2dB ±0.5 4dB ±0.65 8dB ±0.9 15.5dB ±1.5	

6. n & Out Connectors

	Specifications	Notes
Input SMA (F)	VSWR≤2.5	
Output SMA(F)	VSWR≤2.5	



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7. Power Supply

The Module will receive the following DC voltages

Voltage	Notes
+8.0V +/-0.25 V	Negative voltage to be applied before the positive one during turn on by customer
-5.0V +/-0.25 V	
GND	

8. Environmental

	Specifications	Notes
Operating Temperature	-40°C to +60°C	
Storage Temperature	-45°C to +70°C	
Vibration:	5-8.57Hz, Equal Amplitude 8.5mm 8.57-200Hz, Equal Accretion 2.5g	TO Be Tested Only For 2 First Units
Shock:	≥15g, remain 11ms, Half sine wave	TO Be Tested Only For 2 First Units
Reliability	MTBF≥10000h	
Maintainability	MTTR≤0.5h	



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8. Outline Drawing

