



PLANAR MONOLITHICS INDUSTRIES, INC.  
 7311-G GROVE RD., FREDERICK MD.21704  
 TEL: 301-631-1579 FAX: 301-662-2029  
 URL: WWW.PLANARMONOLITHICS.COM  
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 ISO 9001:2000 CERTIFIED

FORM: QRC-RFOCC-DATA  
 DATE: 10-26-05 to 10-31-05

**TEST DATA SHEET  
 ON  
 RF OSCILLATOR COMPONENT CONSOLIDATION / RF SUB-ASSEMBLY**

CUSTOMER: \_\_\_\_\_ TECHNICIAN: Yu Rong  
 JOB NO: \_\_\_\_\_ CUSTOMER PN: \_\_\_\_\_  
 MODEL NO: RFOC-811-QRC OPTION NO: \_\_\_\_\_  
 SERIAL NO: Prototype *Pms10c10* FREQUENCY RANGE: 8 TO 11 GHz

PARAMETERS TO BE TESTED			SPECIFIED		MEASURED		NOTES
FREQUENCY			8 GHz TO 11 GHz				
Selected Path Gain/Loss	Input Port	Output Port	Min.	Max.	Min(dB) to Max(dB) (measured)		
	J1005	J1014	3dB	-	1.41 to 5.05		Set AT8 to min. and SW8 ON
	J1005	J1007	6dB	20dB	7.9 to 10.24		Set SW2 ON
	J1013	J1014	10dB	23dB	13.63 to 16.8		SET AT2 TO MIN. SET AT7 AND AT8 TO MAX. SET SW7 AND SW8 OFF
	J1013	J1014	0dB	13dB	-1.93 to 3.39		SET AT2 TO MAX. SET AT7 AND AT8 MIN. SET SW7 AND SW8 ON
	J1013	J1007	3dB	16dB	4.2 to 8.05		SET AT7 TO MINI AND SET SW7 ON
	J1006	J1015	-	-10dB	-7.97 to -4.82		SET AT1 TO MIN., SET SW1, K1 TO ON
	J1006	J1012	3dB	20dB	3.2 to 6.7		SET AT1 TO MIN., SET SW1 TO ON, SET K1 TO OFF
	J1016	J1012	3dB	20dB	2.66 to 5.98		SET AT6 TO MIN. AND SET SW6 TO ON
	J1017	J1012	3dB	20dB	2.04 to 6.30		SET AT3 TO MIN. AND SW3 TO ON
	J1011	J1012	3dB	20dB	2.12 to 6.55		SET AT5 TO MIN. AND SW5 TO ON
	J1008	J1009	6dB	16dB	6.82 to 9.48		SET AT4 TO MIN. AND SW4 TO ON
	J1008	J1010	9dB	19dB	12.0 to 13.2		
Output Power	Output Ports		Min. (dBm)	Max. (dBm)	Min (dBm) (measured)	Max (dBm) (measured)	Measured at 11GHz
	J1007		11.65	11.65	13.72	13.72	SET SW2, SW7, SW8 ON
	J1014		-55.55	+6.92	<-68	11.60	
	J1015		-55.45	+9.55	-55	5.77	SET SW1 ON, SET K1 SWITCHED TO J1015
	J1012		-94.70	+15	<-65	17	SET K1, SW1, SW5, SW6 OFF, SET SW3 ON
	J1009		-110.3	-0.35	<-80	-2.71	SET SW4 ON
	J1010		-45.3	+4.65	-45.55	3.33	



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	Input	Output	Min.	Goal	Measured	Notes
Isolation	J1013	J1012	55dB	70dB	60.5dB	
		J1009	55dB	70dB	81dB	
		J1010	55dB	70dB	81.9dB	
	J1008	J1012	55dB	70dB	82dB	
		J1014	55dB	70dB	64.7dB	
	J1005	J1012	55dB	70dB	69.8dB	
		J1009	55dB	70dB	82dB	
		J1010	55dB	70dB	81.6dB	
	J1016	J1014	55dB	70dB	65.9dB	
		J1009	55dB	70dB	82.5dB	
	J1017	J1014	55dB	70dB	76dB	
		J1010	55dB	70dB	82.5dB	
J1011	J1014	55dB	70dB	53.6dB	Small portion is out	
	J1010	55dB	70dB	82.8dB		
VSWR	INPUTS	Ports	Spec.		measured	
		J1005	2.0:1		1.76:1	
		J1013	2.0:1		2.36:1	out
		J1006	2.0:1		2.05:1	out
		J1016	2.0:1		2.81:1	out
		J1017	2.0:1		2.6:1	out
		J1011	2.0:1		3.15:1	out
		J1008	2.0:1		1.48:1	
	OUTPUTS	J1007	2.5:1		2.16:1	
		J1014	2.5:1		1.82:1	
		J1015	2.5:1		2.73:1	out
		J1012	2.5:1		1.31:1	
		J1009	2.5:1		2.47:1	
	J1010	2.5:1		1.70:1		
Throughput delay	RF Paths		Spec.		measured	
	J1008	J1009	10ns		2.40ns	
	J1008	J1010	10ns		2.27ns	
	J1006	J1012	10ns		3.65ns	
	J1006	J1015	10ns		2.40ns	
	J1011	J1012	10ns		2.52ns	
	J1017	J1012	10ns		2.55ns	
	J1016	J1012	10ns		2.58ns	
	J1013	J1014	10ns		2.97ns	AT2,AR3 PATH
	J1013	J1014	10ns		3.95ns	AT7,AT8 PATH
	J1013	J1007	10ns		2.15ns	
	J1005	J1014	10ns		4.38ns	
J1005	J1007	10ns		2.63ns		
SWITCH ON/OFF	SWITCH	ON (ns)	OFF (ns)	ON (ns) (measured)	OFF (ns) (measured)	
	SW1	50	50	40	30	
	SW2	50	50	56	28	
	SW3	50	50	56	32	
	SW4	50	50	38.4	30.4	
	SW5	50	50	56	31	



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	SW6	50	50	38	33	
	SW7	50	50	56	33	
	SW8	50	50	56	28.8	
ATTENUATOR ON/OFF	ATTENUAT OR	Rise ( $\mu$ s)	Fall (ns)	Rise ( $\mu$ s) (measured)	Fall (ns) (measured)	
	AT1	1.6	100	1.38	23	
	AT2	1.6	100	1.22	22	
	AT3	1.6	100	1.16	18	
	AT4	1.6	100	1.32	24	
	AT5	1.6	100	1.32	22	
	AT6	1.6	100	1.40	20	
	AT7	1.6	100	1.30	21.6	
	AT8	1.6	100	1.30	19.8	
DEPTH OF MODULATION	DEVICE	Mini (spec)		Mini (measured)		
	K1	60dB		76dB		
	AT1	50dB		60.7dB		
	AT2	50dB		61dB		
	AT3	50dB		59.98dB		
	AT4	50dB		60.7dB		
	AT5	50dB		57.1dB		
	AT6	50dB		59.8dB		
	AT7	40dB		60.4dB		
	AT8	50dB		54.8dB		
	SW1	60dB		86dB		
	SW2	60dB		90dB		
	SW3	60dB		81.1dB		
	SW4	60dB		88.6dB		
	SW5	60dB		68.4dB		
	SW6	60dB		84.8dB		
SW7	50dB		54dB			
SW8	60dB		56dB		Only very small portion at high end is out	
SWITCH CONTROL LOGIC	TTL "0"	ON		ON (measured)		
	TTL "1"	OFF		OFF (measured)		
ATTENUATOR CONTROL VOLTAGE	VOLTAGE RANGE	0 TO 6v		0 to 6V (measured)		
	TRANSFER FUNCTION	10dB/V		10dB/V (measured)		
DC POWER	Voltages	Max.		measured		
	+5V	5.0A		0.313A		
	+15V	3.0A		1.000A		
	-15V	3.0A		0.570A		
	+28V	1.0A		80mA		

TEST ON: HP8720C Network Analyzer, E4407B Spectrum Analyzer, Gigatronics  
 8541 Universal Power meter, Tektronix TDS3014B ~~etc~~

QA/QC APPROVAL: Daniel W. Bruden

DATED: 11/8/05