

# Frequency Synthesizer

KSN-1827A+

## Typical Performance Data

FREQ. (MHz)	POWER OUTPUT (dBm)			HARMONICS (dBc)						VCO CURRENT (mA)			PLL CURENT (mA)		
	-45°C	+25°C	+85°C	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						
1714.76	4.24	4.13	4.08	-23.85	-24.97	-27.18	-22.90	-24.81	-28.82	50.96	51.36	52.74	18.61	20.07	22.62
1714.80	4.23	4.13	4.08	-23.84	-24.98	-27.19	-22.89	-24.77	-28.84	50.95	51.36	52.74	18.62	20.07	22.64
1729.60	4.23	4.08	4.04	-23.68	-24.73	-26.95	-23.48	-25.39	-28.87	50.98	51.38	52.77	18.60	20.07	22.63
1744.40	4.17	4.06	4.00	-23.49	-24.58	-26.81	-24.65	-26.77	-30.41	50.41	51.39	52.77	18.67	20.15	22.72
1759.20	4.13	4.06	3.99	-23.02	-24.19	-26.46	-25.09	-27.09	-30.67	49.83	51.40	52.77	18.67	20.15	22.72
1774.00	4.22	4.12	4.00	-23.46	-24.60	-26.81	-25.30	-27.41	-30.97	50.99	51.43	52.77	18.66	20.15	22.72
1788.80	4.22	4.14	3.98	-23.25	-24.45	-26.70	-26.26	-27.86	-31.39	50.96	51.44	52.77	18.59	20.09	22.66
1803.60	4.20	4.14	3.95	-23.80	-25.23	-27.34	-28.62	-30.63	-33.96	50.91	51.41	52.74	18.63	20.14	22.70
1818.40	4.14	4.09	3.89	-24.05	-25.54	-27.77	-28.63	-30.31	-33.83	50.82	51.35	52.71	18.60	20.11	22.68
1827.84	4.11	4.05	3.84	-23.93	-25.45	-27.72	-29.99	-31.60	-34.49	50.78	51.31	52.69	17.29	18.75	21.20

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
1714.76	-76.33	-81.62	-100.24	-127.68	-147.93	-77.27	-85.04	-102.43	-126.77	-147.01	-79.86	-85.33	-99.98	-125.17	-145.36
1714.80	-77.49	-83.26	-102.29	-127.78	-147.88	-78.78	-84.24	-102.24	-126.92	-147.05	-75.70	-84.79	-101.74	-125.05	-145.25
1729.60	-74.73	-82.61	-102.30	-127.59	-147.78	-77.12	-84.14	-103.18	-126.60	-146.84	-75.60	-82.97	-101.76	-124.90	-145.05
1744.40	-75.33	-80.96	-101.58	-128.36	-148.79	-75.42	-83.23	-102.09	-126.70	-146.79	-77.38	-82.76	-101.43	-124.93	-144.94
1759.20	-74.83	-79.39	-102.93	-128.34	-148.92	-76.91	-82.58	-101.87	-126.31	-146.58	-77.67	-81.62	-101.09	-124.58	-144.96
1774.00	-75.25	-82.68	-101.57	-127.12	-147.41	-76.65	-83.99	-102.30	-126.41	-146.69	-82.85	-84.51	-101.05	-124.27	-144.46
1788.80	-77.58	-81.29	-101.91	-126.69	-147.03	-73.57	-83.50	-102.30	-126.21	-146.33	-77.32	-83.25	-100.27	-123.99	-144.30
1803.60	-76.21	-82.27	-101.16	-126.35	-146.72	-76.73	-83.42	-101.25	-125.81	-146.16	-75.13	-84.32	-100.20	-123.68	-143.81
1818.40	-76.72	-80.92	-99.45	-125.27	-146.21	-77.56	-82.79	-97.64	-124.03	-145.46	-75.48	-80.88	-98.08	-122.89	-143.45
1827.84	-77.92	-82.33	-100.68	-125.53	-146.01	-76.72	-83.51	-100.69	-125.08	-145.38	-75.12	-83.39	-98.92	-123.09	-143.16

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100810

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## Typical Performance Data

COMPARISON SPURIOUS ORDER	COMPARISON SPURIOUS @Fcarrier 1714.76MHz± (n*Fcomparison) (dBc) NOTE 1			COMPARISON SPURIOUS @Fcarrier 1773MHz± (n*Fcomparison) (dBc) NOTE 1			COMPARISON SPURIOUS @Fcarrier 1827.44MHz± (n*Fcomparison) (dBc) NOTE 1		
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
-5	-87.47	-89.45	-96.78	-87.94	-91.56	-97.09	-92.54	-92.47	-93.95
-4	-91.34	-94.41	-93.29	-91.82	-92.59	-97.68	-93.74	-94.57	-99.25
-3	-99.84	-95.96	-101.65	-100.17	-101.83	-113.47	-110.19	-115.27	-104.57
-2	-96.40	-90.79	-98.52	-93.62	-97.87	-98.21	-94.18	-94.89	-91.93
-1	-92.30	-90.54	-102.84	-98.12	-100.50	-101.87	-98.25	-99.13	-93.06
0 <sup>note 2</sup>	-	-	-	-	-	-	-	-	-
+1	-91.09	-92.21	-90.62	-91.80	-89.83	-90.36	-92.06	-93.55	-95.64
+2	-95.71	-99.35	-99.04	-98.97	-93.57	-96.57	-95.54	-98.53	-104.11
+3	-99.10	-104.14	-106.86	-112.32	-103.17	-111.34	-100.98	-104.25	-108.61
+4	-93.28	-93.87	-97.18	-95.01	-99.23	-97.15	-99.97	-109.30	-100.22
+5	-84.86	-85.65	-86.96	-86.26	-87.75	-89.16	-89.98	-90.55	-91.89

Note 1: Comparison frequency 15.36 MHz

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

REFERENCE SPURIOUS ORDER	REFERENCE SPURIOUS @Fcarrier 1714.76MHz± (n*Reference) (dBc) NOTE 3			REFERENCE SPURIOUS @Fcarrier 1773MHz± (n*Reference) (dBc) NOTE 3			REFERENCE SPURIOUS @Fcarrier 1827.44MHz± (n*Reference) (dBc) NOTE 3		
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
-5	-84.73	-88.24	-92.97	-85.84	-86.19	-93.56	-86.12	-91.40	-89.41
-4	-84.93	-84.17	-83.71	-91.04	-88.74	-89.16	-81.27	-81.88	-82.25
-3	-85.40	-84.65	-83.67	-92.26	-95.09	-92.48	-96.43	-94.97	-97.71
-2	-91.34	-94.41	-93.29	-91.82	-92.59	-97.68	-93.74	-94.57	-99.25
-1	-96.40	-90.79	-98.52	-93.62	-97.87	-98.21	-94.18	-94.89	-91.93
0 <sup>note 4</sup>	-	-	-	-	-	-	-	-	-
+1	-95.71	-99.35	-99.04	-98.97	-93.57	-96.57	-95.54	-98.53	-104.11
+2	-93.28	-93.87	-97.18	-95.01	-99.23	-97.15	-99.97	-109.30	-100.22
+3	-83.57	-83.72	-82.66	-85.94	-87.19	-89.06	-90.08	-89.64	-92.62
+4	-81.59	-82.77	-83.04	-85.52	-86.45	-86.17	-77.82	-78.07	-77.28
+5	-80.89	-83.74	-89.02	-79.96	-82.56	-88.75	-80.81	-84.42	-89.56

Note 3: Reference frequency 30.72 MHz

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

## Typical Performance Data

STEP SIZE SPURIOUS ORDER	0.5 STEP SIZE & STEP SIZE SPURIOUS @ Fcarrier 1714.76 MHz± (n*Fstep size) (dBc) NOTE 5			0.5 STEP SIZE & STEP SIZE SPURIOUS @ Fcarrier 1773 MHz± (n*Fstep size) (dBc) NOTE 5			0.5 STEP SIZE & STEP SIZESPURIOUS @ Fcarrier 1827.44 MHz± (n*Fstep size) (dBc) NOTE 5		
	n	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C
-5.0	-80.31	-86.08	-82.33	-86.26	-80.37	-87.14	-86.85	-86.11	-82.97
-4.5	-84.70	-85.42	-86.72	-86.92	-83.58	-85.84	-86.35	-86.94	-87.10
-4.0	-86.76	-86.54	-86.21	-86.17	-86.63	-83.70	-86.41	-87.04	-84.75
-3.5	-85.96	-84.84	-84.30	-85.06	-85.34	-81.61	-82.34	-87.41	-82.82
-3.0	-84.73	-86.36	-82.07	-86.57	-82.58	-87.35	-84.54	-84.21	-85.57
-2.5	-86.94	-86.59	-84.93	-84.96	-80.79	-84.09	-79.02	-80.35	-85.84
-2.0	-85.83	-85.04	-87.97	-86.72	-88.26	-87.39	-87.02	-85.35	-87.40
-1.5	-81.82	-83.33	-81.54	-82.24	-78.24	-79.93	-81.82	-82.50	-81.15
-1.0	-86.66	-82.85	-83.42	-84.64	-85.81	-87.01	-84.89	-84.04	-83.08
-0.5	-77.28	-78.74	-77.31	-78.16	-82.67	-77.87	-78.69	-79.69	-78.00
0 <sup>note 6</sup>	-	-	-	-	-	-	-	-	-
+0.5	-77.34	-79.57	-77.33	-80.36	-81.17	-78.42	-77.89	-77.15	-79.60
+1.0	-85.86	-86.69	-86.10	-88.52	-87.27	-81.33	-82.94	-86.31	-84.84
+1.5	-82.23	-79.13	-84.84	-83.21	-77.87	-80.63	-81.44	-80.24	-80.49
+2.0	-88.68	-83.92	-84.15	-84.00	-82.76	-87.06	-79.71	-80.53	-79.25
+2.5	-84.05	-86.80	-85.92	-87.03	-87.35	-82.59	-87.35	-86.99	-83.56
+3.0	-84.60	-81.96	-85.19	-83.13	-85.10	-85.89	-82.60	-86.48	-83.54
+3.5	-83.09	-82.97	-83.00	-84.97	-86.41	-86.99	-83.92	-82.01	-86.86
+4.0	-85.21	-85.39	-86.65	-85.07	-83.77	-82.40	-85.14	-85.83	-86.04
+4.5	-86.71	-87.27	-86.29	-87.54	-85.49	-84.28	-83.01	-82.30	-82.31
+5.0	-82.15	-88.13	-85.72	-85.25	-83.97	-87.42	-84.00	-86.86	-86.99

Note 5: Step size 20 kHz

Note 6: All spurs are referenced to carrier signal (n=0).