

## Typical Performance Data

TEST CONDITIONS: POWER AMPLIFIER MODE, T<sub>WATER</sub> = +20°C.

FREQ	P1dB	P2dB	P3dB
	P1dB	P2dB	P3dB
GHz	dBm	dBm	dBm
2.4	60.1	60.3	60.4
2.4	60.2	60.4	60.5
2.4	60.3	60.5	60.6
2.4	60.4	60.6	60.7
2.4	60.4	60.6	60.7
2.5	60.5	60.7	60.7
2.5	60.4	60.6	60.7
2.5	60.4	60.6	60.6
2.5	60.3	60.5	60.5
2.5	60.2	60.4	60.5
2.5	60.1	60.3	60.4

FREQ	Gain @500W
GHz	dB
2.4	53.5
2.4	53.7
2.4	53.9
2.4	54.1
2.4	54.2
2.5	54.3
2.5	54.4
2.5	54.4
2.5	54.2
2.5	53.9
2.5	53.4

# HIGH POWER AMPLIFIER

# RFS-2G42G51K0+

## Typical Performance Data

TEST CONDITIONS: AUTO GAIN MODE, T<sub>WATER</sub> = +20°C

FREQ	Power Set power	Power set error (dB)	FREQ	Power Set power	Power set error (dB)	FREQ	Power Set power	Power Set power (W)
GHz	(W)	(dB)	GHz	(W)	(dB)	GHz	(W)	(dB)
	1.0	-0.5		1.0	-0.2		1.0	-0.5
	1.1	0.8		1.1	0.5		1.1	0.1
	1.3	0.6		1.3	0.4		1.3	0.1
	1.4	0.4		1.4	0.3		1.4	0.0
	1.6	0.3		1.6	0.2		1.6	0.0
	1.8	0.2		1.8	0.1		1.8	0.0
	2.0	0.1		2.0	0.0		2.0	-0.1
	2.2	0.0		2.2	0.0		2.2	-0.1
	2.5	0.0		2.5	0.0		2.5	-0.1
	2.8	-0.1		2.8	0.0		2.8	-0.1
	3.2	-0.1		3.2	0.0		3.2	-0.1
	3.5	-0.2		3.5	-0.1		3.5	-0.1
	4.0	-0.2		4.0	-0.1		4.0	-0.1
	4.5	-0.2		4.5	-0.1		4.5	-0.1
	5.0	-0.2		5.0	-0.1		5.0	-0.1
	5.6	-0.2		5.6	-0.2		5.6	-0.1
	6.3	-0.2		6.3	-0.1		6.3	-0.1
	7.1	-0.2		7.1	-0.1		7.1	-0.1
	7.9	-0.2		7.9	-0.1		7.9	-0.1
	8.9	-0.2		8.9	-0.2		8.9	-0.2
	10.0	-0.3		10.0	-0.2		10.0	-0.2
	11.2	-0.3		11.2	-0.2		11.2	-0.2
	12.6	-0.2		12.6	-0.2		12.6	-0.2
	14.1	-0.2		14.1	-0.2		14.1	-0.1
	15.8	-0.2		15.8	-0.2		15.8	-0.1
	17.8	-0.2		17.8	-0.2		17.8	-0.1
	20.0	-0.2		20.0	-0.2		20.0	-0.1
	22.4	-0.2		22.4	-0.1		22.4	-0.1
	25.1	-0.2		25.1	-0.1		25.1	-0.1
	28.2	-0.2		28.2	-0.1		28.2	-0.1
2.4	31.6	-0.2	2.45	31.6	-0.1	2.5	31.6	-0.1
	35.5	-0.2		35.5	-0.1		35.5	-0.1
	39.8	-0.2		39.8	-0.2		39.8	-0.1
	44.7	-0.2		44.7	-0.2		44.7	-0.1
	50.1	-0.2		50.1	-0.2		50.1	-0.1
	56.2	-0.2		56.2	-0.2		56.2	-0.1
	63.1	-0.2		63.1	-0.2		63.1	-0.1
	70.8	-0.2		70.8	-0.1		70.8	-0.1
	79.4	-0.2		79.4	-0.2		79.4	-0.1
	89.1	-0.2		89.1	-0.2		89.1	-0.1
	100.0	-0.2		100.0	-0.2		100.0	-0.1
	112.2	-0.2		112.2	-0.2		112.2	-0.1
	125.9	-0.2		125.9	-0.2		125.9	-0.1
	141.3	-0.2		141.3	-0.2		141.3	-0.1
	158.5	-0.2		158.5	-0.2		158.5	-0.1
	177.8	-0.2		177.8	-0.1		177.8	-0.1
	199.5	-0.2		199.5	-0.1		199.5	-0.1
	223.9	-0.2		223.9	-0.1		223.9	0.0
	251.2	-0.2		251.2	-0.3		251.2	-0.1
	281.8	-0.1		281.8	-0.1		281.8	0.0
	316.2	-0.2		316.2	-0.1		316.2	0.0
	354.8	-0.2		354.8	-0.2		354.8	-0.1
	398.1	-0.2		398.1	-0.1		398.1	0.0
	446.7	-0.2		446.7	-0.2		446.7	-0.1
	501.2	-0.3		501.2	-0.1		501.2	0.0
	562.3	-0.1		562.3	-0.2		562.3	-0.1
	631.0	-0.2		631.0	-0.1		631.0	0.0
	708.0	-0.1		708.0	-0.2		708.0	-0.1
	794.3	-0.2		794.3	-0.1		794.3	0.0
	891.3	-0.1		891.3	-0.1		891.3	0.0
	1000.0	0.0		1000.0	-0.1		1000.0	0.1

## Typical Performance Data

TEST CONDITIONS: AUTO GAIN MODE, T<sub>WATER</sub> = +20°C

FREQ	Power Set power	Frequency Error	FREQ	Power Set power	Frequency Error	FREQ	Power Set power	Frequency Error
GHz	(W)	KHz	GHz	(W)	KHz	GHz	(W)	KHz
	1.0	24.0		1.0	25.0		1.0	25.5
	1.1	24.0		1.1	25.0		1.1	25.5
	1.3	24.0		1.3	25.0		1.3	25.5
	1.4	24.0		1.4	25.0		1.4	25.5
	1.6	24.0		1.6	25.0		1.6	25.5
	1.8	24.0		1.8	25.0		1.8	25.5
	2.0	24.0		2.0	25.0		2.0	25.5
	2.2	24.0		2.2	25.0		2.2	25.5
	2.5	24.0		2.5	25.0		2.5	25.5
	2.8	24.0		2.8	25.0		2.8	25.5
	3.2	24.0		3.2	25.0		3.2	25.5
	3.5	24.0		3.5	25.0		3.5	25.5
	4.0	24.0		4.0	25.0		4.0	25.5
	4.5	24.0		4.5	25.0		4.5	25.5
	5.0	24.0		5.0	25.0		5.0	25.5
	5.6	24.0		5.6	25.0		5.6	25.5
	6.3	24.0		6.3	25.0		6.3	25.5
	7.1	24.0		7.1	25.0		7.1	25.5
	7.9	24.0		7.9	25.0		7.9	25.5
	8.9	24.0		8.9	25.0		8.9	25.5
	10.0	24.0		10.0	25.0		10.0	25.5
	11.2	24.0		11.2	25.0		11.2	25.5
	12.6	24.0		12.6	25.0		12.6	25.5
	14.1	24.0		14.1	25.0		14.1	25.5
	15.8	24.0		15.8	25.0		15.8	25.5
	17.8	24.0		17.8	25.0		17.8	25.5
	20.0	24.0		20.0	25.0		20.0	25.5
	22.4	24.0		22.4	25.0		22.4	25.5
	25.1	24.0		25.1	25.0		25.1	25.5
	28.2	24.0		28.2	25.0		28.2	25.5
2.4	31.6	24.0	2.45	31.6	25.0	2.5	31.6	25.5
	35.5	24.0		35.5	25.0		35.5	25.5
	39.8	24.0		39.8	25.0		39.8	25.5
	44.7	24.0		44.7	25.0		44.7	25.5
	50.1	24.0		50.1	25.0		50.1	25.5
	56.2	24.0		56.2	25.0		56.2	25.5
	63.1	24.0		63.1	25.0		63.1	25.5
	70.8	24.0		70.8	25.0		70.8	25.5
	79.4	24.0		79.4	25.0		79.4	25.5
	89.1	24.0		89.1	25.0		89.1	25.5
	100.0	24.0		100.0	25.0		100.0	25.5
	112.2	24.0		112.2	25.0		112.2	25.5
	125.9	24.0		125.9	25.0		125.9	25.5
	141.3	24.0		141.3	25.0		141.3	25.5
	158.5	24.0		158.5	25.0		158.5	25.5
	177.8	24.0		177.8	25.0		177.8	25.5
	199.5	24.0		199.5	25.0		199.5	25.5
	223.9	24.0		223.9	25.0		223.9	25.5
	251.2	24.0		251.2	25.0		251.2	25.5
	281.8	24.0		281.8	25.0		281.8	25.5
	316.2	24.0		316.2	25.0		316.2	25.5
	354.8	24.0		354.8	25.0		354.8	25.5
	398.1	24.0		398.1	25.0		398.1	25.5
	446.7	24.0		446.7	25.0		446.7	25.5
	501.2	24.0		501.2	25.0		501.2	25.5
	562.3	24.0		562.3	25.0		562.3	25.5
	631.0	24.0		631.0	25.0		631.0	25.5
	708.0	24.0		708.0	25.0		708.0	25.5
	794.3	24.0		794.3	25.0		794.3	25.5
	891.3	24.0		891.3	25.0		891.3	25.5
	1000.0	24.0		1000.0	25.0		1000.0	25.5

## Typical Performance Data

TEST CONDITIONS: AUTO GAIN MODE,  $V_S = +208\text{ V}$ ,  $T_{\text{WATER}} = +20^\circ\text{C}$

FREQ	Power Set power	Temperature	FREQ	Power Set power	Temperature	FREQ	Power Set power	Temperature
GHz	(W)	°C	GHz	(W)	°C	GHz	(W)	°C
	1.0	33.5		1.0	35.8		1.0	36.4
	1.1	30.1		1.1	31.8		1.1	32.5
	1.3	28.3		1.3	29.4		1.3	30.2
	1.4	27.2		1.4	28.2		1.4	29.1
	1.6	26.5		1.6	27.3		1.6	28.4
	1.8	26.2		1.8	26.7		1.8	27.6
	2.0	25.8		2.0	26.4		2.0	27.3
	2.2	25.8		2.2	26.0		2.2	27.2
	2.5	25.8		2.5	25.6		2.5	27.2
	2.8	25.5		2.8	25.5		2.8	26.8
	3.2	25.8		3.2	25.5		3.2	26.9
	3.5	25.5		3.5	25.5		3.5	26.9
	4.0	25.9		4.0	25.5		4.0	27.0
	4.5	25.9		4.5	25.4		4.5	27.0
	5.0	26.0		5.0	25.5		5.0	27.1
	5.6	26.0		5.6	25.6		5.6	27.2
	6.3	26.2		6.3	25.7		6.3	27.3
	7.1	26.5		7.1	25.6		7.1	27.3
	7.9	26.5		7.9	26.0		7.9	27.6
	8.9	26.9		8.9	26.2		8.9	27.5
	10.0	26.9		10.0	26.3		10.0	27.7
	11.2	27.2		11.2	26.6		11.2	27.8
	12.6	27.5		12.6	26.8		12.6	27.9
	14.1	27.7		14.1	27.0		14.1	28.0
	15.8	27.8		15.8	27.3		15.8	28.3
	17.8	27.9		17.8	27.4		17.8	28.6
	20.0	28.2		20.0	27.8		20.0	28.7
	22.4	28.3		22.4	28.3		22.4	29.0
	25.1	28.6		25.1	28.6		25.1	29.2
	28.2	28.9		28.2	28.9		28.2	29.3
	31.6	29.2		31.6	29.2		31.6	29.5
2.4	35.5	29.2	2.45	35.5	29.7	2.5	35.5	29.7
	39.8	29.7		39.8	30.1		39.8	30.2
	44.7	29.8		44.7	30.6		44.7	30.2
	50.1	30.1		50.1	30.9		50.1	30.6
	56.2	30.4		56.2	31.5		56.2	30.9
	63.1	30.5		63.1	31.9		63.1	31.3
	70.8	30.8		70.8	32.3		70.8	31.6
	79.4	31.1		79.4	32.7		79.4	32.1
	89.1	31.4		89.1	33.0		89.1	32.5
	100.0	31.8		100.0	33.7		100.0	32.7
	112.2	32.1		112.2	34.1		112.2	33.4
	125.9	32.5		125.9	34.6		125.9	33.7
	141.3	32.9		141.3	34.9		141.3	34.1
	158.5	33.2		158.5	35.5		158.5	34.6
	177.8	33.5		177.8	36.2		177.8	35.1
	199.5	33.9		199.5	36.6		199.5	35.6
	223.9	34.3		223.9	36.9		223.9	36.0
	251.2	34.4		251.2	37.5		251.2	36.6
	281.8	34.8		281.8	37.7		281.8	37.1
	316.2	35.2		316.2	38.3		316.2	37.3
	354.8	35.4		354.8	38.6		354.8	38.0
	398.1	35.6		398.1	39.0		398.1	38.1
	446.7	35.8		446.7	39.1		446.7	38.7
	501.2	36.0		501.2	39.3		501.2	39.0
	562.3	36.2		562.3	39.4		562.3	39.3
	631.0	36.0		631.0	39.5		631.0	39.5
	708.0	36.2		708.0	39.5		708.0	39.7
	794.3	36.2		794.3	39.6		794.3	39.9
	891.3	36.3		891.3	39.5		891.3	39.7
	1000.0	36.7		1000.0	39.5		1000.0	39.9

## Typical Performance Data

**Definitions:**

MCS: MODULATOR CONTROL SETTING

GCS: GAIN CONTROL SETTING

TEST CONDITIONS: FEED FORWARD MODE,  $V_S = +208\text{ V}$ ,  $T_{\text{WATER}} = +20^\circ\text{C}$ , GCS=10

FREQ	MCS	Output Power	FREQ	MCS	Output Power	FREQ	MCS	Output Power
GHz		(W)	GHz		(W)	GHz		(W)
2.4	0	0.94	2.45	0	0.78	2.5	0	0.38
	1	4.10		1	3.04		1	1.19
	2	12.49		2	9.17		2	3.18
	3	28.73		3	21.37		3	7.17
	4	54.46		4	41.09		4	14.13
	5	89.60		5	68.93		5	24.66
	6	134.8		6	105.0		6	39.2
	7	189.2		7	149.3		7	58.2
	8	251.9		8	201.0		8	81.1
	9	323.8		9	258.4		9	108.8
	10	404.0		10	324.0		10	140.7
	11	491.4		11	397.2		11	176.4
	12	583.9		12	476.4		12	216.7
	13	681.4		13	561.3		13	260.2
	14	777.7		14	652.2		14	307.9
	15	865.6		15	747.3		15	360.7
	16	939.9		16	838.9		16	417.0
	17	996.1		17	926.2		17	476.8
	18	1036.3		18	998.9		18	538.4
19	1067.3	19	1058.5	19	605.6			
						20	671.58	
						21	740.97	
						22	803.53	
						23	862.18	
						24	912.64	
						25	955.87	
						26	989.5	
						27	1016.7	
						28	1038.2	
						29	1057.8	

FREQ	MCS <sup>1</sup>
GHz	
2.4	17.10
2.41	16.99
2.42	16.97
2.43	17.03
2.44	17.42
2.45	18.02
2.46	18.83
2.47	19.64
2.48	20.68
2.49	22.81
2.5	26.39

1. OUTPUT POWER SET TO 1KW

## Typical Performance Data

**Definitions:**

MCS: MODULATOR CONTROL SETTING

GCS: GAIN CONTROL SETTING

TEST CONDITIONS: FEED FORWARD MODE, VS= +208 V, T<sub>WATER</sub> = +20°C, GCS=15

FREQ	MCS	Output Power	FREQ	MCS	Output Power	FREQ	MCS	Output Power
GHz		(W)	GHz		(W)	GHz		(W)
	0	0.25		0	0.20		0	0.10
	1	0.83		1	0.60		1	0.27
	2	2.19		2	1.51		2	0.60
	3	4.75		3	3.21		3	1.16
	4	8.98		4	6.12		4	2.08
	5	15.4		5	10.6		5	3.4
	6	24.2		6	17.0		6	5.5
	7	35.8		7	25.5		7	8.1
	8	50.4		8	36.3		8	11.8
	9	67.5		9	49.5		9	16.4
	10	87.7		10	65.0		10	22.0
	11	110.9		11	82.6		11	28.8
	12	136.8		12	103.0		12	36.8
	13	165.1		13	125.5		13	46.0
	14	196.7		14	150.0		14	56.4
	15	230.0		15	176.6		15	67.8
	16	265.8		16	205.7		16	80.4
	17	304.2		17	236.1		17	94.5
	18	344.8		18	268.0		18	109.4
	19	389.0		19	303.1		19	126.1
	20	433.4		20	339.3		20	143.4
	21	481.3		21	378.5		21	162.2
	22	528.7		22	418.5		22	181.6
	23	580.0		23	461.4		23	203.3
	24	630.4		24	504.2		24	224.8
	25	684.1		25	549.5		25	247.9
	26	735.2		26	595.3		26	271.4
	27	785.2		27	644.9		27	296.7
	28	831.0		28	694.9		28	322.5
2.4	29	875.0	2.45	29	745.9	2.5	29	350.2
	30	913.7		30	793.8		30	378.3
	31	948.2		31	842.2		31	408.3
	32	976.3		32	887.6		32	438.1
	33	1000.9		33	931.8		33	470.2
	34	1020.9		34	970.1		34	501.4
	35	1039.2		35	1004.8		35	534.7
	36	1053.9		36	1034.9		36	567.7
							37	602.14
							38	636.21
							39	672.05
							40	706.48
							41	740.97
							42	772.9
							43	804.1
							44	832.5
							45	860.2
							46	885.5
							47	909.1
							48	930.9
							49	950.6
							50	968.1
							51	983.1
							52	996.8
							53	1008.8
							54	1019.5
							55	1028.7
							56	1037.3
							57	1044.7
							58	1051.5

FREQ	MCS <sup>1</sup>
GHz	
2.4	32.96
2.41	32.89
2.42	32.96
2.43	32.97
2.44	33.61
2.45	34.86
2.46	36.47
2.47	37.97
2.48	40.29
2.49	45.14
2.5	52.27

1. OUTPUT POWER SET TO 1KW

