N5227A 4-Port Overall Block Diagram
(Includes Options 400-Standard; 401-Configurable Test Set; and 419-Attenuators and Bias Tees)
Service Guide: N5227-90001

Band	Mixer Brick L.O. Harmonic Number	❶ A15 Synthesizer Frequency (GHz)	❷ A25 HMA26.5 Frequency (GHz)	❸ A6/A17 Source Synthesizer Frequency (GHz)	❹ A5/A10 Source Frequency (GHz)	❺ A7/A8/A12/A13 40 GHz Doubler Frequency (GHz)	❻ A59/A60/A61/A62/A63 70 GHz Doubler Frequency (GHz)
1	1	0.01MHz to 0.05363	0.01MHz to 0.05363	0.010 to 0.053	0.010 to 0.053	0.010 to 0.053	0.010 to 0.053
2	1	0.09044 to 1.16244	0.09044 to 1.16244	0.253 to 1.175	0.253 to 1.175	0.063 to 1.175	0.253 to 1.175
3	1	0.19244 to 2.29744	0.19244 to 2.29744	0.175 to 2.250	0.175 to 2.250	0.175 to 2.250	0.175 to 2.250
4	1	0.29744 to 3.50744	0.29744 to 3.50744	0.250 to 3.500	0.250 to 3.500	0.250 to 3.500	0.250 to 3.500
5	1	0.50744 to 1.70874	0.50744 to 1.70874	0.500 to 1.000	0.500 to 1.000	0.500 to 1.000	0.500 to 1.000
6	1	1.70874 to 2.20074	1.70874 to 2.20074	1.000 to 2.000	1.000 to 2.000	1.000 to 2.000	1.000 to 2.000
7	1	2.20074 to 3.30074	2.20074 to 3.30074	2.000 to 3.000	2.000 to 3.000	2.000 to 3.000	2.000 to 3.000
8	1	3.30074 to 3.20074	3.30074 to 3.20074	3.000 to 3.200	3.000 to 3.200	3.000 to 3.200	3.000 to 3.200
9	1	3.20074 to 4.40074	3.20074 to 4.40074	3.200 to 4.000	3.200 to 4.000	3.200 to 4.000	3.200 to 4.000
10	1	4.00074 to 5.3394	4.00074 to 5.3394	4.000 to 5.332	4.000 to 5.332	4.000 to 5.332	4.000 to 5.332
11	1	5.3394 to 6.7594	5.3394 to 6.7594	5.332 to 6.752	5.332 to 6.752	5.332 to 6.752	5.332 to 6.752
12	1	6.7594 to 8.0074	6.7594 to 8.0074	6.752 to 8.000	6.752 to 8.000	6.752 to 8.000	6.752 to 8.000
13	1	8.0074 to 10.6774	8.0074 to 10.6774	8.000 to 10.664	8.000 to 10.664	8.000 to 10.664	8.000 to 10.664
14	1	10.6714 to 13.5174	10.6714 to 13.5174	10.664 to 13.510	10.664 to 13.510	10.664 to 13.510	10.664 to 13.510
15	1	8.7587 to 7.7027	13.5174 to 15.4074	8.758 to 7.700	13.510 to 15.400	13.510 to 15.400	13.510 to 15.400
16	1	7.7027 to 8.0037	15.4074 to 16.0074	7.700 to 8.000	15.400 to 16.000	15.400 to 16.000	15.400 to 16.000
17	1	8.0037 to 9.0037	16.0074 to 19.0074	8.000 to 9.000	16.000 to 19.000	16.000 to 19.000	16.000 to 19.000
18	1	9.0037 to 10.0037	19.0074 to 20.0074	9.000 to 10.000	19.000 to 20.000	19.000 to 20.000	19.000 to 20.000
19	1	10.0037 to 10.6677	20.0074 to 21.3354	10.000 to 10.664	20.000 to 21.328	20.000 to 21.328	20.000 to 21.328
20	1	10.6677 to 12.0037	21.3354 to 24.0074	10.664 to 12.000	21.328 to 24.000	21.328 to 24.000	21.328 to 24.000
21	1	12.0037 to 13.2577	24.0074 to 26.5074	12.000 to 13.250	24.000 to 26.500	24.000 to 26.500	24.000 to 26.500
22	1	8.8358 to 9.0051	8.8358 to 9.0051	13.250 to 13.504	13.250 to 13.504	26.500 to 27.008	26.500 to 27.008
23	3	9.0051 to 10.6691	9.0051 to 10.6691	8.752 to 8.000	13.504 to 16.000	27.008 to 32.000	27.008 to 32.000
24	3	**10.6691 to 13.3358**	**10.6691 to 13.3358**	**8.000 to 10.000**	**16.000 to 20.000**	**32.000 to 40.000**	**32.000 to 40.000**
25	3	13.3358 to 13.5025	13.3358 to 13.5025	10.000 to 10.125	20.000 to 20.250	20.000 to 20.250	40.000 to 40.500
26	3	8.7512 to 7.1158	13.5025 to 14.2211	10.125 to 10.664	20.250 to 21.328	20.250 to 21.328	40.500 to 42.656
27	3	7.1158 to 7.7012	14.2211 to 15.4025	10.664 to 11.550	21.328 to 23.100	21.328 to 23.100	42.656 to 46.200
28	3	7.7012 to 8.0012	15.4025 to 16.0025	11.550 to 12.000	23.100 to 24.000	23.100 to 24.000	46.200 to 48.000
29	3	8.0012 to 8.3348	16.0025 to 16.6691	12.000 to 12.500	24.000 to 25.000	24.000 to 25.000	48.000 to 50.000
30	3	8.3348 to 9.0039	16.6691 to 18.0078	12.500 to 13.504	25.000 to 27.008	25.000 to 27.008	50.000 to 54.016
31	3	9.0039 to 10.0012	18.0078 to 20.0025	8.752 to 7.500	13.504 to 15.000	27.008 to 30.000	54.016 to 60.000
32	3	10.0012 to 10.6678	20.0025 to 21.3358	7.500 to 8.000	15.000 to 16.000	30.000 to 32.000	60.000 to 64.000
33	3	10.6678 to 11.1679	21.3358 to 22.3358	8.000 to 8.375	16.000 to 16.750	32.000 to 33.500	64.000 to 67.000
34	3	11.1679 to 11.6679	22.3358 to 23.3358	8.375 to 8.750	16.750 to 17.500	33.500 to 35.000	67.000 to 70.000
35	3						

Test Node	Error Description	Assembly	Frequency Band
8	Unleveled, Source 1, Out 1	A5	0.01 - 13.5 GHz
		A7	13.5 - 40 GHz
		A29	40 - 70 GHz
9	Unleveled, Source 1, Out 2	A5	0.01 - 13.5 GHz
		A8	13.5 - 40 GHz
		A32	40 - 70 GHz
10	Unleveled, Source 1 Synthesizer	A4	Full Range
11	Unleveled, Source 2, Out 1	A10	0.01 - 13.5 GHz
		A12	13.5 - 40 GHz
		A30	40 - 70 GHz
12	Unleveled, Source 2, Out 2	A10	0.01 - 13.5 GHz
		A13	13.5 - 40 GHz
		A31	40 - 70 GHz
13	Unleveled, Source 2 Synthesizer	A17	Full Range
14	Unleveled, LO Drive	A25	Full Range
15	Unleveled, LO Synthesizer	A15	Full Range
16	Unlocked, Source 1 Synthesizer, Integrator Low	A4	Full Range
17	Unlocked, Source 1 Synthesizer, Integrator High	A4	Full Range
19	Unlocked, Source 2 Synthesizer, Integrator Low	A17	Full Range
20	Unlocked, Source 2 Synthesizer, Integrator High	A17	Full Range
22	Unlocked, LO Synthesizer, Integrator Low	A15	Full Range
23	Unlocked, LO Synthesizer, Integrator High	A15	Full Range
25	Unleveled, Doubler 1 Prelevel	A7	13.5 - 70 GHz
26	Unleveled, Doubler 2 Prelevel	A8	13.5 - 70 GHz
27	Unleveled, Doubler 3 Prelevel	A12	13.5 - 70 GHz
28	Unleveled, Doubler 4 Prelevel	A13	13.5 - 70 GHz
29	Unleveled, Source 1, P4	A5	13.5 - 70 GHz
30	Unleveled, Source 2, P4	A10	13.5 - 70 GHz