

TSL8329M-EVB-C

Application Note

2000MHz~4000MHz

5.0V 90mA-HG mode

5.0V 45mA-LG mode

Rev-1.1

2022-09-23

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3. TSL8329M-EVB-C LAYOUT

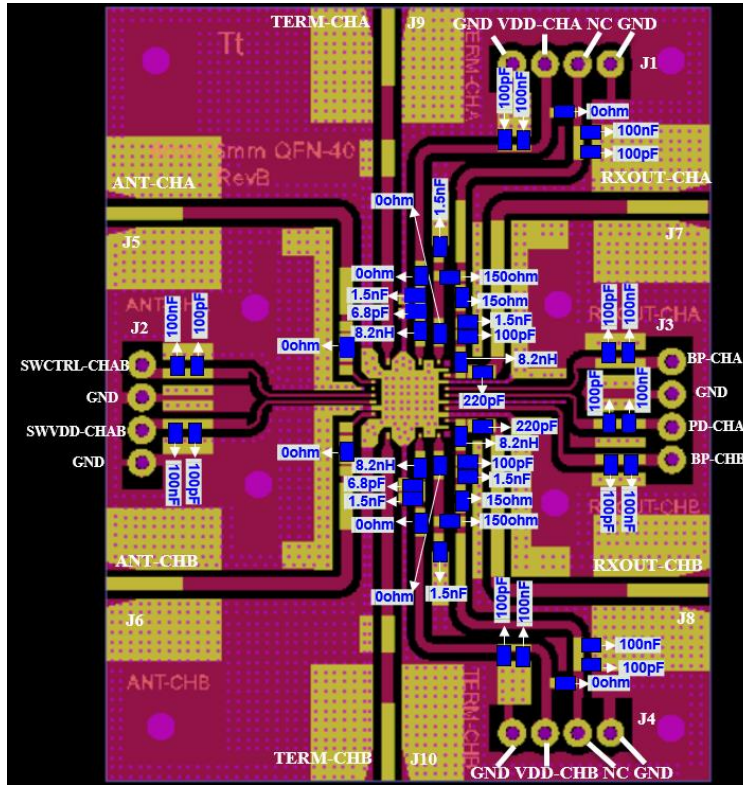


Figure 2 TSL8329M-EVB-C 2000MHz ~ 4000MHz layout

4. TSL8329M-EVB-C BILL OF MATERIAL

Component ID	Value	Manufacturer	Recommended Part Number	Qty
R1, R2, R4, R8, R9, R10, R11, R12	0Ω	Panasonic	ERJ-2GE0R00X	8
R3, R7	150Ω	Panasonic	ERJ-2RHD1500X	2
R5, R6	15Ω	Panasonic	ERJ-H2RD15R0X	2
L1, L2, L3, L4	8.2nH	Coil craft	0402HP-8N2XGRW	4
C27, C28	6.8pF	Murata	GJM1555C1H6R8BB01D	2
C19, C20, C21, C25, C29, C30	1.5nF	Murata	04025C152JAT2A	6
C23, C24	220pF	Murata	C0402C221K5GACAUTO	2
C2, C4, C6, C8, C10, C12, C14, C16, C18, C22, C26	100pF	AVX	04025A101JAT4A	11
C1, C3, C5, C7, C9, C11, C13, C15, C17	100nF	TDK	C1005X7R1H104K050BE	9
PCB	Rogers RO4350B, 20 mils, 1 oz copper			1

5. TSL8329M-EVB-C BOARD MEASUREMENT RESULTS

5.1. TSL8329M-EVB-C TEST RESULTS

All the tests are carried out at room temperature.

5.2. Summary

Parameter	Test Condition	Typical Values	Unit
Operational frequency Range		2.0-4.0G	Hz
Gain	HG	37-29	dB
	LG	18-12	dB
Noise Figure (De-embedded)	HG	0.7-1.2	dB
	LG	0.7-1.2	dB
EVB Noise Figure	HG	1.1-1.6	dB
	LG	1.1-1.6	dB
Input Return Loss	HG	7.3-3.3	dB
	LG	4.2-7.3	dB
Output Return Loss	HG	4-17	dB
	LG	3-24	dBm
OP1dB	HG	18.5-20.5	dBm
	LG	7-12	dBm
OIP3 (With 1MHz tone spacing)	0dBm per tone,	31-35	dBm
	-2dBm per tone,	17-21	dBm
Current, Id	HG	90	mA
	LG	45	
	PD	5	
Insertion Loss	Transmit operation at 3.0 GHz	0.45	dB
Channel to Channel Isolation Between RXOUT -CHA & RXOUT -CHB	At 3.0GHz Receive operation	40	dB
Between TERM-CHA AND TERM-CHB	Transmit operation	55	dB
SWITCH ISOLATION ANT-CHA to TERM-CHA and ANT-CHB to TERM-CHB	Transmit operation, PD-CHAB = 0 V	25	dB

Figure 3 TSL8329M-EVB-C Electrical Characteristics Summary

5.3. S parameters.

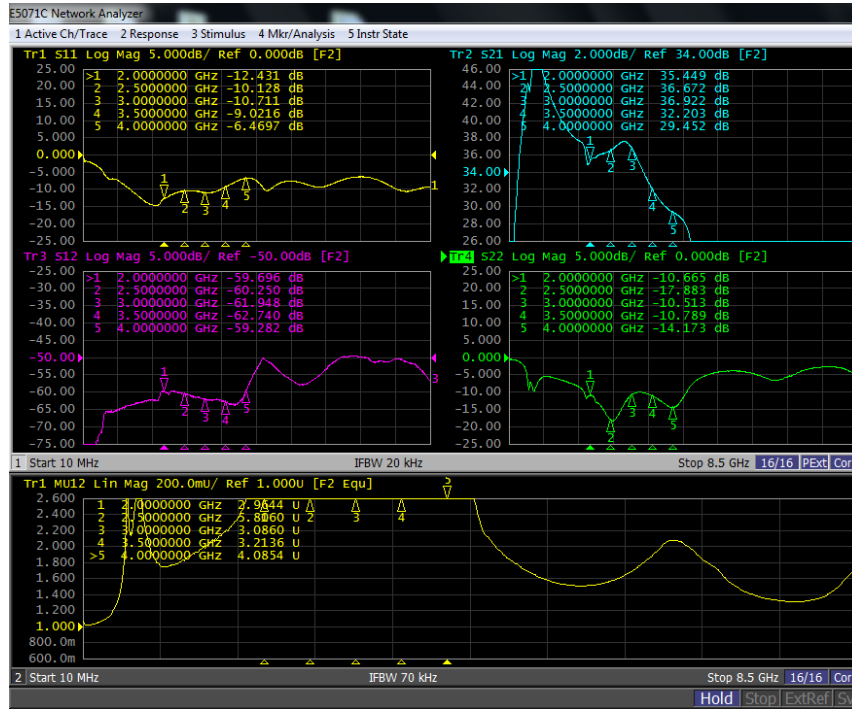


Figure 4 S parameters of HG mode of TSL8329M-EVB-C

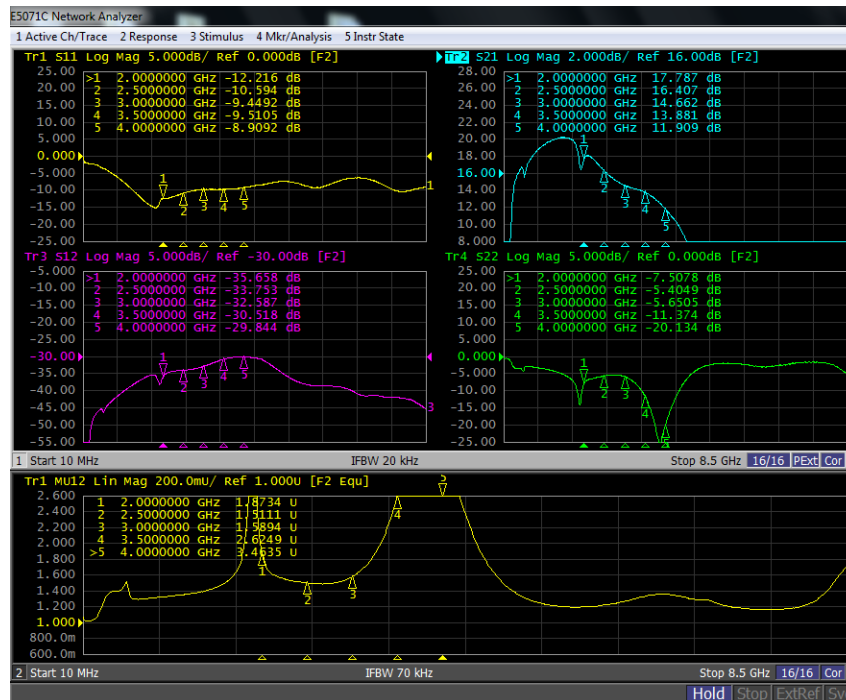


Figure 5 S parameters of LG mode of TSL8329M-EVB-C

5.4. De-embedded Noise Figure.

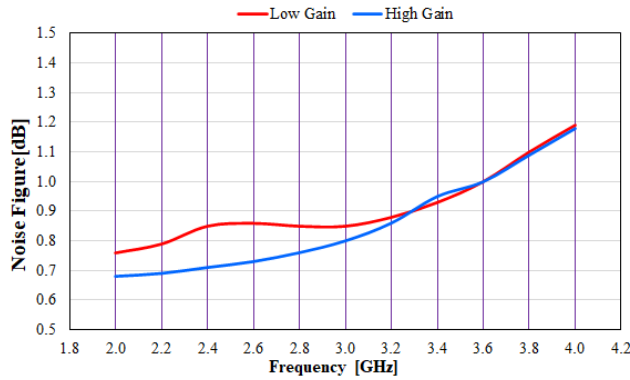


Figure 6 De-embedded NF of HG mode of TSL8329M-EVB-C

5.5. Large Signal Test Results.

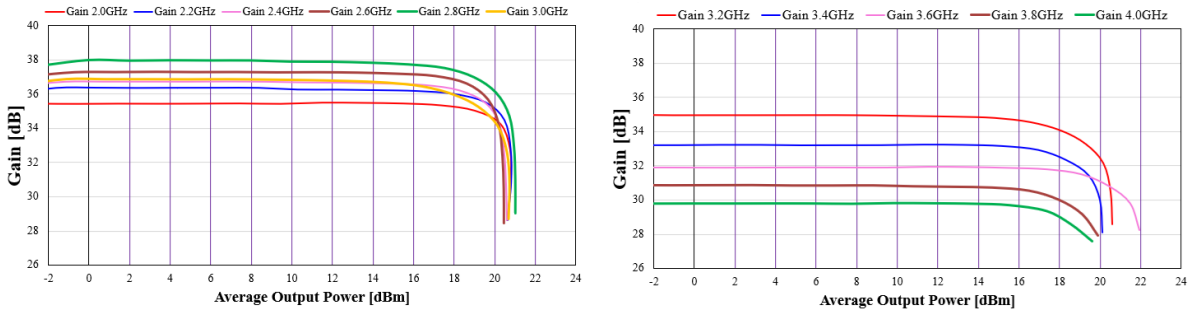


Figure 7 Gain Vs Pout of HG mode of TSL8329M-EVB-C

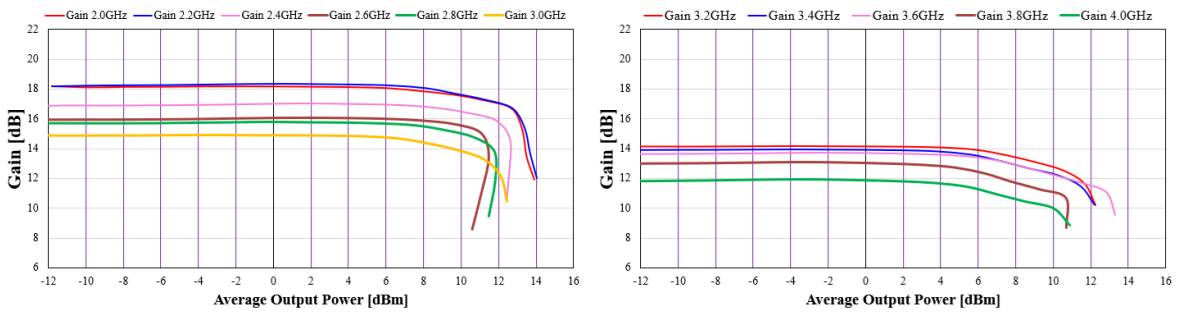


Figure 8 Gain Vs Pout of LG mode of TSL8329M-EVB-C

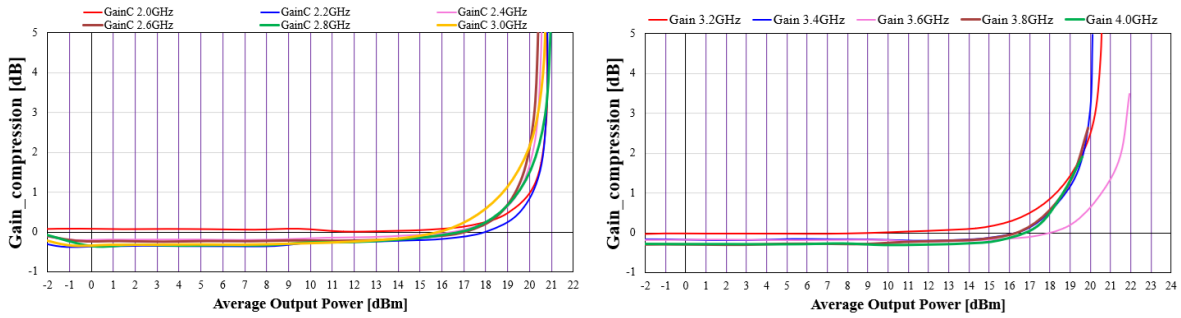


Figure 9 Gain compression Pout of HG mode of TSL8329M-EVB-C

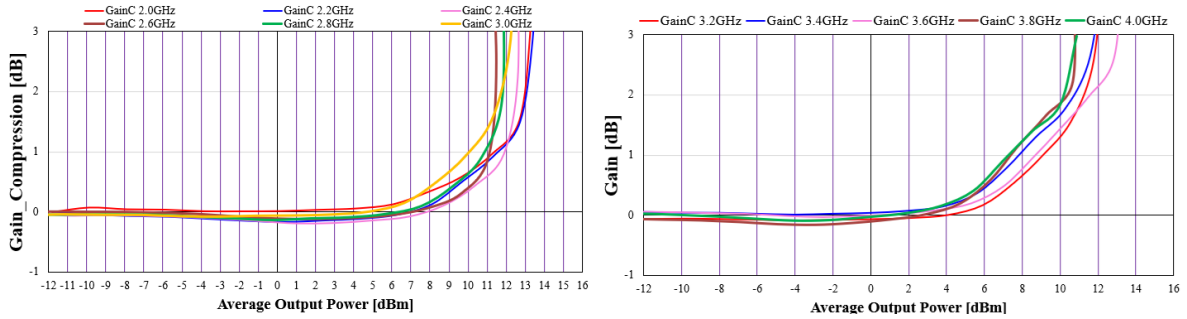


Figure 10 Gain compression Pout of LG mode of TSL8329M-EVB-C

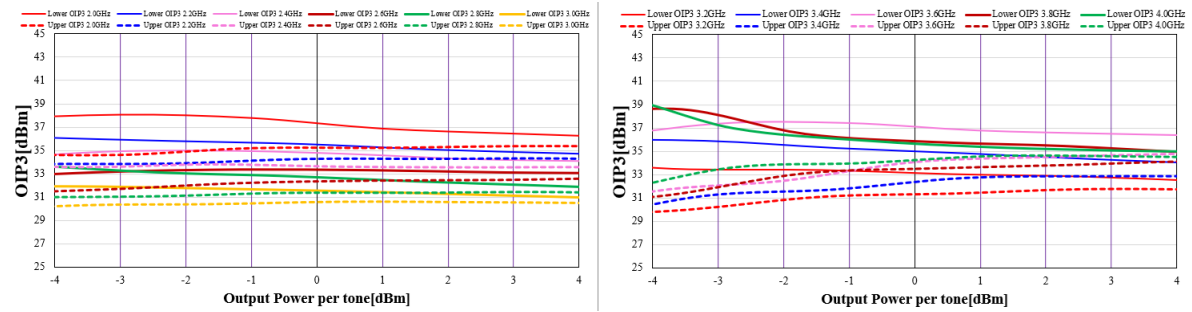


Figure 11 OIP3 Vs Pout per tone of HG mode of TSL8329M-EVB-C

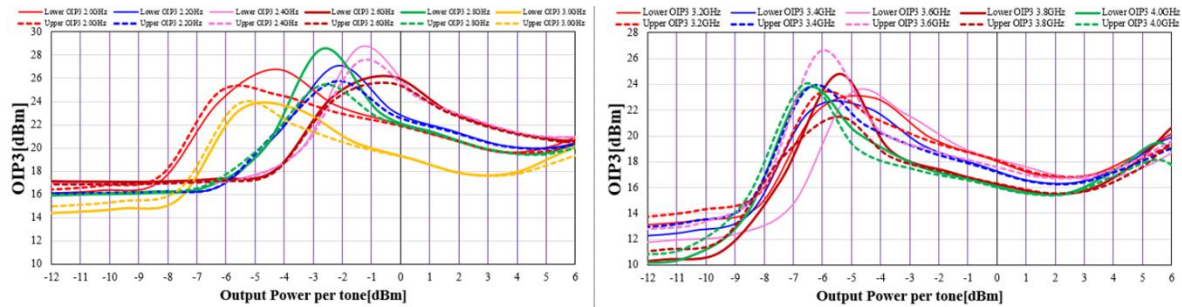


Figure 12 OIP3 Vs Pout per tone of LG mode of TSL8329M-EVB-C