

Frequency Synthesizer

RSN-1618AF-119+

Typical Performance Data

FREQ. (MHz)	POWER OUTPUT (dBm)			HARMONICS (dBc)					
	-45°C	+25°C	+85°C	F2					
				-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
1543	4.07	4.56	4.67	-25.15	-27.16	-29.03	-21.89	-25.49	-29.84
1550	4.11	4.58	4.67	-25.78	-27.84	-29.58	-21.67	-25.28	-29.78
1560	4.17	4.62	4.67	-27.07	-29.59	-30.96	-22.81	-26.66	-31.75
1570	4.17	4.62	4.65	-27.77	-30.61	-31.43	-23.39	-28.17	-33.81
1580	4.18	4.64	4.63	-27.97	-30.77	-30.98	-22.50	-27.49	-33.56
1590	4.22	4.69	4.64	-28.45	-31.37	-31.59	-22.16	-26.30	-31.84
1600	4.26	4.73	4.64	-28.66	-31.66	-32.66	-22.44	-26.43	-31.82
1610	4.30	4.75	4.64	-28.85	-31.98	-33.40	-21.03	-25.67	-31.49
1618	4.29	4.72	4.59	-28.84	-32.21	-33.79	-21.02	-25.84	-32.09

FREQ. (MHz)	VCO CURRENT (mA)			PLL CURENT (mA)			CP CURENT (mA)		
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
1543	41.02	42.4	43.67	16.74	18.39	21.08	42.54	42.83	42.49
1550	41.05	42.39	43.67	16.54	18.21	20.88	42.37	42.67	42.33
1560	40.97	42.36	43.65	16.23	17.91	20.56	42.12	42.43	42.11
1570	40.96	42.34	43.64	16.53	18.23	20.89	41.89	42.20	41.89
1580	40.97	42.31	43.62	16.62	18.34	20.98	41.65	41.98	41.68
1590	40.95	42.28	43.60	16.75	18.47	21.11	41.42	41.75	41.45
1600	40.90	42.24	43.59	16.92	18.66	21.30	41.18	41.52	41.24
1610	40.55	42.21	43.57	16.62	18.35	20.99	40.95	41.29	41.04
1618	40.86	42.20	43.56	16.82	18.57	21.20	40.77	41.11	40.87

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
1543	-90.71	-94.88	-98.67	-106.40	-146.62	-92.95	-95.85	-98.65	-106.22	-145.14	-90.46	-95.18	-98.24	-105.49	-142.08
1550	-88.84	-95.27	-98.41	-106.52	-147.38	-89.16	-95.99	-98.64	-106.38	-144.55	-88.82	-96.88	-97.63	-105.76	-142.47
1560	-87.78	-96.10	-98.81	-106.37	-147.44	-90.52	-96.98	-98.64	-106.42	-145.60	-87.68	-95.69	-97.54	-105.82	-143.18
1570	-87.91	-95.48	-98.82	-106.68	-146.70	-92.54	-95.33	-98.63	-106.54	-144.20	-93.36	-95.36	-97.79	-105.86	-142.67
1580	-86.22	-95.17	-98.58	-106.73	-147.28	-89.03	-94.97	-98.78	-106.42	-145.54	-88.61	-96.91	-97.82	-105.90	-143.18
1590	-89.33	-95.22	-98.86	-106.83	-147.50	-91.53	-94.75	-98.94	-106.58	-144.68	-89.77	-95.22	-97.99	-106.05	-142.40
1600	-89.46	-95.97	-98.77	-107.04	-147.46	-86.98	-95.82	-98.46	-106.62	-145.50	-90.65	-96.13	-97.59	-106.06	-143.25
1610	-92.74	-96.02	-98.46	-106.94	-146.29	-88.35	-96.14	-98.41	-106.71	-144.36	-91.88	-96.74	-97.01	-105.99	-143.21
1618	-89.59	-95.08	-98.67	-106.91	-147.48	-88.12	-94.79	-98.38	-106.48	-145.34	-88.13	-95.30	-97.62	-105.85	-143.22

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Typical Performance Data

COMPARISON SPURIOUS ORDER n	COMPARISON SPURIOUS @Fcarrier 1543MHz± (n*Fcomparison) (dBc) NOTE 1			COMPARISON SPURIOUS @Fcarrier 1580MHz± (n*Fcomparison) (dBc) NOTE 1			COMPARISON SPURIOUS @Fcarrier 1618MHz± (n*Fcomparison) (dBc) NOTE 1		
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
-5	-99.32	-102.69	-105.11	-99.55	-106.22	-108.48	-103.52	-111.95	-109.85
-4	-99.00	-112.89	-110.91	-102.21	-121.47	-107.27	-105.13	-115.46	-102.22
-3	-100.26	-113.00	-108.90	-101.77	-112.76	-108.50	-109.51	-116.49	-102.18
-2	-98.98	-106.24	-112.11	-101.52	-108.39	-114.43	-110.82	-116.42	-104.37
-1	-96.24	-101.07	-111.61	-101.84	-106.55	-109.58	-109.66	-107.10	-102.82
0 ^{note 2}	-	-	-	-	-	-	-	-	-
+1	-95.21	-93.91	-101.18	-96.39	-96.50	-109.58	-98.28	-105.92	-104.38
+2	-97.47	-97.08	-105.68	-98.23	-100.83	-125.60	-100.37	-111.21	-107.99
+3	-98.80	-98.38	-106.08	-98.41	-102.15	-111.50	-100.60	-106.70	-115.21
+4	-100.96	-102.91	-110.03	-99.92	-107.15	-108.23	-102.76	-107.81	-107.53
+5	-105.43	-109.53	-101.00	-106.12	-106.79	-99.64	-102.47	-101.03	-99.11

Note 1: Comparison frequency 13 MHz

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

REFERENCE SPURIOUS ORDER n	REFERENCE SPURIOUS @Fcarrier 1543MHz± (n*Reference) (dBc) NOTE 3			REFERENCE SPURIOUS @Fcarrier 1580MHz± (n*Reference) (dBc) NOTE 3			REFERENCE SPURIOUS @Fcarrier 1618MHz± (n*Reference) (dBc) NOTE 3		
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
-5	-93.98	-98.86	-97.75	-92.94	-96.90	-98.53	-92.33	-97.02	-98.36
-4	-95.88	-100.79	-98.00	-93.84	-97.17	-97.11	-94.56	-96.37	-97.03
-3	-95.04	-100.34	-97.53	-95.18	-98.42	-100.00	-94.39	-98.75	-98.86
-2	-80.63	-85.49	-89.13	-89.21	-91.60	-94.01	-94.47	-94.99	-95.27
-1	-106.33	-115.23	-111.43	-111.85	-118.45	-107.71	-107.27	-115.25	-102.24
0 ^{note 4}	-	-	-	-	-	-	-	-	-
+1	-117.62	-103.51	-111.25	-107.92	-107.14	-108.41	-114.24	-107.01	-107.49
+2	-79.64	-84.05	-88.58	-85.99	-89.60	-92.76	-87.49	-91.89	-92.17
+3	-96.66	-100.31	-97.20	-100.15	-97.92	-95.75	-104.44	-97.89	-94.44
+4	-91.85	-92.94	-93.01	-90.52	-91.72	-92.92	-89.79	-91.67	-93.07
+5	-89.25	-92.98	-96.72	-89.86	-91.67	-97.67	-90.94	-92.14	-96.93

Note 3: Reference frequency 52 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 1543 MHz± (n*Fstep size) (dBc) NOTE 5			0.5 STEP SIZE & STEP SIZE SPURIOUS @ Fcarrier 1580 MHz± (n*Fstep size) (dBc) NOTE 5			0.5 STEP SIZE & STEP SIZESPURIOUS @ Fcarrier 1618 MHz± (n*Fstep size) (dBc) NOTE 5		
	n			n			n		
	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C	-45°C	+25°C	+85°C
-5.0	-106.11	-113.54	-104.90	-99.61	-100.29	-100.90	-104.50	-112.17	-112.92
-4.5	-129.54	-128.51	-129.58	-129.57	-130.40	-128.11	-129.57	-129.37	-127.73
-4.0	-109.92	-107.32	-111.72	-103.15	-99.38	-101.54	-101.32	-99.59	-101.94
-3.5	-127.77	-127.02	-125.88	-127.87	-126.13	-126.02	-128.92	-127.21	-123.64
-3.0	-92.98	-102.04	-109.13	-96.92	-96.52	-94.96	-97.54	-94.81	-91.04
-2.5	-125.15	-124.06	-124.66	-125.78	-120.40	-122.99	-124.28	-124.71	-122.84
-2.0	-85.41	-83.64	-84.27	-91.43	-91.64	-86.29	-81.37	-81.78	-82.11
-1.5	-120.24	-119.57	-115.89	-120.12	-119.45	-115.86	-116.84	-119.15	-116.57
-1.0	-67.38	-66.39	-65.74	-77.11	-72.51	-72.09	-64.46	-63.78	-63.44
-0.5	-95.82	-96.90	-95.33	-97.00	-96.78	-95.80	-96.76	-95.74	-94.72
0 ^{note 6}	-	-	-	-	-	-	-	-	-
+0.5	-96.83	-95.89	-95.50	-95.84	-95.01	-95.75	-96.04	-96.39	-95.23
+1.0	-67.33	-66.42	-65.54	-77.10	-72.54	-72.05	-64.39	-63.76	-63.47
+1.5	-119.97	-119.32	-117.61	-119.60	-119.18	-116.46	-119.35	-118.29	-116.44
+2.0	-85.41	-83.71	-83.86	-91.04	-91.75	-86.14	-81.42	-81.79	-82.04
+2.5	-125.30	-123.94	-121.94	-124.28	-122.21	-122.54	-125.89	-124.78	-124.85
+3.0	-92.77	-101.53	-110.04	-97.40	-96.13	-94.71	-97.68	-94.80	-90.51
+3.5	-127.65	-127.64	-126.54	-128.26	-128.61	-127.93	-127.84	-128.03	-125.97
+4.0	-110.60	-107.01	-112.71	-103.07	-99.18	-100.70	-101.54	-99.44	-101.36
+4.5	-129.92	-129.10	-128.90	-129.56	-129.38	-127.99	-130.43	-129.12	-128.41
+5.0	-106.45	-113.47	-105.67	-99.79	-100.74	-100.83	-104.44	-112.65	-115.94

Note 5: Step size 200 kHz

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