

# Frequency Synthesizer

DSN-2520A-219+

## Typical Performance Data

FREQ. (MHz)	POWER OUTPUT (dBm)			HARMONICS (dBc)						VCO CURRENT (mA)			PLL CURENT (mA)		
				F2			F3			-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C						
1120	6.38	6.19	5.87	-22.21	-15.04	-17.15	-17.37	-16.75	-17.33	73.66	73.86	74.06	17.69	18.77	20.47
1225	6.48	6.20	5.94	-14.78	-16.39	-17.74	-20.60	-20.30	-20.79	74.20	74.32	74.43	17.82	18.94	20.65
1375	6.73	6.52	6.32	-19.08	-19.55	-19.98	-29.82	-29.31	-30.02	74.77	74.76	74.75	17.85	18.98	20.70
1525	7.02	6.84	6.64	-23.60	-22.55	-21.95	-33.41	-32.78	-33.87	75.01	74.95	74.79	17.87	19.03	20.75
1675	7.21	6.99	6.79	-25.41	-23.74	-22.76	-28.51	-27.61	-28.36	75.05	75.04	74.86	18.02	19.19	20.92
1825	7.20	7.01	6.78	-29.07	-27.19	-26.04	-27.41	-27.03	-28.09	74.97	75.05	74.91	18.03	19.22	20.96
1975	7.25	7.00	6.73	-30.67	-29.16	-28.61	-24.98	-24.47	-25.25	74.57	74.79	74.76	18.06	19.25	21.00
2125	7.22	7.03	6.69	-35.57	-35.27	-35.49	-22.49	-21.19	-21.99	74.15	74.46	74.54	18.08	19.28	21.04
2275	6.81	6.74	6.33	-41.39	-49.82	-57.24	-20.39	-19.63	-20.85	73.60	74.01	74.20	18.23	19.45	21.21
2425	6.53	6.27	5.85	-40.55	-36.94	-34.71	-19.22	-19.53	-21.16	73.10	73.62	73.93	18.25	19.48	21.25
2520	6.55	5.96	5.39	-35.61	-32.37	-31.07	-18.88	-18.23	-19.40	72.91	73.43	73.76	18.18	19.42	21.19

FREQ. (MHz)	PHASE NOISE (dBc/Hz)														
	@ OFFSETS														
	-45°C					+25°C					+85°C				
	100Hz	1kHz	10kHz	100kHz	1MHz	100Hz	1kHz	10kHz	100kHz	1MHz	100Hz	1kHz	10kHz	100kHz	1MHz
1120	-92.21	-99.15	-99.36	-95.04	-119.05	-90.77	-100.03	-99.22	-94.77	-119.64	-93.40	-102.34	-102.03	-97.18	-121.70
1225	-91.98	-99.12	-100.06	-96.63	-120.67	-91.35	-99.88	-100.58	-96.45	-121.11	-91.16	-100.59	-101.08	-97.25	-121.97
1375	-88.73	-98.57	-99.69	-95.85	-121.63	-90.76	-99.76	-100.17	-96.04	-121.58	-89.67	-99.07	-99.87	-96.67	-120.68
1525	-89.92	-98.20	-99.40	-96.87	-119.67	-91.53	-98.21	-99.38	-96.90	-119.53	-89.16	-99.44	-99.36	-97.16	-118.65
1675	-88.83	-98.00	-98.84	-96.21	-119.18	-85.55	-96.75	-98.72	-95.94	-118.99	-89.23	-98.49	-98.31	-95.63	-118.18
1825	-87.40	-96.51	-97.69	-94.51	-119.24	-89.02	-97.77	-97.09	-94.45	-119.22	-88.32	-96.34	-96.63	-94.34	-118.30
1975	-85.62	-96.53	-96.88	-93.59	-119.30	-86.00	-94.35	-96.41	-92.79	-119.57	-88.27	-94.66	-95.75	-92.17	-118.79
2125	-85.75	-94.70	-95.34	-92.32	-118.81	-87.12	-95.30	-94.73	-92.07	-119.07	-88.42	-94.23	-95.60	-92.36	-118.85
2275	-86.94	-94.27	-94.16	-90.89	-119.23	-86.20	-94.38	-93.80	-91.36	-119.22	-86.89	-95.19	-95.46	-92.65	-119.19
2425	-86.03	-94.74	-95.11	-92.18	-119.98	-88.80	-94.90	-95.68	-92.58	-119.79	-88.76	-94.41	-95.57	-93.22	-119.70
2520	-86.27	-94.86	-94.87	-91.91	-120.59	-84.95	-95.17	-94.75	-91.98	-120.82	-84.91	-94.41	-94.16	-91.54	-120.24

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## Typical Performance Data

COMPARISON SPURIOUS ORDER	COMPARISON SPURIOUS @Fcarrier 1120MHz± (n*Fcomparison) (dBc) NOTE 1			COMPARISON SPURIOUS @Fcarrier 1820MHz± (n*Fcomparison) (dBc) NOTE 1			COMPARISON SPURIOUS @Fcarrier 2520MHz± (n*Fcomparison) (dBc) NOTE 1		
	n	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C
-5	-100.56	-97.62	-94.59	-84.04	-85.04	-86.17	-89.75	-89.20	-91.42
-4	-93.24	-97.46	-92.81	-86.01	-84.06	-85.07	-85.32	-87.82	-90.28
-3	-94.50	-93.93	-90.53	-80.56	-81.86	-83.24	-85.75	-85.94	-88.56
-2	-90.14	-90.43	-87.40	-76.87	-78.77	-80.48	-82.21	-83.01	-85.71
-1	-79.16	-83.05	-82.24	-69.76	-72.76	-75.68	-74.18	-76.15	-79.64
0 <sup>note 2</sup>	-	-	-	-	-	-	-	-	-
+1	-79.26	-82.89	-82.99	-71.27	-75.72	-79.45	-79.36	-82.46	-84.71
+2	-87.71	-88.12	-85.67	-76.72	-78.74	-80.33	-81.29	-82.81	-84.93
+3	-90.72	-90.54	-88.43	-79.47	-81.25	-82.40	-83.12	-84.74	-86.35
+4	-90.64	-92.74	-90.25	-84.73	-83.29	-84.08	-82.90	-86.21	-87.59
+5	-93.75	-93.24	-91.50	-82.58	-84.13	-84.97	-85.99	-87.23	-88.38

Note 1: Comparison frequency 2.5 MHz

Note 2: All spurs are referenced to carrier signal (n=0).

REFERENCE SPURIOUS ORDER	REFERENCE SPURIOUS @Fcarrier 1120MHz± (n*Reference) (dBc) NOTE 3			REFERENCE SPURIOUS @Fcarrier 1820MHz± (n*Reference) (dBc) NOTE 3			REFERENCE SPURIOUS @Fcarrier 2520MHz± (n*Reference) (dBc) NOTE 3		
	n	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C
-5	-124.61	-110.80	-119.92	-112.12	-114.01	-112.65	-114.52	-108.00	-112.21
-4	-99.69	-99.49	-101.18	-107.35	-106.99	-106.84	-104.31	-102.71	-105.83
-3	-104.14	-102.38	-103.17	-94.66	-95.57	-96.08	-97.57	-98.47	-97.77
-2	-89.97	-89.97	-89.39	-79.06	-78.70	-79.79	-82.13	-84.04	-85.12
-1	-101.64	-98.58	-96.63	-84.82	-85.71	-86.70	-90.50	-88.97	-92.08
0 <sup>note 4</sup>	-	-	-	-	-	-	-	-	-
+1	-94.43	-94.22	-92.80	-83.41	-84.69	-85.35	-86.88	-88.39	-88.41
+2	-87.30	-88.34	-88.49	-78.93	-79.56	-80.61	-83.96	-83.93	-84.80
+3	-103.88	-108.95	-111.21	-103.29	-100.83	-103.09	-110.32	-106.46	-103.94
+4	-99.44	-99.18	-103.24	-109.04	-107.71	-109.69	-110.36	-105.14	-110.05
+5	-115.21	-115.52	-112.19	-114.89	-114.69	-111.56	-131.09	-115.20	-114.01

Note 3: Reference frequency 20 MHz

Note 4: All spurs are referenced to carrier signal (n=0).