

Frequency Multiplier

CY3-64-D+

Typical Performance Data

TEST CONDITION: RF In = +17dBm

Frequency (GHz)				Temperature = -40°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	18.7	41.7	64.4	45.4
10.5	21.0	31.5	42.0	18.7	41.2	65.4	40.4
11.0	22.0	33.0	44.0	17.8	40.5	51.7	46.4
11.5	23.0	34.5	46.0	17.7	39.5	48.0	46.5
12.0	24.0	36.0	48.0	17.1	38.7	44.5	45.8
12.5	25.0	37.5	50.0	16.9	38.5	43.4	51.5
13.0	26.0	39.0	52.0	16.9	38.7	40.8	50.1
13.5	27.0	40.5	54.0	17.2	37.3	38.9	53.7
14.0	28.0	42.0	56.0	17.1	37.1	42.1	51.8
14.5	29.0	43.5	58.0	17.6	35.8	41.9	49.4
15.0	30.0	45.0	60.0	18.4	34.3	44.5	46.2
15.5	31.0	46.5	62.0	18.7	33.1	47.7	42.7
16.0	32.0	48.0	64.0	20.0	31.7	38.8	44.1
16.5	33.0	49.5	66.0	19.3	31.9	36.5	41.0
17.0	34.0	51.0	68.0	19.9	31.0	35.0	40.1
17.5	35.0	52.5	70.0	20.7	30.2	34.4	34.9
18.0	36.0	54.0	72.0	20.9	28.1	32.6	36.0
18.5	37.0	55.5	74.0	21.5	26.1	28.5	37.2
19.0	38.0	57.0	76.0	21.8	23.9	25.3	42.7
19.5	39.0	58.5	78.0	21.1	23.4	23.8	46.9
20.0	40.0	60.0	80.0	21.9	19.9	20.9	54.9

* Harmonic Output below power level of X3 Output

Frequency (GHz)				Temperature = +25°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	20.3	42.2	80.9	37.0
10.5	21.0	31.5	42.0	20.2	41.2	54.3	35.0
11.0	22.0	33.0	44.0	19.6	40.0	45.2	40.9
11.5	23.0	34.5	46.0	19.1	39.2	42.7	43.3
12.0	24.0	36.0	48.0	18.7	38.7	42.8	43.9
12.5	25.0	37.5	50.0	18.7	38.2	41.4	50.1
13.0	26.0	39.0	52.0	18.6	38.3	40.2	50.8
13.5	27.0	40.5	54.0	18.9	36.8	36.8	50.5
14.0	28.0	42.0	56.0	19.0	36.5	37.6	49.4
14.5	29.0	43.5	58.0	19.8	35.4	38.8	48.3
15.0	30.0	45.0	60.0	20.3	34.1	40.3	47.7
15.5	31.0	46.5	62.0	20.5	33.0	38.3	42.3
16.0	32.0	48.0	64.0	21.3	32.4	32.7	42.3
16.5	33.0	49.5	66.0	21.3	32.4	32.5	41.0
17.0	34.0	51.0	68.0	21.4	31.1	32.4	39.6
17.5	35.0	52.5	70.0	22.3	30.7	31.7	35.2
18.0	36.0	54.0	72.0	22.5	28.8	30.0	36.8
18.5	37.0	55.5	74.0	23.0	27.2	27.7	39.8
19.0	38.0	57.0	76.0	23.6	25.7	25.2	47.1
19.5	39.0	58.5	78.0	23.6	24.2	24.1	51.7
20.0	40.0	60.0	80.0	24.6	19.3	20.8	51.8

* Harmonic Output below power level of X3 Output

Frequency (GHz)				Temperature = +85°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	21.4	39.8	69.4	43.9
10.5	21.0	31.5	42.0	21.2	39.3	55.5	40.7
11.0	22.0	33.0	44.0	20.2	38.6	47.1	46.7
11.5	23.0	34.5	46.0	20.0	37.6	45.0	45.8
12.0	24.0	36.0	48.0	19.5	36.5	41.8	45.1
12.5	25.0	37.5	50.0	19.5	36.2	40.4	51.4
13.0	26.0	39.0	52.0	19.4	36.3	38.2	49.2
13.5	27.0	40.5	54.0	19.6	34.9	36.5	50.6
14.0	28.0	42.0	56.0	19.6	34.6	38.7	48.5
14.5	29.0	43.5	58.0	20.1	33.3	38.7	44.4
15.0	30.0	45.0	60.0	20.7	32.1	40.3	45.0
15.5	31.0	46.5	62.0	21.0	30.9	41.8	43.7
16.0	32.0	48.0	64.0	22.1	30.0	39.5	42.0
16.5	33.0	49.5	66.0	21.6	29.9	39.6	42.2
17.0	34.0	51.0	68.0	22.3	29.0	38.1	42.1
17.5	35.0	52.5	70.0	23.3	28.1	35.7	37.0
18.0	36.0	54.0	72.0	23.4	26.3	32.6	39.8
18.5	37.0	55.5	74.0	24.0	24.2	28.5	43.4
19.0	38.0	57.0	76.0	24.3	22.4	25.2	48.1
19.5	39.0	58.5	78.0	23.7	21.8	24.0	51.1
20.0	40.0	60.0	80.0	24.7	18.0	21.1	61.4

* Harmonic Output below power level of X3 Output



Typical Performance Data

TEST CONDITION: RF In = +18dBm

Frequency (GHz)				Temperature = -40°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	19.4	41.4	57.7	36.8
10.5	21.0	31.5	42.0	19.2	41.0	62.0	48.8
11.0	22.0	33.0	44.0	18.3	40.1	55.6	43.0
11.5	23.0	34.5	46.0	18.1	39.2	47.8	42.9
12.0	24.0	36.0	48.0	17.6	38.2	45.3	48.0
12.5	25.0	37.5	50.0	17.4	37.9	42.0	50.5
13.0	26.0	39.0	52.0	17.4	38.0	39.2	52.4
13.5	27.0	40.5	54.0	17.6	36.6	37.0	56.0
14.0	28.0	42.0	56.0	17.6	36.3	40.3	50.6
14.5	29.0	43.5	58.0	18.1	34.9	39.7	46.6
15.0	30.0	45.0	60.0	18.9	33.5	41.3	43.9
15.5	31.0	46.5	62.0	19.2	32.3	44.2	42.9
16.0	32.0	48.0	64.0	20.4	31.0	39.0	45.5
16.5	33.0	49.5	66.0	19.8	31.2	37.1	41.5
17.0	34.0	51.0	68.0	20.2	30.4	35.6	40.9
17.5	35.0	52.5	70.0	21.1	29.6	34.5	35.2
18.0	36.0	54.0	72.0	21.2	27.6	32.9	36.4
18.5	37.0	55.5	74.0	21.9	25.6	28.6	37.6
19.0	38.0	57.0	76.0	22.2	23.5	25.4	43.5
19.5	39.0	58.5	78.0	21.5	23.1	23.9	47.8
20.0	40.0	60.0	80.0	22.3	19.8	21.2	58.1

* Harmonic Output below power level of X3 Output

Frequency (GHz)				Temperature = +25°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	21.0	41.9	66.6	44.4
10.5	21.0	31.5	42.0	20.7	41.0	57.4	42.4
11.0	22.0	33.0	44.0	20.1	39.8	47.6	49.8
11.5	23.0	34.5	46.0	19.7	38.8	45.2	49.2
12.0	24.0	36.0	48.0	19.2	38.3	44.1	48.1
12.5	25.0	37.5	50.0	19.3	37.7	40.8	55.4
13.0	26.0	39.0	52.0	19.1	37.8	38.9	53.9
13.5	27.0	40.5	54.0	19.4	36.1	35.0	51.3
14.0	28.0	42.0	56.0	19.5	35.8	36.0	48.6
14.5	29.0	43.5	58.0	20.3	34.7	37.0	46.2
15.0	30.0	45.0	60.0	20.8	33.4	38.6	45.9
15.5	31.0	46.5	62.0	21.0	32.3	37.2	41.6
16.0	32.0	48.0	64.0	21.7	31.7	32.1	41.5
16.5	33.0	49.5	66.0	21.7	31.8	32.1	41.0
17.0	34.0	51.0	68.0	21.9	30.5	32.3	39.6
17.5	35.0	52.5	70.0	22.7	30.2	31.5	35.4
18.0	36.0	54.0	72.0	22.9	28.3	30.0	37.1
18.5	37.0	55.5	74.0	23.5	26.7	27.8	40.1
19.0	38.0	57.0	76.0	24.0	25.3	25.4	47.9
19.5	39.0	58.5	78.0	24.0	24.0	24.3	52.7
20.0	40.0	60.0	80.0	24.9	19.2	21.2	54.0

* Harmonic Output below power level of X3 Output

Frequency (GHz)				Temperature = +85°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	22.3	39.1	57.7	38.1
10.5	21.0	31.5	42.0	21.9	38.7	61.8	51.1
11.0	22.0	33.0	44.0	20.9	37.9	52.6	46.2
11.5	23.0	34.5	46.0	20.7	36.9	45.1	45.2
12.0	24.0	36.0	48.0	20.3	35.7	42.2	49.1
12.5	25.0	37.5	50.0	20.2	35.5	38.9	55.2
13.0	26.0	39.0	52.0	20.1	35.5	36.5	52.7
13.5	27.0	40.5	54.0	20.2	34.1	34.5	52.6
14.0	28.0	42.0	56.0	20.2	33.7	37.0	48.2
14.5	29.0	43.5	58.0	20.8	32.4	36.7	43.5
15.0	30.0	45.0	60.0	21.3	31.2	38.2	43.5
15.5	31.0	46.5	62.0	21.6	30.1	39.5	42.6
16.0	32.0	48.0	64.0	22.7	29.2	38.9	40.9
16.5	33.0	49.5	66.0	22.3	29.1	40.9	41.4
17.0	34.0	51.0	68.0	22.9	28.3	39.2	41.3
17.5	35.0	52.5	70.0	23.9	27.4	36.3	36.6
18.0	36.0	54.0	72.0	23.9	25.6	33.0	39.5
18.5	37.0	55.5	74.0	24.6	23.6	28.4	43.0
19.0	38.0	57.0	76.0	24.9	21.8	24.9	48.0
19.5	39.0	58.5	78.0	24.3	21.3	23.9	51.3
20.0	40.0	60.0	80.0	25.2	17.8	21.0	67.0

* Harmonic Output below power level of X3 Output

Typical Performance Data

TEST CONDITION: RF In = +19dBm

Frequency (GHz)				Temperature = -40°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	20.2	40.9	51.9	29.9
10.5	21.0	31.5	42.0	19.9	40.6	51.5	33.8
11.0	22.0	33.0	44.0	19.0	39.6	44.8	35.3
11.5	23.0	34.5	46.0	18.8	38.7	40.0	37.5
12.0	24.0	36.0	48.0	18.2	37.6	40.3	43.8
12.5	25.0	37.5	50.0	18.1	37.2	38.4	46.0
13.0	26.0	39.0	52.0	18.0	37.3	36.4	52.5
13.5	27.0	40.5	54.0	18.2	35.8	34.7	60.6
14.0	28.0	42.0	56.0	18.2	35.5	38.3	50.2
14.5	29.0	43.5	58.0	18.8	34.1	37.6	45.0
15.0	30.0	45.0	60.0	19.5	32.6	38.5	42.8
15.5	31.0	46.5	62.0	19.8	31.4	41.0	43.2
16.0	32.0	48.0	64.0	21.0	30.3	39.0	47.2
16.5	33.0	49.5	66.0	20.4	30.4	38.2	41.3
17.0	34.0	51.0	68.0	20.8	29.6	36.5	40.4
17.5	35.0	52.5	70.0	21.6	29.0	34.5	34.9
18.0	36.0	54.0	72.0	21.8	27.0	33.1	36.4
18.5	37.0	55.5	74.0	22.5	25.0	28.5	37.6
19.0	38.0	57.0	76.0	22.7	23.0	25.5	43.7
19.5	39.0	58.5	78.0	22.1	22.7	24.0	48.1
20.0	40.0	60.0	80.0	22.9	19.6	21.4	60.4

* Harmonic Output below power level of X3 Output

Frequency (GHz)				Temperature = +25°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	21.8	41.5	57.2	36.8
10.5	21.0	31.5	42.0	21.5	40.7	58.5	45.5
11.0	22.0	33.0	44.0	20.9	39.4	50.2	43.6
11.5	23.0	34.5	46.0	20.4	38.3	44.8	46.3
12.0	24.0	36.0	48.0	20.0	37.7	41.5	47.8
12.5	25.0	37.5	50.0	20.0	37.0	38.4	54.4
13.0	26.0	39.0	52.0	19.9	37.0	36.5	62.4
13.5	27.0	40.5	54.0	20.1	35.3	32.6	52.2
14.0	28.0	42.0	56.0	20.2	34.9	33.7	48.4
14.5	29.0	43.5	58.0	21.0	33.8	34.9	45.0
15.0	30.0	45.0	60.0	21.5	32.5	36.8	44.6
15.5	31.0	46.5	62.0	21.6	31.4	36.1	41.3
16.0	32.0	48.0	64.0	22.3	31.0	31.9	41.9
16.5	33.0	49.5	66.0	22.3	31.1	32.0	40.8
17.0	34.0	51.0	68.0	22.6	29.7	32.4	39.3
17.5	35.0	52.5	70.0	23.4	29.5	31.5	35.1
18.0	36.0	54.0	72.0	23.6	27.6	29.9	36.8
18.5	37.0	55.5	74.0	24.1	26.1	27.7	39.9
19.0	38.0	57.0	76.0	24.6	24.8	25.4	47.8
19.5	39.0	58.5	78.0	24.6	23.6	24.3	52.8
20.0	40.0	60.0	80.0	25.5	19.1	21.3	56.8

* Harmonic Output below power level of X3 Output

Frequency (GHz)				Temperature = +85°C			
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss X3 Output	X1 Output	Harmonic Output* X2 Output	X4 Output
10.0	20.0	30.0	40.0	23.5	38.1	49.4	30.9
10.5	21.0	31.5	42.0	23.0	37.8	48.1	34.9
11.0	22.0	33.0	44.0	22.0	36.9	40.7	37.0
11.5	23.0	34.5	46.0	21.7	36.0	36.6	39.0
12.0	24.0	36.0	48.0	21.3	34.7	36.8	44.6
12.5	25.0	37.5	50.0	21.2	34.4	35.0	49.4
13.0	26.0	39.0	52.0	21.0	34.5	33.5	61.2
13.5	27.0	40.5	54.0	21.1	33.1	31.9	55.0
14.0	28.0	42.0	56.0	21.1	32.7	35.0	48.2
14.5	29.0	43.5	58.0	21.8	31.3	34.5	43.2
15.0	30.0	45.0	60.0	22.2	30.2	35.7	43.0
15.5	31.0	46.5	62.0	22.5	29.1	36.9	42.6
16.0	32.0	48.0	64.0	23.5	28.3	37.7	42.4
16.5	33.0	49.5	66.0	23.3	28.1	42.2	41.0
17.0	34.0	51.0	68.0	23.8	27.3	40.7	40.6
17.5	35.0	52.5	70.0	24.7	26.5	37.3	35.8
18.0	36.0	54.0	72.0	24.8	24.8	33.4	38.6
18.5	37.0	55.5	74.0	25.5	22.8	28.3	42.0
19.0	38.0	57.0	76.0	25.7	21.1	24.6	47.0
19.5	39.0	58.5	78.0	25.1	20.7	23.5	50.6
20.0	40.0	60.0	80.0	25.9	17.4	20.8	67.6

* Harmonic Output below power level of X3 Output

Typical Performance Data

TEST CONDITION: RF In = +12dBm to 16dBm

Frequency (GHz)				Temperature = +25°C				
X1 Output	X2 Output	X3 Output	X4 Output	Conversion Loss				
				12dBm	13dBm	14dBm	15dBm	16dBm
10.0	20.0	30.0	40.0	19.7	19.3	19.3	19.4	19.8
10.5	21.0	31.5	42.0	20.0	19.5	19.4	19.4	19.7
11.0	22.0	33.0	44.0	19.8	19.3	19.0	19.1	19.3
11.5	23.0	34.5	46.0	19.7	18.9	18.6	18.6	18.8
12.0	24.0	36.0	48.0	19.5	18.6	18.2	18.1	18.3
12.5	25.0	37.5	50.0	19.7	18.7	18.2	18.1	18.3
13.0	26.0	39.0	52.0	20.0	18.8	18.2	18.0	18.2
13.5	27.0	40.5	54.0	20.7	19.3	18.6	18.3	18.4
14.0	28.0	42.0	56.0	20.7	19.2	18.5	18.3	18.4
14.5	29.0	43.5	58.0	21.8	20.1	19.3	19.1	19.1
15.0	30.0	45.0	60.0	22.6	20.8	20.0	19.6	19.7
15.5	31.0	46.5	62.0	23.4	21.5	20.5	20.2	20.2
16.0	32.0	48.0	64.0	25.3	23.1	22.0	21.5	21.4
16.5	33.0	49.5	66.0	25.4	23.1	21.9	21.3	21.2
17.0	34.0	51.0	68.0	24.4	22.6	21.6	21.2	21.1
17.5	35.0	52.5	70.0	25.6	23.8	22.8	22.3	22.1
18.0	36.0	54.0	72.0	25.0	23.4	22.6	22.3	22.2
18.5	37.0	55.5	74.0	25.0	23.8	23.1	22.8	22.8
19.0	38.0	57.0	76.0	25.5	24.3	23.6	23.3	23.2
19.5	39.0	58.5	78.0	24.8	23.9	23.4	23.1	23.1
20.0	40.0	60.0	80.0	25.8	24.9	24.4	24.1	24.1

* Harmonic Output below power level of X3 Output