

APPLICATION NOTE

Document NO. AN-UHF-132-A

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(Taking charge of Silicon RF by

MIYOSHI Electronics)

SUBJECT: RD07MUS2B single-stage amplifier RF performance at $f=400$ to 520MHz ($V_{dd}=3.6\text{V}$).

SUMMARY:

This application note shows the RF wide band characteristics data

(Frequency characteristics, Pout vs. Pin characteristics) at 400 to 520 MHz band for two circuits.

It is a circuit (No.1) that considered the higher harmonics wave, circuit (No.2) made a power match.

Sample history :

RD07MUS2B: Lot number "118AU-G"

Evaluate conditions :

RD07MUS2B @ $f=400$ to 520MHz : $V_{ds}=3.6\text{V}$, $I_{dq}=250\text{mA}$ (V_{gs} adjust)

Results :

Page 2. shows the equivalent circuit No.1. ([harmonics wave is improved](#))

Page 3-4. shows the typical RF characteristics (Frequency characteristics) data.

Page 5-11. shows the typical RF characteristics (Pout vs. Pin characteristics) data.

Page 12. shows the equivalent circuit No.2. ([Power match](#))

Page 13-14. shows the typical RF characteristics (Frequency characteristics) data.

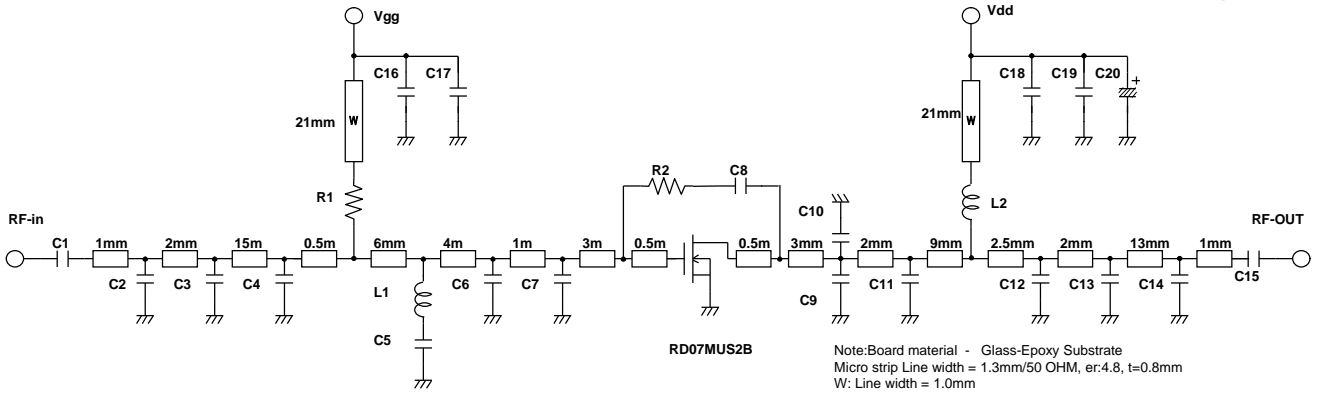
Page 15-21. shows the typical RF characteristics (Pout vs. Pin characteristics) data.

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

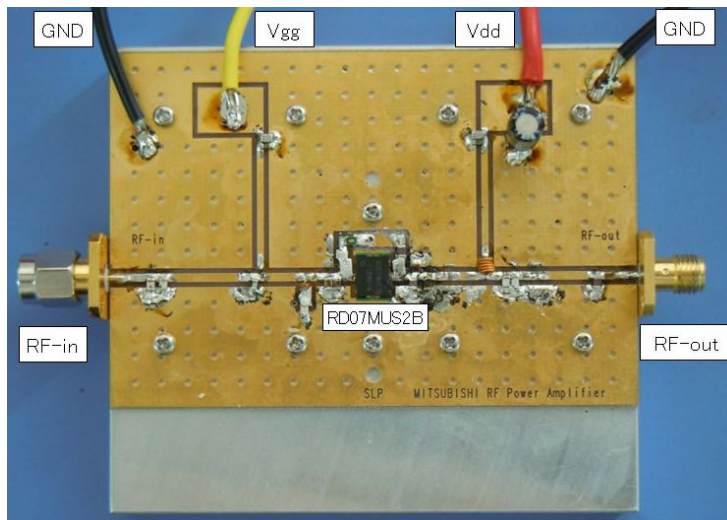
- AN-UHF-132-A-

RD07MUS2B single-stage amplifier equivalent circuit No.1

(@f=400 to 520MHz,Vdd=3.6V: harmonics wave is improved)



Parts Type	Symbol	Value	Type name	Vender
Capasitor	C1	100pF	GRM2162C1H101JA01D	Murata Manufacturing Co.,Ltd.
	C2	4pF	GRM2162C1H4R0DZ01D	Murata Manufacturing Co.,Ltd.
	C3	4pF	GRM2162C1H4R0DZ01D	Murata Manufacturing Co.,Ltd.
	C4	24pF	GRM2162C1H240JA01D	Murata Manufacturing Co.,Ltd.
	C5	5pF	GRM2162C1H5R0DZ01D	Murata Manufacturing Co.,Ltd.
	C6	5pF	GRM2162C1H5R0DZ01D	Murata Manufacturing Co.,Ltd.
	C7	75pF	GRM2162C1H750JZ01D	Murata Manufacturing Co.,Ltd.
	C8	47pF	GRM2162C1H470JZ01D	Murata Manufacturing Co.,Ltd.
	C9	30pF	GRM2162C1H300JZ01D	Murata Manufacturing Co.,Ltd.
	C10	30pF	GRM2162C1H300JZ01D	Murata Manufacturing Co.,Ltd.
	C11	13pF	GRM2162C1H130JZ01D	Murata Manufacturing Co.,Ltd.
	C12	3pF	GRM2162C1H3R0DZ01D	Murata Manufacturing Co.,Ltd.
	C13	3pF	GRM2162C1H3R0DZ01D	Murata Manufacturing Co.,Ltd.
	C14	8pF	GRM2162C1H8R0DZ01D	Murata Manufacturing Co.,Ltd.
	C15	100pF	GRM2162C1H101JA01D	Murata Manufacturing Co.,Ltd.
	C16	1000pF	GRM1882C1H102JA01D	Murata Manufacturing Co.,Ltd.
	C17	22000pF	GRM216R11H223KA01E	Murata Manufacturing Co.,Ltd.
	C18	1000pF	GRM1882C1H102JA01D	Murata Manufacturing Co.,Ltd.
	C19	22000pF	GRM216R11H223KA01E	Murata Manufacturing Co.,Ltd.
	C20	22uF	UVZ1H220MDD	NICHICON COPORATION
Resistance	R1	4.7KΩ	RPC05-472J	TAIYOSHA ELECTRIC CO.,Ltd.
	R2	68Ω	RPC10-680J	TAIYOSHA ELECTRIC CO.,Ltd.
Inductance	L1	8nH Enameled wire 2Turns, Diameter:0.23mm,φ1.66mm(the out side diameter)	2302S	yc corporation
	L2	25nH Enameled wire 5Turns, Diameter:0.40mm,φ2.46mm(the out side diameter)	4005A	yc corporation

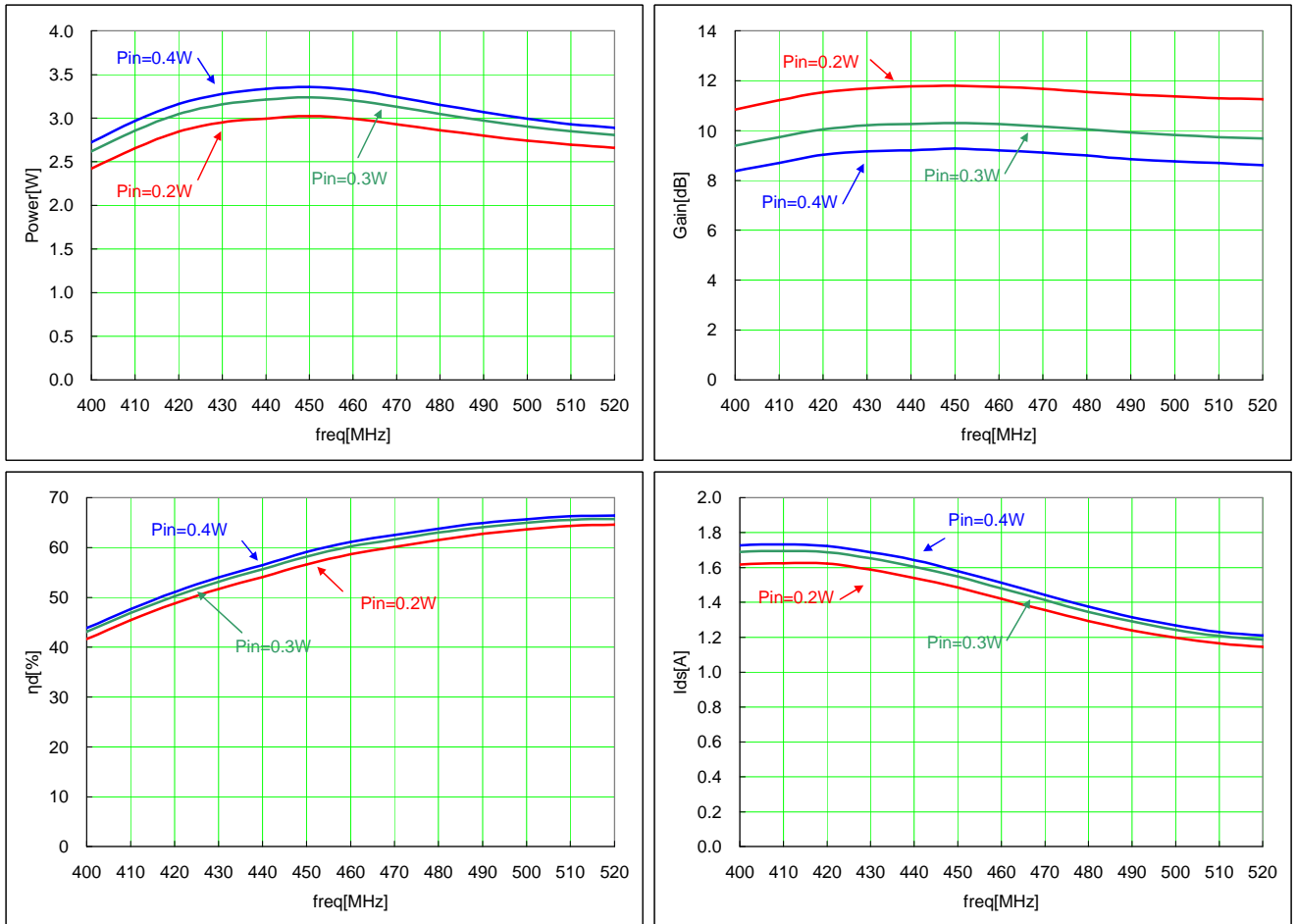


RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

RD07MUS2B single-stage amplifier Frequency characteristics.

@ Vdd=3.6V, Idq=250mA(Vgg=1.368V), **Pin=0.4W**, **Pin=0.3W**, **Pin=0.2W**



RD07MUS2B single-stage amplifier Frequency characteristics Data.

@ **Pin=0.4W** (26dBm), Vdd=3.6V, Idq=250mA(Vgg=1.368V)

f [MHz]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	ηd [%]	P.A.E. [%]	2fo [dBc]	3fo [dBc]	R.L. [-dB]
400	34.35	2.7	8.4	1.73	43.9	37.5	-53.7	-59.5	-3.4
410	34.72	3.0	8.7	1.73	47.7	41.2	-47.2	-51.2	-3.8
420	35.00	3.2	9.0	1.72	51.1	44.7	-50.0	-60.3	-4.0
430	35.15	3.3	9.2	1.69	54.0	47.5	-48.0	-53.5	-4.0
440	35.23	3.3	9.2	1.64	56.5	49.7	-44.7	-46.0	-3.7
450	35.26	3.4	9.3	1.58	59.1	52.1	-45.0	-50.0	-3.3
460	35.22	3.3	9.2	1.51	61.1	53.8	-45.2	-54.8	-2.9
470	35.11	3.2	9.1	1.44	62.5	54.8	-45.3	-56.7	-2.6
480	34.99	3.2	9.0	1.38	63.8	55.8	-46.0	-60.2	-2.3
490	34.87	3.1	8.9	1.32	64.9	56.5	-46.3	-54.0	-2.2
500	34.76	3.0	8.8	1.27	65.7	56.9	-46.7	-53.8	-2.2
510	34.67	2.9	8.7	1.23	66.3	57.3	-47.5	-63.8	-2.5
520	34.61	2.9	8.6	1.21	66.4	57.3	-48.2	-56.2	-3.1

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **Pin=0.3W** (24.8dBm),Vdd=3.6V,Idq=250mA(Vgg=1.368V)

f [MHz]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	2fo [dBc]	3fo [dBc]	R.L. [-dB]
400	34.18	2.6	9.4	1.69	43.1	38.2	-40.7	-58.3	-3.6
410	34.56	2.9	9.7	1.70	46.9	41.9	-45.5	-57.5	-4.0
420	34.84	3.0	10.0	1.69	50.2	45.3	-49.2	-60.8	-4.2
430	34.99	3.2	10.2	1.65	53.1	48.1	-47.8	-53.8	-4.2
440	35.07	3.2	10.3	1.61	55.7	50.4	-44.5	-46.0	-3.8
450	35.10	3.2	10.3	1.55	58.2	52.8	-44.8	-48.3	-3.4
460	35.06	3.2	10.3	1.48	60.2	54.6	-45.2	-54.2	-3.0
470	34.96	3.1	10.2	1.41	61.6	55.7	-45.5	-55.7	-2.7
480	34.84	3.0	10.0	1.35	63.0	56.8	-45.8	-61.3	-2.4
490	34.73	3.0	9.9	1.29	64.1	57.5	-46.3	-61.2	-2.3
500	34.63	2.9	9.8	1.24	65.0	58.2	-47.2	-54.5	-2.3
510	34.55	2.8	9.7	1.21	65.6	58.6	-47.3	-65.7	-2.6
520	34.49	2.8	9.7	1.19	65.8	58.7	-48.5	-54.5	-3.1

@ **Pin=0.2W** (23dBm),Vdd=3.6V,Idq=250mA(Vgg=1.368V)

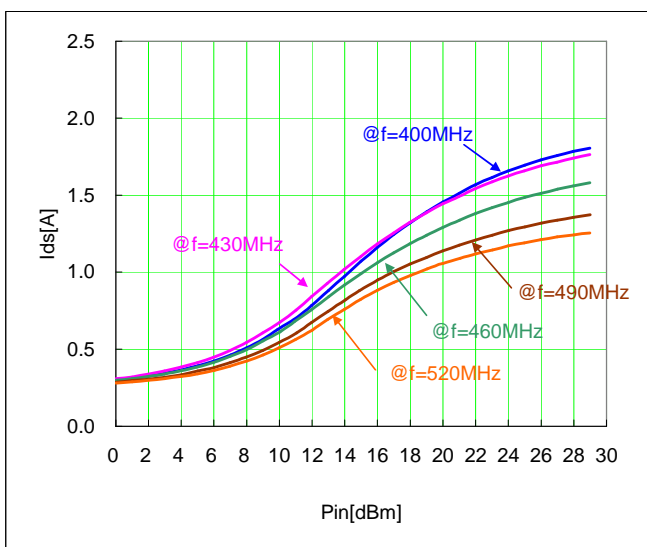
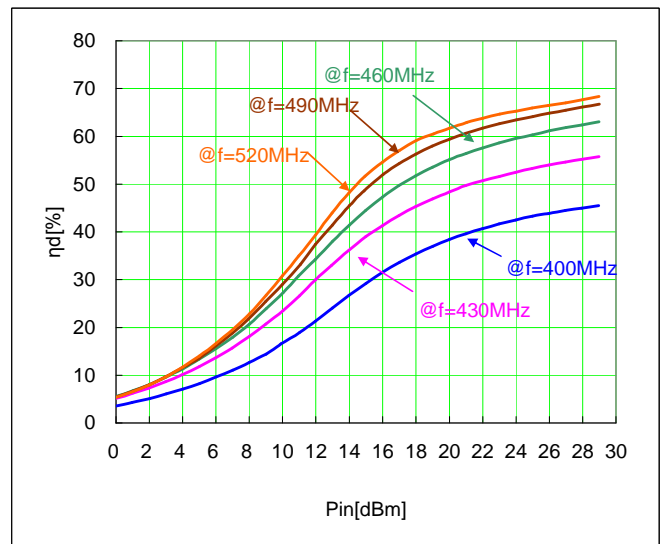
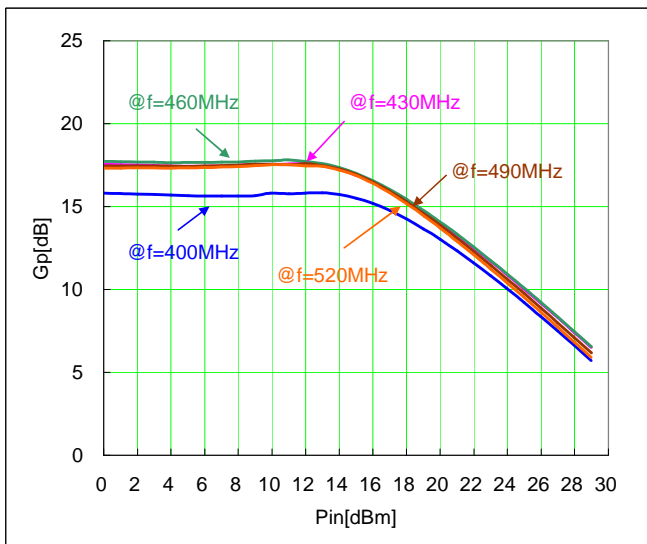
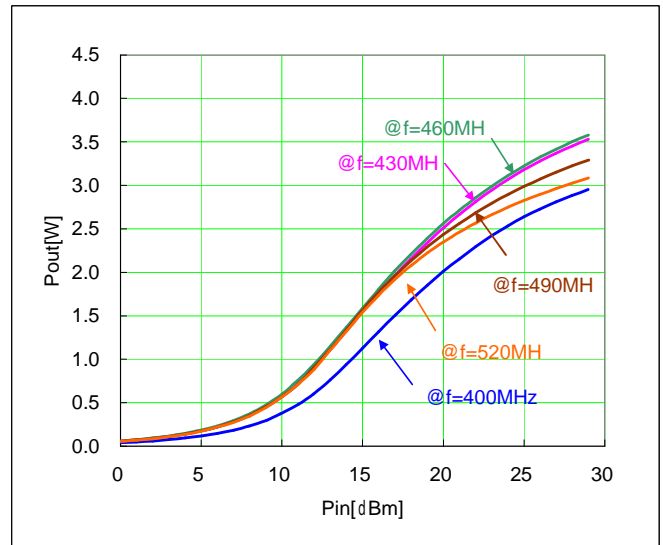
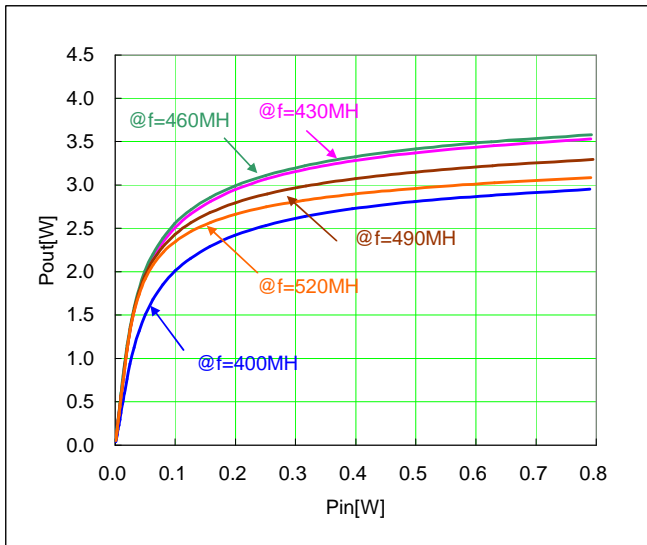
f [MHz]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	2fo [dBc]	3fo [dBc]	R.L. [-dB]
400	33.84	2.4	10.8	1.62	41.7	38.2	-39.0	-59.7	-3.9
410	34.24	2.7	11.2	1.63	45.4	42.0	-43.3	-59.3	-4.3
420	34.54	2.8	11.5	1.62	48.8	45.4	-47.2	-60.2	-4.6
430	34.70	3.0	11.7	1.59	51.7	48.2	-41.0	-47.5	-4.5
440	34.76	3.0	11.8	1.54	54.1	50.5	-44.3	-46.0	-4.1
450	34.81	3.0	11.8	1.49	56.6	52.9	-44.5	-49.7	-3.7
460	34.76	3.0	11.8	1.42	58.6	54.7	-45.0	-54.2	-3.2
470	34.67	2.9	11.7	1.36	60.1	56.0	-45.7	-56.8	-2.9
480	34.57	2.9	11.6	1.29	61.5	57.2	-46.2	-60.3	-2.6
490	34.47	2.8	11.4	1.24	62.7	58.2	-46.7	-52.7	-2.5
500	34.38	2.7	11.4	1.20	63.6	59.0	-47.7	-56.3	-2.5
510	34.31	2.7	11.3	1.17	64.3	59.6	-48.3	-64.7	-2.7
520	34.25	2.7	11.3	1.15	64.6	59.7	-48.7	-53.3	-3.3

RD07MUS2B single-stage amplifier RF performance at $f = 400$ to 520 MHz ($V_{dd} = 3.6$ V).

- AN-UHF-132-A-

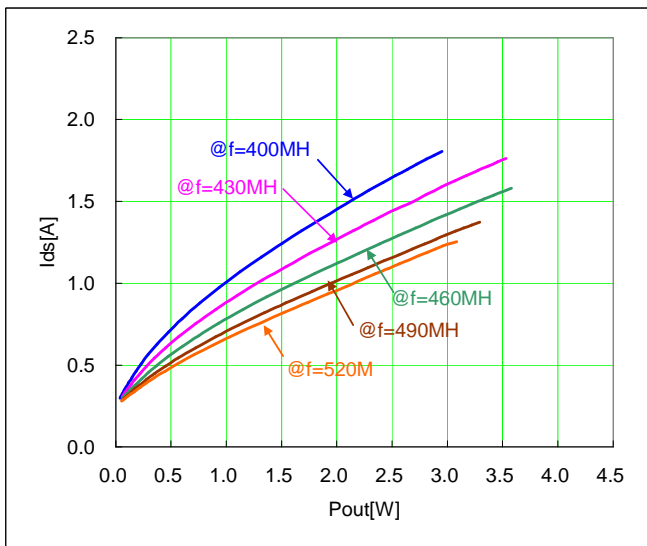
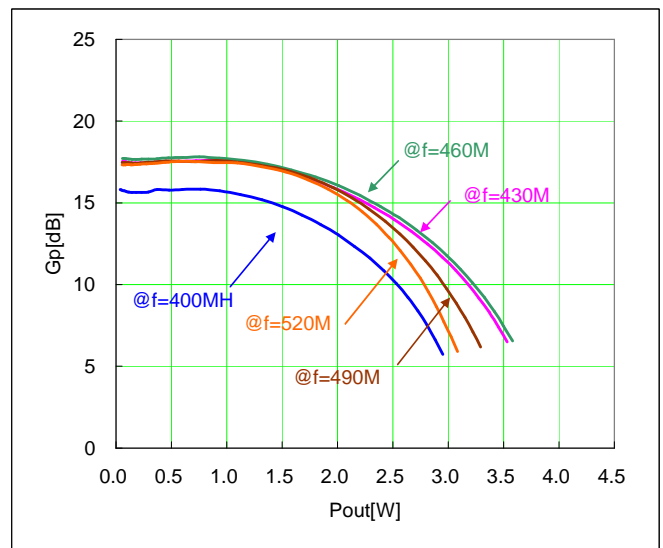
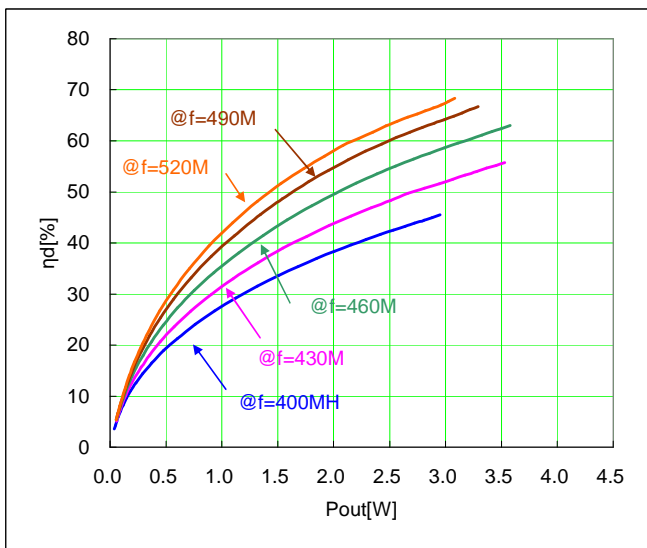
RD07MUS2B single-stage amplifier Pout vs. Pin characteristics.

@ $V_{dd} = 3.6$ V, $I_{dq} = 250$ mA ($V_{gg} = 1.368$ V), $f = 400$ MHz, $f = 430$ MHz, $f = 460$ MHz, $f = 490$ MHz, $f = 520$ MHz



RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-



RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

RD07MUS2B single-stage amplifier Pout vs. Pin characteristics data

@ **f=400MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.02	0.00	15.82	0.04	15.81	0.30	3.6	3.5	-4.5
3.60	0.97	0.00	16.76	0.05	15.79	0.31	4.2	4.1	-4.6
3.60	2.01	0.00	17.76	0.06	15.76	0.33	5.1	5.0	-4.6
3.60	3.02	0.00	18.74	0.07	15.73	0.34	6.1	5.9	-4.7
3.60	4.01	0.00	19.70	0.09	15.70	0.37	7.1	6.9	-4.6
3.60	5.02	0.00	20.67	0.12	15.65	0.39	8.2	8.0	-4.7
3.60	6.01	0.00	21.65	0.15	15.64	0.42	9.6	9.3	-4.7
3.60	7.02	0.01	22.65	0.18	15.63	0.46	11.0	10.7	-4.7
3.60	7.99	0.01	23.63	0.23	15.65	0.51	12.6	12.3	-4.8
3.60	9.02	0.01	24.67	0.29	15.66	0.57	14.4	14.0	-4.8
3.60	9.90	0.01	25.72	0.37	15.81	0.63	16.5	16.1	-4.8
3.60	11.03	0.01	26.80	0.48	15.78	0.70	18.9	18.4	-4.9
3.60	11.96	0.02	27.78	0.60	15.81	0.78	21.3	20.7	-5.0
3.60	12.99	0.02	28.82	0.76	15.83	0.88	24.1	23.4	-5.0
3.60	13.99	0.03	29.72	0.94	15.73	0.98	26.7	26.0	-5.1
3.60	15.00	0.03	30.51	1.13	15.51	1.07	29.2	28.4	-5.1
3.60	16.01	0.04	31.20	1.32	15.19	1.16	31.6	30.6	-5.0
3.60	17.01	0.05	31.78	1.51	14.76	1.25	33.6	32.5	-4.9
3.60	18.00	0.06	32.25	1.68	14.25	1.32	35.4	34.1	-4.8
3.60	19.01	0.08	32.67	1.85	13.66	1.39	37.0	35.4	-4.6
3.60	20.00	0.10	33.03	2.01	13.03	1.46	38.4	36.5	-4.4
3.60	21.00	0.13	33.33	2.15	12.34	1.51	39.6	37.3	-4.2
3.59	21.99	0.16	33.60	2.29	11.61	1.57	40.7	37.8	-4.0
3.60	23.00	0.20	33.84	2.42	10.84	1.62	41.7	38.2	-3.9
3.59	23.99	0.25	34.04	2.53	10.05	1.66	42.5	38.3	-3.7
3.60	25.00	0.32	34.21	2.64	9.22	1.70	43.3	38.1	-3.5
3.60	25.96	0.39	34.35	2.72	8.39	1.73	43.9	37.5	-3.4
3.59	26.97	0.50	34.49	2.81	7.51	1.76	44.5	36.6	-3.3
3.59	27.96	0.62	34.59	2.88	6.64	1.78	45.0	35.2	-3.2
3.59	28.97	0.79	34.70	2.95	5.73	1.81	45.5	33.3	-3.1

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=430MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.01	0.00	17.55	0.06	17.54	0.31	5.1	5.0	-6.3
3.60	1.01	0.00	18.53	0.07	17.52	0.32	6.2	6.1	-6.3
3.60	1.99	0.00	19.50	0.09	17.51	0.34	7.3	7.2	-6.4
3.60	2.98	0.00	20.47	0.11	17.48	0.36	8.6	8.5	-6.3
3.60	3.99	0.00	21.44	0.14	17.45	0.38	10.1	9.9	-6.3
3.60	4.99	0.00	22.43	0.18	17.44	0.41	11.8	11.6	-6.4
3.60	6.00	0.00	23.44	0.22	17.44	0.45	13.7	13.4	-6.4
3.60	6.98	0.00	24.44	0.28	17.46	0.49	15.7	15.4	-6.4
3.60	7.99	0.01	25.47	0.35	17.49	0.54	18.0	17.7	-6.4
3.60	8.99	0.01	26.54	0.45	17.55	0.61	20.7	20.3	-6.5
3.60	10.03	0.01	27.57	0.57	17.54	0.68	23.5	23.1	-6.6
3.60	11.01	0.01	28.58	0.72	17.57	0.75	26.6	26.2	-6.6
3.60	11.96	0.02	29.56	0.90	17.60	0.84	29.9	29.4	-6.6
3.60	12.93	0.02	30.40	1.10	17.47	0.93	33.0	32.4	-6.6
3.60	13.96	0.02	31.22	1.32	17.25	1.02	36.1	35.4	-6.5
3.60	14.99	0.03	31.89	1.55	16.90	1.10	39.0	38.2	-6.4
3.60	15.99	0.04	32.45	1.76	16.46	1.18	41.3	40.4	-6.2
3.60	16.99	0.05	32.92	1.96	15.94	1.26	43.4	42.3	-5.9
3.60	17.98	0.06	33.33	2.15	15.36	1.32	45.3	44.0	-5.7
3.60	18.98	0.08	33.68	2.33	14.70	1.39	46.9	45.3	-5.4
3.60	20.01	0.10	34.00	2.51	13.99	1.45	48.3	46.4	-5.1
3.60	20.99	0.13	34.26	2.66	13.27	1.49	49.7	47.4	-4.9
3.60	22.00	0.16	34.49	2.81	12.49	1.54	50.7	47.8	-4.7
3.60	23.01	0.20	34.69	2.95	11.68	1.59	51.6	48.1	-4.5
3.60	23.99	0.25	34.87	3.07	10.87	1.63	52.5	48.2	-4.3
3.60	24.98	0.31	35.02	3.18	10.04	1.66	53.3	48.0	-4.1
3.59	25.99	0.40	35.16	3.28	9.17	1.69	54.0	47.4	-3.9
3.60	26.97	0.50	35.27	3.37	8.31	1.72	54.6	46.6	-3.8
3.60	27.99	0.63	35.38	3.45	7.39	1.74	55.2	45.1	-3.7
3.59	28.98	0.79	35.48	3.53	6.50	1.76	55.7	43.2	-3.5

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=460MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.00	0.00	17.71	0.06	17.71	0.30	5.5	5.4	-4.5
3.60	1.02	0.00	18.72	0.07	17.71	0.31	6.7	6.6	-4.5
3.60	2.01	0.00	19.70	0.09	17.69	0.32	8.0	7.9	-4.6
3.60	2.96	0.00	20.64	0.12	17.68	0.34	9.5	9.4	-4.5
3.60	4.01	0.00	21.66	0.15	17.65	0.36	11.3	11.1	-4.6
3.60	4.96	0.00	22.62	0.18	17.66	0.38	13.3	13.0	-4.6
3.60	6.00	0.00	23.66	0.23	17.67	0.42	15.6	15.3	-4.6
3.60	7.01	0.01	24.68	0.29	17.67	0.46	18.0	17.7	-4.6
3.60	8.01	0.01	25.70	0.37	17.69	0.50	20.7	20.3	-4.6
3.60	9.01	0.01	26.77	0.48	17.76	0.55	23.9	23.5	-4.6
3.60	10.03	0.01	27.79	0.60	17.76	0.61	27.3	26.8	-4.6
3.60	10.95	0.01	28.76	0.75	17.81	0.68	30.7	30.2	-4.6
3.60	11.95	0.02	29.68	0.93	17.73	0.76	34.2	33.6	-4.6
3.60	13.01	0.02	30.60	1.15	17.59	0.84	38.0	37.4	-4.6
3.60	14.00	0.03	31.36	1.37	17.37	0.92	41.4	40.7	-4.5
3.60	14.99	0.03	32.00	1.58	17.01	0.99	44.5	43.6	-4.5
3.60	15.99	0.04	32.56	1.80	16.57	1.06	47.3	46.3	-4.3
3.60	16.98	0.05	33.03	2.01	16.05	1.13	49.7	48.5	-4.2
3.60	17.97	0.06	33.43	2.20	15.46	1.18	51.7	50.3	-4.0
3.60	19.00	0.08	33.78	2.39	14.78	1.24	53.5	51.8	-3.8
3.60	19.97	0.10	34.07	2.55	14.10	1.29	55.1	52.9	-3.7
3.60	21.01	0.13	34.34	2.72	13.33	1.34	56.4	53.8	-3.5
3.60	21.99	0.16	34.56	2.86	12.56	1.38	57.6	54.4	-3.4
3.60	22.99	0.20	34.75	2.99	11.76	1.42	58.6	54.7	-3.2
3.60	23.99	0.25	34.93	3.11	10.94	1.45	59.6	54.8	-3.1
3.60	24.99	0.32	35.08	3.22	10.09	1.49	60.3	54.4	-3.0
3.60	26.01	0.40	35.22	3.33	9.21	1.51	61.1	53.8	-2.9
3.60	27.00	0.50	35.34	3.42	8.34	1.54	61.8	52.7	-2.8
3.60	27.96	0.63	35.44	3.50	7.47	1.56	62.4	51.2	-2.7
3.60	28.99	0.79	35.54	3.58	6.55	1.58	63.0	49.1	-2.6

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=490MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.00	0.00	17.46	0.06	17.45	0.29	5.4	5.3	-3.2
3.60	1.00	0.00	18.47	0.07	17.46	0.30	6.6	6.5	-3.2
3.60	1.98	0.00	19.44	0.09	17.46	0.31	8.0	7.9	-3.2
3.60	2.97	0.00	20.43	0.11	17.46	0.32	9.6	9.5	-3.2
3.60	4.03	0.00	21.47	0.14	17.44	0.34	11.6	11.4	-3.2
3.60	5.02	0.00	22.43	0.18	17.41	0.36	13.6	13.3	-3.2
3.60	5.99	0.00	23.43	0.22	17.45	0.38	16.1	15.8	-3.2
3.60	6.99	0.01	24.46	0.28	17.47	0.41	18.8	18.5	-3.2
3.60	7.97	0.01	25.46	0.35	17.49	0.45	21.8	21.4	-3.2
3.60	8.99	0.01	26.55	0.45	17.55	0.49	25.4	25.0	-3.3
3.60	9.97	0.01	27.52	0.57	17.55	0.54	28.9	28.4	-3.3
3.60	11.07	0.01	28.59	0.72	17.52	0.61	33.2	32.6	-3.4
3.60	11.97	0.02	29.57	0.90	17.60	0.67	37.4	36.7	-3.4
3.60	12.97	0.02	30.45	1.11	17.48	0.75	41.4	40.7	-3.4
3.60	14.03	0.03	31.29	1.34	17.25	0.82	45.6	44.7	-3.5
3.60	14.89	0.03	31.87	1.54	16.98	0.88	48.6	47.7	-3.4
3.60	16.04	0.04	32.50	1.78	16.46	0.95	52.0	50.9	-3.3
3.60	16.98	0.05	32.92	1.96	15.94	1.00	54.2	52.9	-3.2
3.60	17.99	0.06	33.29	2.13	15.29	1.05	56.3	54.6	-3.1
3.60	18.97	0.08	33.59	2.28	14.62	1.10	58.0	56.0	-2.9
3.60	19.99	0.10	33.86	2.43	13.87	1.14	59.4	57.0	-2.8
3.60	21.00	0.13	34.09	2.56	13.09	1.18	60.6	57.7	-2.7
3.60	21.99	0.16	34.29	2.68	12.30	1.21	61.7	58.1	-2.6
3.60	23.01	0.20	34.46	2.79	11.45	1.24	62.6	58.2	-2.5
3.60	24.03	0.25	34.62	2.90	10.59	1.27	63.5	57.9	-2.4
3.60	25.01	0.32	34.75	2.99	9.74	1.30	64.2	57.3	-2.3
3.60	26.02	0.40	34.88	3.07	8.86	1.32	64.9	56.4	-2.2
3.60	26.98	0.50	34.98	3.15	8.00	1.34	65.5	55.1	-2.2
3.60	27.98	0.63	35.08	3.22	7.11	1.36	66.1	53.3	-2.1
3.60	29.00	0.79	35.18	3.29	6.17	1.37	66.7	50.6	-2.0

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=520MHz**, Idq=250mA(Vgg=1.368V)

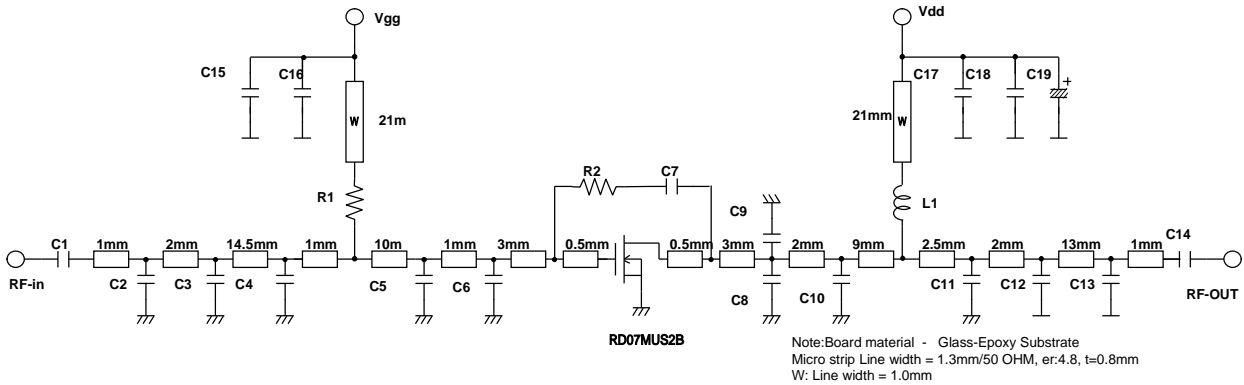
Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.00	0.00	17.31	0.05	17.31	0.28	5.3	5.2	-3.1
3.60	1.01	0.00	18.33	0.07	17.32	0.29	6.6	6.4	-3.2
3.60	2.01	0.00	19.34	0.09	17.33	0.30	8.0	7.9	-3.2
3.60	3.00	0.00	20.33	0.11	17.33	0.31	9.7	9.5	-3.2
3.60	4.01	0.00	21.33	0.14	17.32	0.32	11.7	11.5	-3.2
3.60	5.01	0.00	22.35	0.17	17.34	0.34	14.0	13.8	-3.2
3.60	6.02	0.00	23.38	0.22	17.36	0.36	16.7	16.4	-3.3
3.60	6.99	0.01	24.38	0.27	17.39	0.39	19.5	19.2	-3.3
3.60	8.00	0.01	25.41	0.35	17.41	0.42	22.8	22.4	-3.3
3.60	9.02	0.01	26.48	0.45	17.47	0.46	26.7	26.2	-3.4
3.60	9.99	0.01	27.52	0.57	17.53	0.51	30.8	30.2	-3.4
3.60	10.98	0.01	28.50	0.71	17.52	0.56	34.9	34.3	-3.6
3.60	12.00	0.02	29.46	0.88	17.47	0.62	39.4	38.7	-3.7
3.60	12.97	0.02	30.40	1.10	17.43	0.69	44.0	43.2	-3.8
3.60	13.99	0.03	31.20	1.32	17.21	0.76	48.1	47.2	-4.0
3.60	14.95	0.03	31.85	1.53	16.89	0.82	51.7	50.6	-4.0
3.60	16.00	0.04	32.39	1.74	16.40	0.88	54.6	53.4	-4.1
3.60	17.00	0.05	32.83	1.92	15.82	0.94	57.0	55.5	-4.0
3.60	18.03	0.06	33.19	2.09	15.16	0.98	59.2	57.3	-3.9
3.60	19.05	0.08	33.48	2.23	14.43	1.02	60.5	58.3	-3.8
3.60	20.01	0.10	33.71	2.35	13.70	1.06	61.7	59.1	-3.6
3.60	21.05	0.13	33.92	2.47	12.88	1.09	62.9	59.7	-3.5
3.60	22.01	0.16	34.09	2.57	12.08	1.12	63.8	59.9	-3.4
3.60	23.02	0.20	34.25	2.66	11.23	1.15	64.7	59.8	-3.3
3.60	24.00	0.25	34.39	2.75	10.39	1.17	65.3	59.3	-3.2
3.60	24.96	0.31	34.50	2.82	9.55	1.19	65.9	58.6	-3.1
3.60	25.96	0.39	34.61	2.89	8.66	1.21	66.5	57.4	-3.1
3.60	26.98	0.50	34.71	2.96	7.73	1.23	67.0	55.7	-3.2
3.60	28.00	0.63	34.81	3.03	6.81	1.24	67.7	53.6	-3.2
3.60	28.98	0.79	34.89	3.08	5.91	1.26	68.3	50.8	-3.3

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

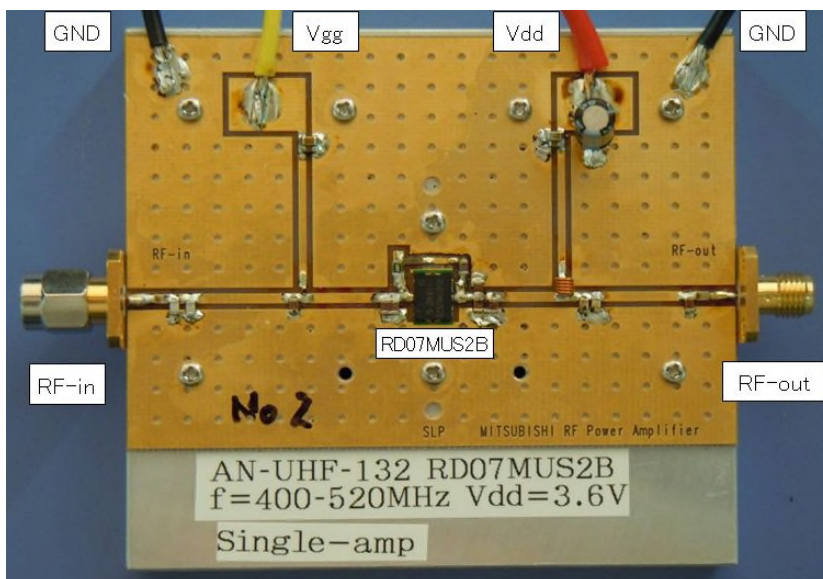
- AN-UHF-132-A-

RD07MUS2B single-stage amplifier equivalent circuit No.2

(@f=400 to 520MHz,Vdd=3.6V: Power match)



Parts Type	Symbol	Value	Type name	Vender
Capasitor	C1	100pF	GRM2162C1H101JA01D	Murata Manufacturing Co.,Ltd.
	C2	4pF	GRM2162C1H4R0DZ01D	Murata Manufacturing Co.,Ltd.
	C3	4pF	GRM2162C1H4R0DZ01D	Murata Manufacturing Co.,Ltd.
	C4	22pF	GRM2162C1H220JA01D	Murata Manufacturing Co.,Ltd.
	C5	22pF	GRM2162C1H5R0DZ01D	Murata Manufacturing Co.,Ltd.
	C6	75pF	GRM2162C1H750JZ01D	Murata Manufacturing Co.,Ltd.
	C7	47pF	GRM2162C1H470JZ01D	Murata Manufacturing Co.,Ltd.
	C8	30pF	GRM2162C1H300JZ01D	Murata Manufacturing Co.,Ltd.
	C9	30pF	GRM2162C1H300JZ01D	Murata Manufacturing Co.,Ltd.
	C10	13pF	GRM2162C1H130JZ01D	Murata Manufacturing Co.,Ltd.
	C11	3pF	GRM2162C1H3R0DZ01D	Murata Manufacturing Co.,Ltd.
	C12	3pF	GRM2162C1H3R0DZ01D	Murata Manufacturing Co.,Ltd.
	C13	8pF	GRM2162C1H8R0DZ01D	Murata Manufacturing Co.,Ltd.
	C14	100pF	GRM2162C1H101JA01D	Murata Manufacturing Co.,Ltd.
	C15	1000pF	GRM1882C1H102JA01D	Murata Manufacturing Co.,Ltd.
	C16	22000pF	GRM216R11H223KA01E	Murata Manufacturing Co.,Ltd.
	C17	1000pF	GRM1882C1H102JA01D	Murata Manufacturing Co.,Ltd.
	C18	22000pF	GRM216R11H223KA01E	Murata Manufacturing Co.,Ltd.
	C19	22uF	UVZ1H220MDD	NICHICON COPORATION
Resistance	R1	4.7KΩ	RPC05-472J	TAIYOSHA ELECTRIC CO.,Ltd.
	R2	68Ω	RPC10-680J	TAIYOSHA ELECTRIC CO.,Ltd.
Inductance	L2	25nH Enameled wire 5Turns, Diameter:0.40mm,φ2.46mm(the out side diameter)	4005A	yc corporation

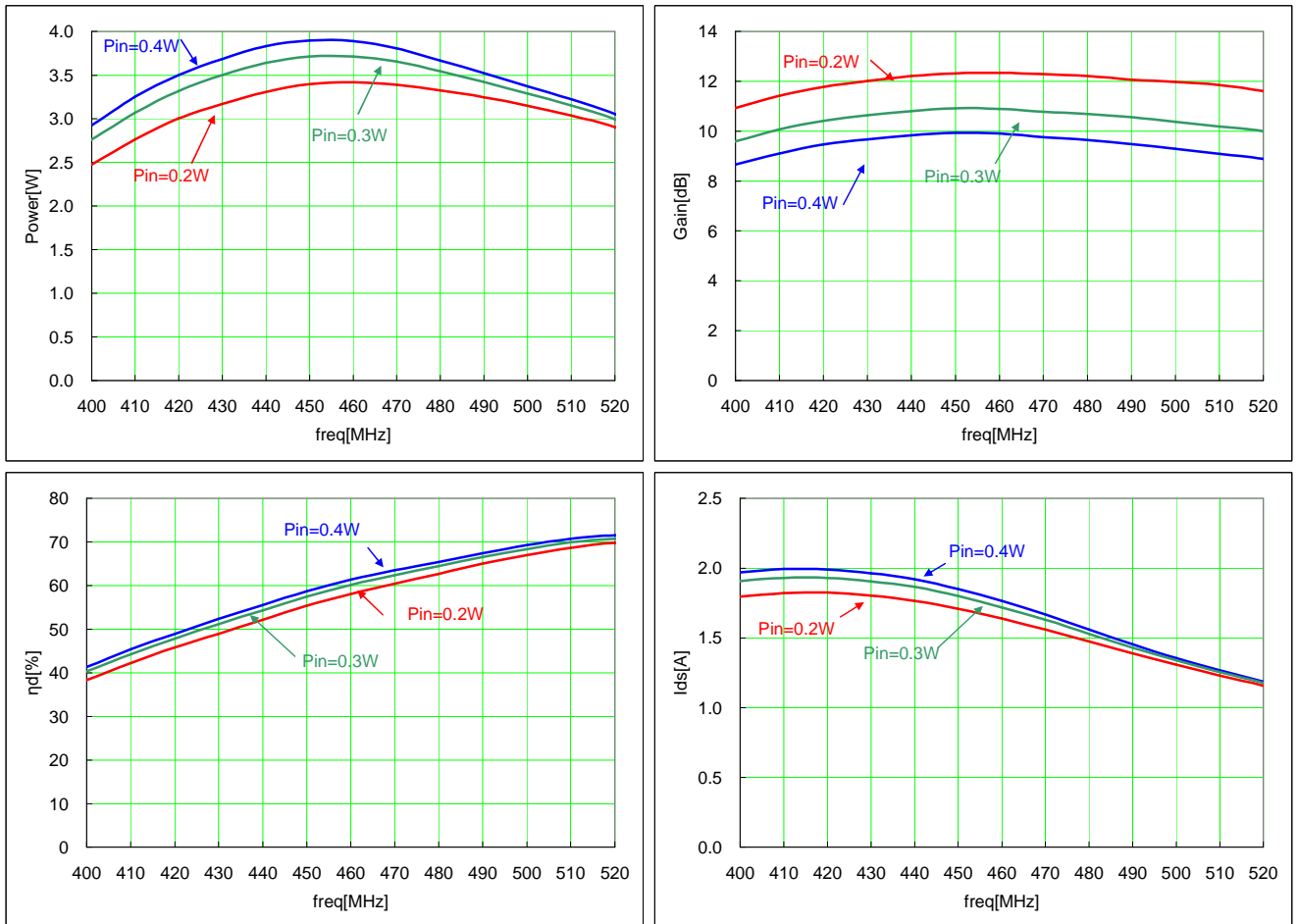


RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

RD07MUS2B single-stage amplifier Frequency characteristics.

@ Vdd=3.6V, Idq=250mA(Vgg=1.362V), **Pin=0.4W**, **Pin=0.3W**, **Pin=0.2W**



RD07MUS2B single-stage amplifier Frequency characteristics Data.

@ **Pin=0.4W** (26dBm), Vdd=3.6V, Idq=250mA(Vgg=1.362V)

f [MHz]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	ηd [%]	P.A.E. [%]	2fo [dBc]	3fo [dBc]	R.L. [-dB]
400	34.66	2.9	8.7	1.97	41.3	35.7	-36.5	-44.0	-3.0
410	35.12	3.3	9.1	1.99	45.4	39.8	-39.2	-42.8	-3.3
420	35.44	3.5	9.5	1.99	48.9	43.4	-38.8	-40.3	-3.4
430	35.67	3.7	9.7	1.96	52.3	46.7	-37.2	-40.5	-3.4
440	35.83	3.8	9.8	1.92	55.6	49.8	-37.5	-40.7	-3.2
450	35.91	3.9	9.9	1.85	58.7	52.7	-37.8	-44.7	-2.9
460	35.90	3.9	9.9	1.77	61.3	55.1	-38.3	-46.3	-2.6
470	35.81	3.8	9.8	1.67	63.5	56.8	-38.5	-45.3	-2.4
480	35.65	3.7	9.6	1.56	65.4	58.3	-38.3	-48.8	-2.2
490	35.47	3.5	9.5	1.46	67.4	59.8	-38.5	-57.5	-2.2
500	35.28	3.4	9.3	1.36	69.2	61.1	-38.8	-55.3	-2.6
510	35.08	3.2	9.1	1.27	70.7	62.0	-39.2	-65.8	-3.8
520	34.85	3.1	8.9	1.19	71.5	62.3	-39.5	-55.5	-6.9

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **Pin=0.3W** (24.8dBm),Vdd=3.6V,Idq=250mA(Vgg=1.362V)

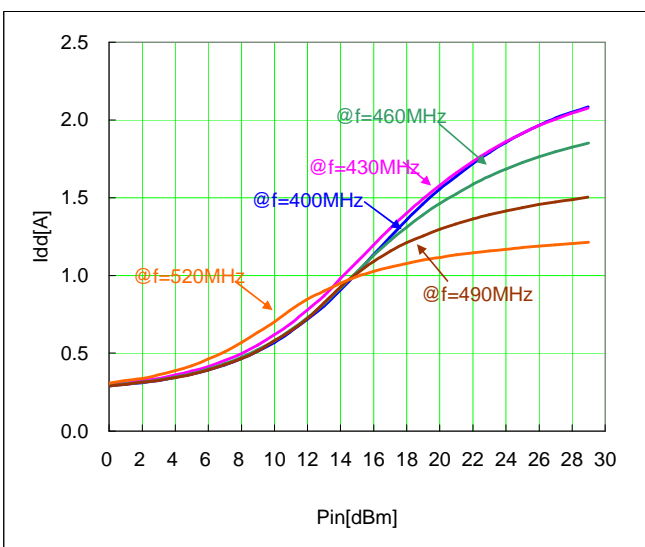
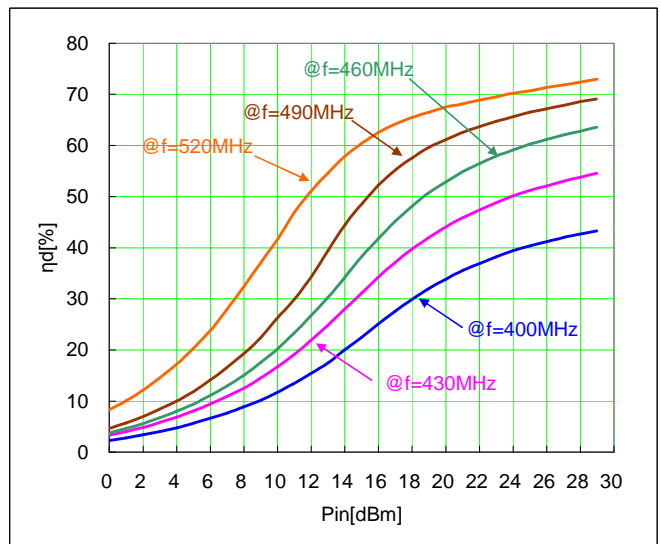
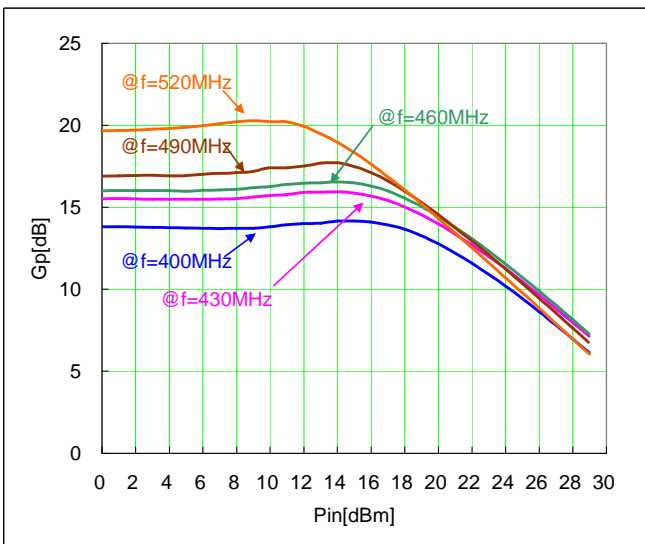
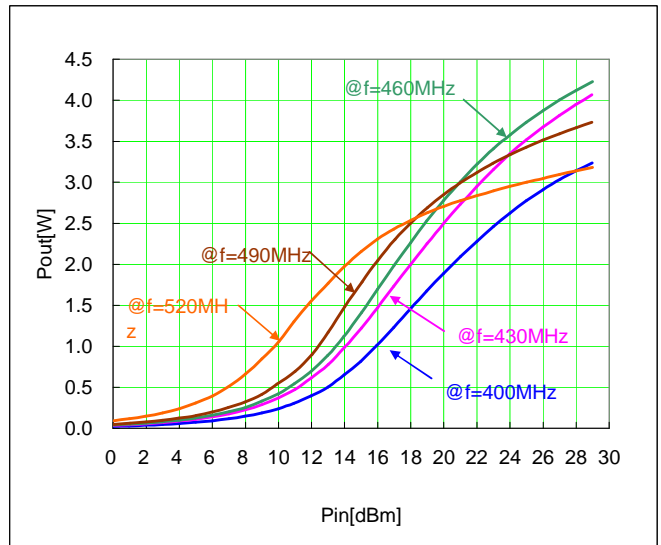
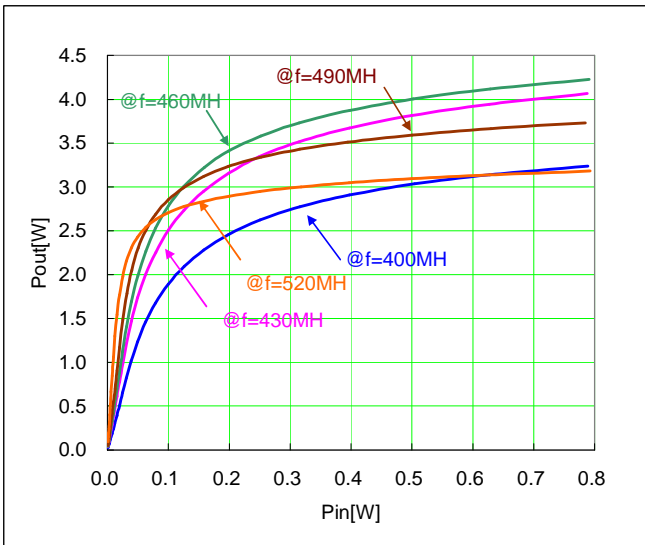
f [MHz]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	2fo [dBc]	3fo [dBc]	R.L. [-dB]
400	34.41	2.8	9.6	1.91	40.3	35.9	-35.7	-43.7	-3.2
410	34.87	3.1	10.1	1.93	44.3	39.9	-38.5	-43.0	-3.4
420	35.21	3.3	10.4	1.93	47.9	43.5	-38.3	-40.2	-3.6
430	35.44	3.5	10.6	1.91	51.2	46.8	-37.8	-40.4	-3.5
440	35.61	3.6	10.8	1.87	54.3	49.8	-37.3	-40.7	-3.3
450	35.70	3.7	10.9	1.80	57.5	52.8	-37.8	-39.3	-3.0
460	35.70	3.7	10.9	1.72	60.2	55.3	-38.2	-46.3	-2.7
470	35.63	3.7	10.8	1.63	62.4	57.2	-38.2	-45.5	-2.5
480	35.50	3.5	10.7	1.53	64.5	59.0	-38.3	-49.2	-2.3
490	35.34	3.4	10.6	1.43	66.6	60.7	-68.2	-68.2	-2.3
500	35.17	3.3	10.4	1.34	68.4	62.1	-39.0	-55.8	-2.6
510	34.99	3.2	10.2	1.26	69.9	63.2	-39.3	-63.7	-3.6
520	34.76	3.0	10.0	1.18	70.7	63.6	-39.5	-56.2	-6.4

@ **Pin=0.2W** (23dBm),Vdd=3.6V,Idq=250mA(Vgg=1.362V)

f [MHz]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	2fo [dBc]	3fo [dBc]	R.L. [-dB]
400	33.94	2.5	10.9	1.80	38.4	35.3	-34.3	-44.0	-3.3
410	34.41	2.8	11.4	1.82	42.2	39.2	-37.3	-43.0	-3.7
420	34.78	3.0	11.8	1.83	45.8	42.8	-37.3	-40.2	-3.8
430	35.01	3.2	12.0	1.80	48.9	45.9	-75.5	-75.5	-3.7
440	35.19	3.3	12.2	1.77	52.2	49.0	-37.3	-40.7	-3.5
450	35.31	3.4	12.3	1.71	55.4	52.1	-37.7	-44.5	-3.2
460	35.34	3.4	12.3	1.64	58.1	54.7	-38.3	-44.3	-2.9
470	35.30	3.4	12.3	1.56	60.5	56.9	-38.5	-45.5	-2.6
480	35.22	3.3	12.2	1.48	62.7	58.9	-38.7	-49.2	-2.4
490	35.12	3.2	12.1	1.39	65.0	61.0	-39.0	-56.3	-2.4
500	34.98	3.2	12.0	1.31	67.0	62.7	-39.3	-59.0	-2.6
510	34.82	3.0	11.9	1.23	68.6	64.2	-39.5	-62.7	-3.6
520	34.63	2.9	11.6	1.16	69.8	65.0	-39.8	-56.0	-6.0

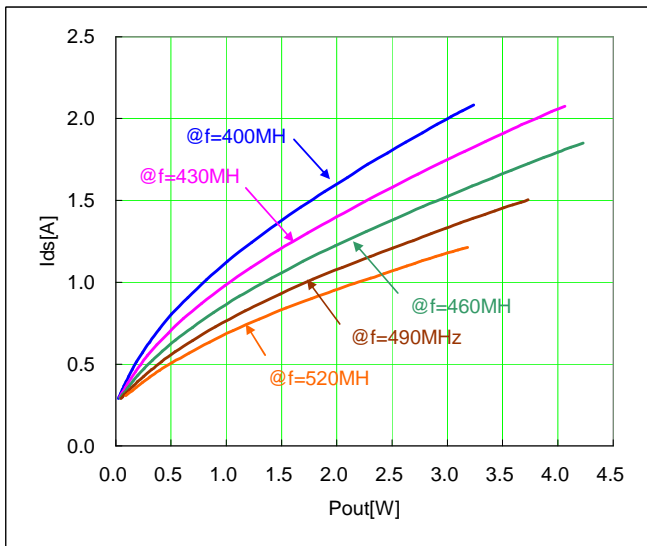
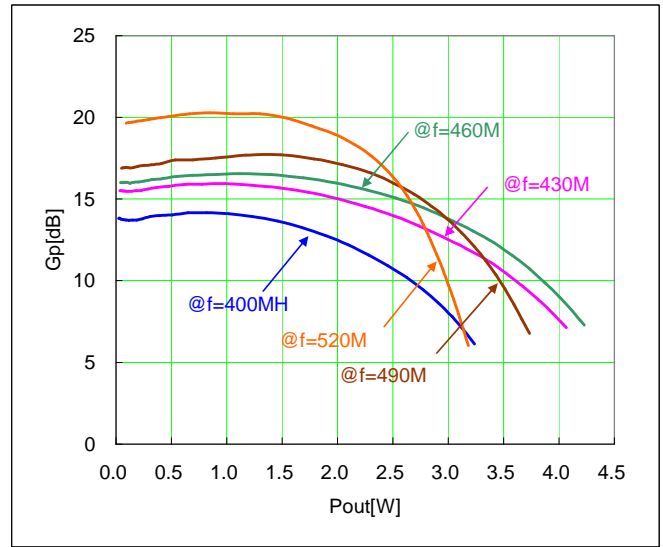
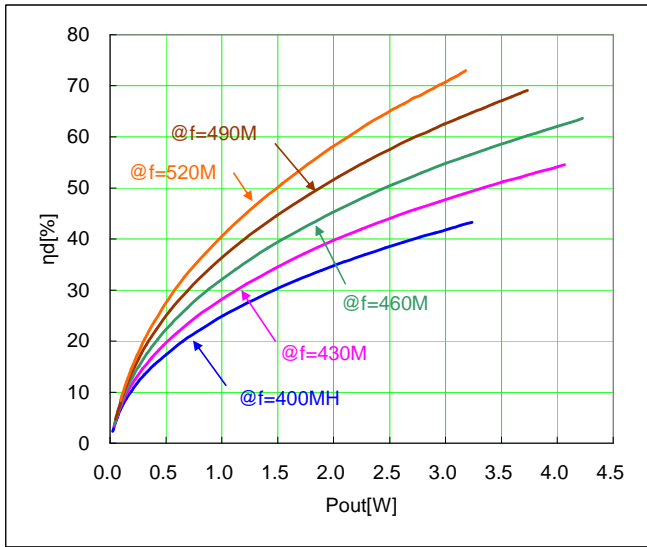
RD07MUS2B single-stage amplifier Pout vs. Pin characteristics.

@ $V_{dd}=3.6\text{V}$, $I_{dq}=250\text{mA}$ ($V_{gg}=1.368\text{V}$), $f=400\text{MHz}$, $f=430\text{MHz}$, $f=460\text{MHz}$, $f=490\text{MHz}$, $f=520\text{MHz}$



RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-



RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

RD07MUS2B single-stage amplifier Pout vs. Pin characteristics data

@ **f=400MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.00	0.00	13.82	0.02	13.82	0.29	2.3	2.2	-3.4
3.60	0.96	0.00	14.78	0.03	13.82	0.30	2.8	2.7	-3.4
3.60	1.98	0.00	15.77	0.04	13.79	0.31	3.4	3.2	-3.4
3.60	2.99	0.00	16.75	0.05	13.77	0.33	4.0	3.9	-3.4
3.60	4.02	0.00	17.77	0.06	13.75	0.35	4.8	4.6	-3.5
3.60	4.98	0.00	18.71	0.07	13.73	0.37	5.7	5.4	-3.5
3.60	6.00	0.00	19.72	0.09	13.72	0.39	6.6	6.3	-3.5
3.60	7.01	0.01	20.70	0.12	13.69	0.43	7.7	7.3	-3.5
3.60	7.98	0.01	21.69	0.15	13.71	0.47	8.8	8.4	-3.5
3.60	9.00	0.01	22.72	0.19	13.72	0.51	10.1	9.7	-3.5
3.60	10.00	0.01	23.80	0.24	13.81	0.57	11.7	11.2	-3.5
3.60	10.94	0.01	24.86	0.31	13.92	0.64	13.4	12.9	-3.5
3.60	11.96	0.02	25.96	0.39	14.00	0.72	15.3	14.7	-3.6
3.60	13.01	0.02	27.04	0.51	14.03	0.81	17.5	16.8	-3.7
3.60	13.98	0.03	28.14	0.65	14.16	0.91	20.0	19.2	-3.7
3.60	14.98	0.03	29.13	0.82	14.15	1.02	22.4	21.6	-3.8
3.60	15.96	0.04	30.06	1.01	14.10	1.13	25.0	24.0	-3.8
3.60	16.96	0.05	30.91	1.23	13.94	1.25	27.5	26.4	-3.8
3.60	17.99	0.06	31.64	1.46	13.65	1.36	29.9	28.6	-3.8
3.59	18.97	0.08	32.24	1.68	13.27	1.46	32.0	30.5	-3.7
3.59	20.00	0.10	32.77	1.89	12.77	1.56	33.9	32.1	-3.6
3.59	21.02	0.13	33.21	2.10	12.20	1.64	35.6	33.4	-3.6
3.59	22.00	0.16	33.58	2.28	11.58	1.72	36.9	34.3	-3.5
3.59	22.99	0.20	33.91	2.46	10.92	1.79	38.2	35.1	-3.4
3.59	23.99	0.25	34.19	2.62	10.20	1.86	39.4	35.6	-3.2
3.59	25.00	0.32	34.43	2.77	9.44	1.91	40.4	35.8	-3.1
3.59	25.99	0.40	34.64	2.91	8.65	1.97	41.2	35.6	-3.0
3.59	27.03	0.50	34.82	3.04	7.79	2.01	42.0	35.0	-2.9
3.59	27.98	0.63	34.97	3.14	6.99	2.05	42.7	34.1	-2.9
3.59	28.97	0.79	35.10	3.24	6.13	2.08	43.3	32.7	-2.8

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=430MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.01	0.00	15.51	0.04	15.51	0.30	3.3	3.2	-4.1
3.60	1.00	0.00	16.52	0.04	15.52	0.31	4.0	3.9	-4.2
3.60	2.02	0.00	17.52	0.06	15.50	0.32	4.9	4.7	-4.1
3.60	3.00	0.00	18.50	0.07	15.50	0.34	5.8	5.7	-4.2
3.60	4.01	0.00	19.50	0.09	15.49	0.36	6.9	6.7	-4.2
3.60	5.01	0.00	20.49	0.11	15.49	0.39	8.1	7.9	-4.2
3.60	6.02	0.00	21.50	0.14	15.49	0.42	9.5	9.2	-4.2
3.60	7.00	0.01	22.51	0.18	15.51	0.45	10.9	10.6	-4.2
3.60	8.02	0.01	23.53	0.23	15.52	0.50	12.6	12.2	-4.2
3.60	9.00	0.01	24.61	0.29	15.61	0.55	14.5	14.1	-4.2
3.60	9.99	0.01	25.70	0.37	15.72	0.62	16.7	16.3	-4.2
3.60	10.99	0.01	26.77	0.48	15.78	0.69	19.1	18.6	-4.3
3.60	11.98	0.02	27.87	0.61	15.89	0.78	21.9	21.3	-4.3
3.60	12.99	0.02	28.90	0.78	15.91	0.87	24.8	24.2	-4.4
3.60	14.00	0.03	29.94	0.99	15.94	0.98	28.0	27.3	-4.4
3.60	15.02	0.03	30.87	1.22	15.86	1.09	31.2	30.4	-4.4
3.60	15.98	0.04	31.67	1.47	15.69	1.20	34.2	33.3	-4.4
3.60	16.97	0.05	32.39	1.73	15.42	1.30	37.1	36.0	-4.4
3.59	17.99	0.06	33.01	2.00	15.02	1.40	39.7	38.5	-4.3
3.59	18.98	0.08	33.52	2.25	14.54	1.49	42.0	40.5	-4.2
3.59	20.03	0.10	34.00	2.51	13.97	1.58	44.1	42.3	-4.1
3.59	21.00	0.13	34.37	2.73	13.37	1.66	45.8	43.7	-4.0
3.59	21.99	0.16	34.70	2.95	12.71	1.73	47.3	44.8	-3.9
3.59	23.00	0.20	34.99	3.16	12.00	1.80	48.8	45.7	-3.7
3.59	23.98	0.25	35.25	3.35	11.27	1.86	50.1	46.4	-3.6
3.59	24.98	0.32	35.46	3.52	10.48	1.91	51.2	46.6	-3.5
3.59	25.99	0.40	35.65	3.67	9.66	1.96	52.1	46.5	-3.4
3.59	26.99	0.50	35.81	3.81	8.83	2.00	53.0	46.1	-3.3
3.59	27.98	0.63	35.96	3.94	7.98	2.04	53.8	45.2	-3.2
3.59	28.96	0.79	36.09	4.07	7.13	2.08	54.6	44.0	-3.1

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=460MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.00	0.00	16.00	0.04	16.00	0.29	3.8	3.7	-3.1
3.60	1.02	0.00	17.03	0.05	16.01	0.30	4.6	4.5	-3.2
3.60	2.01	0.00	18.02	0.06	16.01	0.32	5.6	5.5	-3.2
3.60	2.98	0.00	18.99	0.08	16.02	0.33	6.7	6.5	-3.2
3.60	4.01	0.00	20.02	0.10	16.02	0.35	8.0	7.8	-3.2
3.60	4.97	0.00	20.94	0.12	15.97	0.37	9.4	9.1	-3.2
3.60	6.00	0.00	22.03	0.16	16.03	0.40	11.1	10.9	-3.2
3.60	7.01	0.01	23.06	0.20	16.05	0.43	13.0	12.7	-3.2
3.60	8.00	0.01	24.09	0.26	16.09	0.47	15.1	14.7	-3.2
3.60	8.99	0.01	25.18	0.33	16.20	0.52	17.5	17.1	-3.2
3.60	10.01	0.01	26.26	0.42	16.26	0.58	20.3	19.8	-3.2
3.60	10.96	0.01	27.34	0.54	16.38	0.65	23.3	22.7	-3.2
3.60	11.96	0.02	28.42	0.69	16.45	0.73	26.6	26.0	-3.2
3.60	12.98	0.02	29.48	0.89	16.50	0.82	30.2	29.6	-3.3
3.60	13.95	0.02	30.49	1.12	16.54	0.92	34.0	33.2	-3.3
3.60	15.01	0.03	31.49	1.41	16.49	1.03	38.3	37.4	-3.4
3.60	15.99	0.04	32.29	1.69	16.30	1.13	41.8	40.8	-3.3
3.60	16.99	0.05	32.98	1.99	15.99	1.22	45.2	44.0	-3.3
3.60	18.00	0.06	33.55	2.27	15.56	1.31	48.1	46.8	-3.3
3.59	18.97	0.08	34.03	2.53	15.05	1.39	50.7	49.1	-3.2
3.59	20.00	0.10	34.44	2.78	14.44	1.46	52.9	51.0	-3.1
3.59	21.00	0.13	34.78	3.01	13.78	1.53	54.8	52.5	-3.0
3.59	22.03	0.16	35.08	3.22	13.05	1.59	56.5	53.7	-2.9
3.59	22.99	0.20	35.33	3.41	12.34	1.64	57.9	54.6	-2.9
3.59	24.01	0.25	35.54	3.58	11.53	1.69	59.1	55.0	-2.8
3.59	24.99	0.32	35.72	3.73	10.73	1.73	60.2	55.1	-2.7
3.59	26.00	0.40	35.88	3.87	9.88	1.76	61.2	54.9	-2.6
3.59	27.01	0.50	36.02	4.00	9.01	1.80	62.1	54.3	-2.6
3.59	27.98	0.63	36.15	4.12	8.16	1.83	62.8	53.2	-2.5
3.59	28.98	0.79	36.26	4.23	7.28	1.85	63.6	51.7	-2.5

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=490MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.01	0.00	16.90	0.05	16.90	0.29	4.7	4.6	-2.5
3.60	1.01	0.00	17.93	0.06	16.92	0.30	5.8	5.6	-2.5
3.60	2.01	0.00	18.94	0.08	16.93	0.31	7.0	6.8	-2.5
3.60	2.98	0.00	19.92	0.10	16.94	0.33	8.4	8.2	-2.5
3.60	3.99	0.00	20.91	0.12	16.92	0.34	10.0	9.8	-2.5
3.60	5.02	0.00	21.96	0.16	16.93	0.37	11.9	11.7	-2.5
3.60	5.99	0.00	22.99	0.20	17.00	0.39	14.1	13.8	-2.5
3.60	6.97	0.00	24.03	0.25	17.06	0.43	16.5	16.2	-2.5
3.60	7.98	0.01	25.08	0.32	17.10	0.47	19.3	18.9	-2.5
3.60	8.99	0.01	26.17	0.41	17.19	0.52	22.4	21.9	-2.5
3.60	9.91	0.01	27.31	0.54	17.40	0.58	26.0	25.5	-2.4
3.60	11.01	0.01	28.42	0.69	17.41	0.65	29.9	29.4	-2.6
3.60	12.04	0.02	29.56	0.90	17.51	0.73	34.5	33.9	-2.7
3.60	13.01	0.02	30.69	1.17	17.68	0.83	39.5	38.8	-2.7
3.60	14.01	0.03	31.72	1.49	17.71	0.93	44.5	43.7	-2.8
3.60	15.05	0.03	32.52	1.79	17.46	1.02	48.8	47.9	-2.9
3.60	16.00	0.04	33.11	2.05	17.11	1.09	52.2	51.2	-2.9
3.60	17.04	0.05	33.63	2.30	16.58	1.16	55.3	54.1	-2.8
3.60	18.01	0.06	33.99	2.51	15.98	1.21	57.6	56.1	-2.8
3.60	19.00	0.08	34.30	2.69	15.30	1.26	59.6	57.9	-2.7
3.60	20.01	0.10	34.55	2.85	14.54	1.30	61.1	59.0	-2.6
3.60	20.96	0.12	34.75	2.99	13.80	1.33	62.5	59.9	-2.5
3.60	22.01	0.16	34.94	3.12	12.94	1.36	63.7	60.4	-2.4
3.59	22.98	0.20	35.10	3.23	12.12	1.39	64.7	60.7	-2.4
3.60	24.02	0.25	35.24	3.34	11.22	1.42	65.6	60.7	-2.3
3.59	24.99	0.32	35.35	3.43	10.36	1.44	66.5	60.4	-2.3
3.59	25.97	0.40	35.45	3.51	9.49	1.46	67.1	59.6	-2.2
3.59	26.99	0.50	35.55	3.59	8.56	1.47	67.8	58.4	-2.2
3.59	27.99	0.63	35.64	3.67	7.65	1.49	68.5	56.8	-2.2
3.59	28.95	0.78	35.72	3.73	6.77	1.50	69.1	54.6	-2.2

RD07MUS2B single-stage amplifier RF performance at f= 400 to 520MHz(Vdd=3.6V).

- AN-UHF-132-A-

@ **f=520MHz**, Idq=250mA(Vgg=1.368V)

Vdd [V]	Pin [dBm]	Pin [W]	Po [dBm]	Po [W]	Gp [dB]	Idd [A]	η_d [%]	P.A.E. [%]	R.L. [-dB]
3.60	0.00	0.00	19.66	0.09	19.65	0.31	8.3	8.2	-4.3
3.60	0.98	0.00	20.66	0.12	19.69	0.32	10.0	9.9	-4.3
3.60	1.98	0.00	21.68	0.15	19.71	0.34	12.1	12.0	-4.4
3.60	2.99	0.00	22.75	0.19	19.76	0.36	14.5	14.4	-4.4
3.60	4.00	0.00	23.81	0.24	19.81	0.39	17.2	17.0	-4.5
3.60	5.00	0.00	24.89	0.31	19.89	0.42	20.4	20.2	-4.5
3.60	6.02	0.00	25.99	0.40	19.98	0.46	23.8	23.6	-4.6
3.60	7.00	0.01	27.10	0.51	20.10	0.51	27.9	27.7	-4.7
3.60	8.01	0.01	28.23	0.66	20.21	0.57	32.5	32.2	-4.9
3.60	9.00	0.01	29.28	0.85	20.28	0.64	37.1	36.7	-5.3
3.60	10.04	0.01	30.26	1.06	20.22	0.71	41.9	41.5	-5.8
3.60	10.93	0.01	31.14	1.30	20.21	0.78	46.6	46.1	-6.1
3.60	11.93	0.02	31.88	1.54	19.95	0.84	50.8	50.3	-6.5
3.60	13.01	0.02	32.48	1.77	19.47	0.90	54.6	54.0	-6.7
3.60	13.99	0.03	32.96	1.98	18.97	0.95	57.8	57.1	-6.8
3.60	14.99	0.03	33.33	2.15	18.34	0.99	60.3	59.5	-6.8
3.60	15.99	0.04	33.63	2.31	17.63	1.03	62.6	61.5	-6.7
3.60	16.97	0.05	33.85	2.43	16.89	1.05	64.1	62.8	-6.6
3.60	18.02	0.06	34.05	2.54	16.03	1.08	65.5	63.9	-6.4
3.60	19.03	0.08	34.20	2.63	15.17	1.10	66.5	64.5	-6.2
3.60	19.99	0.10	34.32	2.71	14.34	1.12	67.5	65.0	-6.0
3.60	21.00	0.13	34.43	2.78	13.43	1.13	68.1	65.1	-5.9
3.60	22.01	0.16	34.53	2.84	12.51	1.15	68.9	65.1	-5.9
3.60	23.01	0.20	34.62	2.90	11.60	1.16	69.5	64.7	-6.0
3.60	24.00	0.25	34.70	2.95	10.70	1.17	70.2	64.3	-6.2
3.60	25.02	0.32	34.77	3.00	9.75	1.18	70.7	63.2	-6.5
3.60	25.98	0.40	34.84	3.05	8.86	1.19	71.4	62.1	-6.9
3.60	26.99	0.50	34.91	3.09	7.92	1.20	71.8	60.2	-7.3
3.60	27.98	0.63	34.97	3.14	6.98	1.21	72.4	57.9	-7.8
3.60	28.99	0.79	35.03	3.18	6.04	1.21	73.0	54.8	-8.2