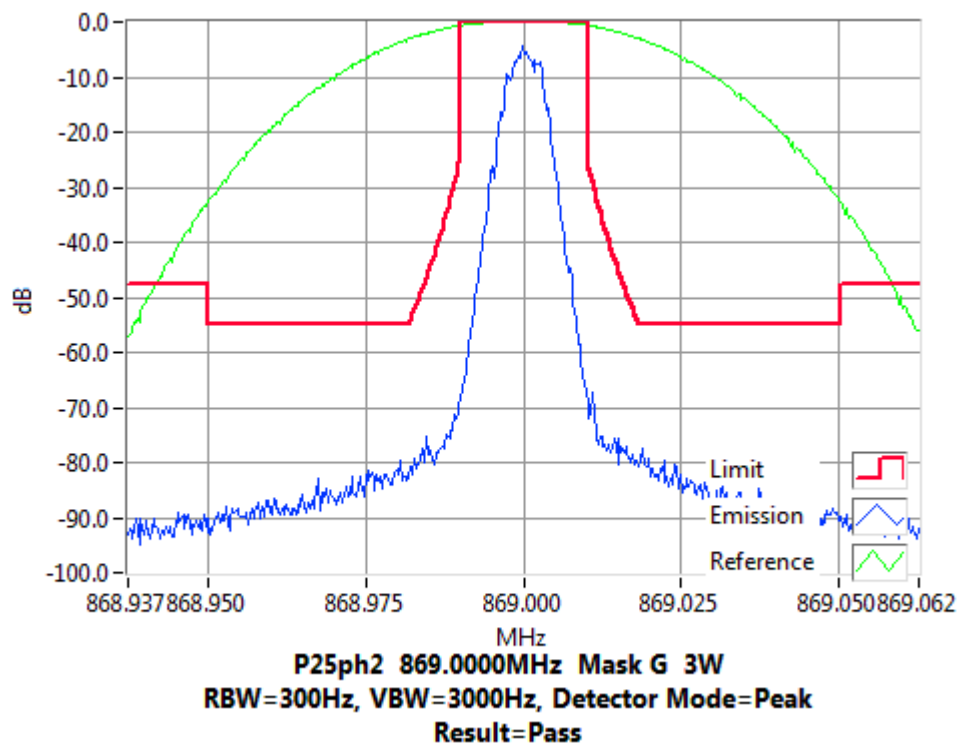
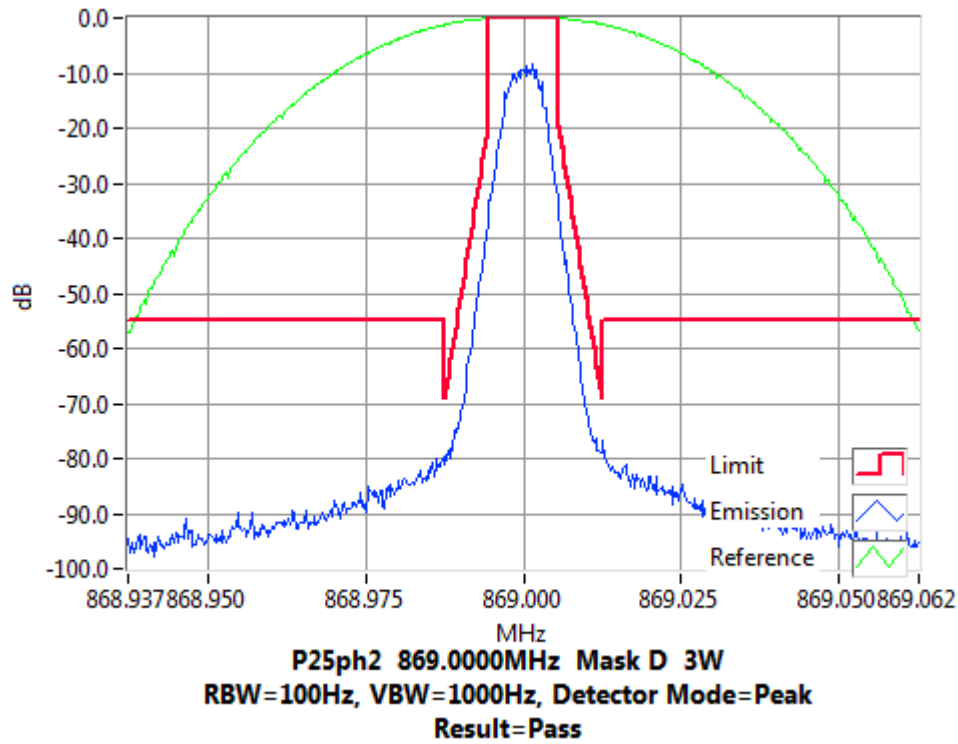


Occupied Bandwidth and Spectrum Masks

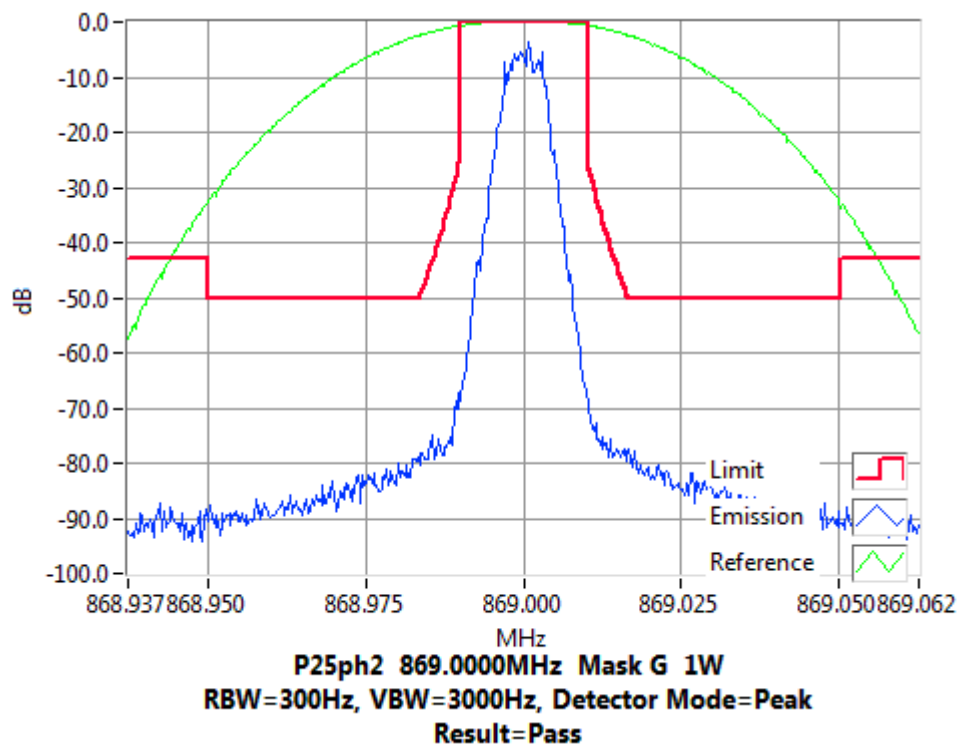
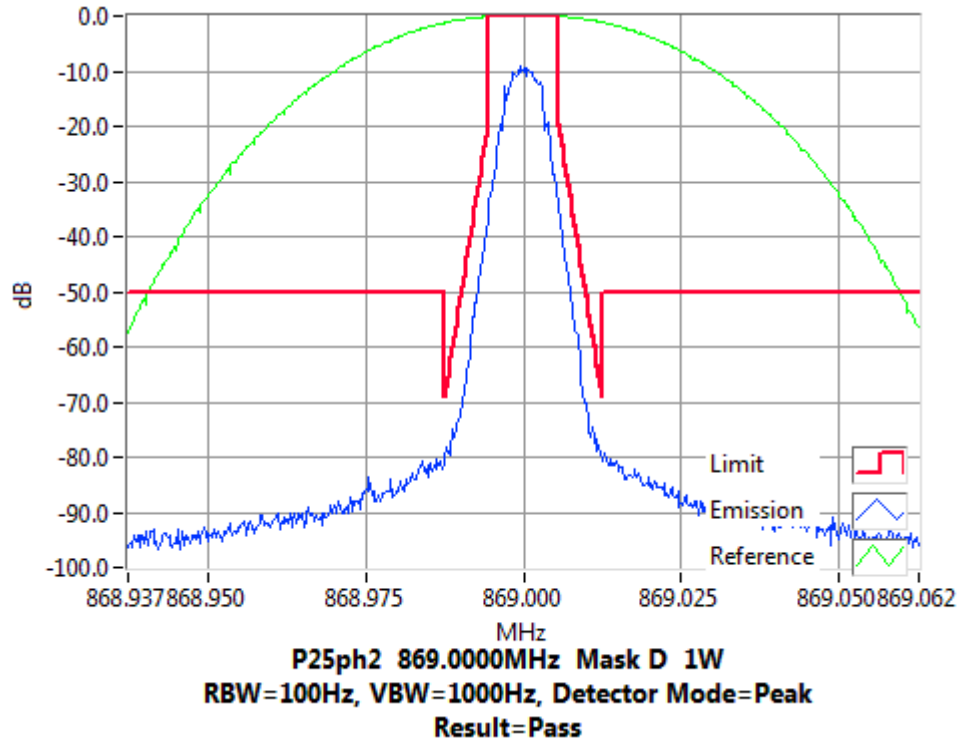
APCO P25 phase-2

SPECIFICATION: FCC CFR 2.1049 (c) RSS-119 5.5

Tx FREQUENCY: 869.0 MHz 3 W 12.5 kHz Channel Spacing



Tx FREQUENCY: 869.0 MHz 1 W 12.5 kHz Channel Spacing



TRANSMITTER ADJACENT CHANNEL POWER RATIO

SPECIFICATION: FCC 47 CFR 90.543

RSS-119 5.8.9

MEASUREMENT PROCEDURE:

1. Refer Annex A for equipment set up.
2. The transmitter is modulated with the standard test pattern for digital modulation.
3. The test is performed in accordance with 47 CFR 90.543

LIMIT CLAUSE: FCC 47 CFR 90.543

RSS-119 5.8.9

MEASUREMENT UNCERTAINTY: ≤ 12.75 GHz ± 3.0 dB

MEASUREMENT RESULTS:

Analogue

Tx FREQUENCY: 769.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-47.07	-47.34	-40
15.625 kHz	6.25 kHz	-76.75	-76.53	-60
21.875 kHz	6.25 kHz	-80.32	-80.27	-60
37.5 kHz	25 kHz	-79.42	-79.26	-60
62.5 kHz	25 kHz	-83.4	-83.36	-65
87.5 kHz	25 kHz	-84.96	-84.96	-65
150 kHz	100 kHz	-78.16	-78.11	-65
250 kHz	100 kHz	-81.72	-81.68	-65
350 kHz	100 kHz	-84.71	-84.63	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.74		-75
12 MHz to paired receive band	30 kHz (swept)	-104.7		-75
In the paired receive band	30 kHz (swept)	-107.33		-100

Analogue

Tx FREQUENCY: 774.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-47.43	-47.14	-40
15.625 kHz	6.25 kHz	-76.17	-75.96	-60
21.875 kHz	6.25 kHz	-79.34	-79	-60
37.5 kHz	25 kHz	-78.67	-78.53	-60
62.5 kHz	25 kHz	-82.23	-82.21	-65
87.5 kHz	25 kHz	-83.55	-83.57	-65
150 kHz	100 kHz	-78.01	-77.92	-65
250 kHz	100 kHz	-81.57	-81.48	-65
350 kHz	100 kHz	-84.36	-84.4	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.68		-75
12 MHz to paired receive band	30 kHz (swept)	-105.12		-75
In the paired receive band	30 kHz (swept)	-107.06		-100

Adjacent Channel Power - continued

Analogue

Tx FREQUENCY: 799.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-48.75	-46.91	-40
15.625 kHz	6.25 kHz	-75.41	-75.12	-60
21.875 kHz	6.25 kHz	-78.94	-78.8	-60
37.5 kHz	25 kHz	-78.1	-77.91	-60
62.5 kHz	25 kHz	-82.34	-82.23	-65
87.5 kHz	25 kHz	-84.15	-84.11	-65
150 kHz	100 kHz	-78.02	-77.94	-65
250 kHz	100 kHz	-81.63	-81.61	-65
350 kHz	100 kHz	-84.59	-84.6	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.25		-75
12 MHz to paired receive band	30 kHz (swept)	-105.26		-75
In the paired receive band	30 kHz (swept)	-105.05		-100

Analogue

Tx FREQUENCY: 804.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-49.89	-46.9	-40
15.625 kHz	6.25 kHz	-74.96	-74.66	-60
21.875 kHz	6.25 kHz	-78.66	-78.55	-60
37.5 kHz	25 kHz	-77.74	-77.52	-60
62.5 kHz	25 kHz	-82.1	-81.99	-65
87.5 kHz	25 kHz	-83.96	-83.9	-65
150 kHz	100 kHz	-77.98	-77.92	-65
250 kHz	100 kHz	-81.46	-81.49	-65
350 kHz	100 kHz	-84.68	-84.55	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.39		-75
12 MHz to paired receive band	30 kHz (swept)	-105.89		-75
In the paired receive band	30 kHz (swept)	-106.75		-100

Adjacent Channel Power - continued

Analogue

Tx FREQUENCY: 769.1 MHz 3 W 25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
15.625 kHz	6.25 kHz	-72.14	-72.49	-40
21.875 kHz	6.25 kHz	-79.69	-79.7	-60
37.5 kHz	25 kHz	-79.08	-78.98	-60
62.5 kHz	25 kHz	-83.2	-83.15	-65
87.5 kHz	25 kHz	-84.86	-84.86	-65
150 kHz	100 kHz	-78.15	-78.15	-65
250 kHz	100 kHz	-81.74	-81.68	-65
350 kHz	100 kHz	-84.69	-84.63	-65
>400 kHz to 12 MHz	30 kHz (swept)	-89.69		-75
12 MHz to paired receive band	30 kHz (swept)	-104.31		-75
In the paired receive band	30 kHz (swept)	-107.58		-100

Analogue

Tx FREQUENCY: 774.9 MHz 3 W 25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
15.625 kHz	6.25 kHz	-71.71	-72.13	-40
21.875 kHz	6.25 kHz	-79.13	-78.9	-60
37.5 kHz	25 kHz	-78.49	-78.37	-60
62.5 kHz	25 kHz	-82.14	-82.12	-65
87.5 kHz	25 kHz	-83.48	-83.5	-65
150 kHz	100 kHz	-77.96	-77.97	-65
250 kHz	100 kHz	-81.57	-81.5	-65
350 kHz	100 kHz	-84.42	-84.32	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.08		-75
12 MHz to paired receive band	30 kHz (swept)	-104.86		-75
In the paired receive band	30 kHz (swept)	-106.62		-100

Adjacent Channel Power - continued

Analogue

Tx FREQUENCY: 799.1 MHz 3 W 25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
15.625 kHz	6.25 kHz	-71.11	-71.37	-40
21.875 kHz	6.25 kHz	-78.73	-78.44	-60
37.5 kHz	25 kHz	-77.87	-77.6	-60
62.5 kHz	25 kHz	-82.21	-82.12	-65
87.5 kHz	25 kHz	-84.1	-84.04	-65
150 kHz	100 kHz	-77.95	-77.97	-65
250 kHz	100 kHz	-81.68	-81.62	-65
350 kHz	100 kHz	-84.63	-84.55	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.28		-75
12 MHz to paired receive band	30 kHz (swept)	-105.68		-75
In the paired receive band	30 kHz (swept)	-105.17		-100

Analogue

Tx FREQUENCY: 804.9 MHz 3 W 25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
15.625 kHz	6.25 kHz	-70.85	-71.15	-40
21.875 kHz	6.25 kHz	-78.31	-78.15	-60
37.5 kHz	25 kHz	-77.46	-77.25	-60
62.5 kHz	25 kHz	-81.96	-81.85	-65
87.5 kHz	25 kHz	-83.89	-83.82	-65
150 kHz	100 kHz	-77.88	-77.81	-65
250 kHz	100 kHz	-81.5	-81.5	-65
350 kHz	100 kHz	-84.62	-84.52	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.46		-75
12 MHz to paired receive band	30 kHz (swept)	-105.48		-75
In the paired receive band	30 kHz (swept)	-106.42		-100

Adjacent Channel Power - continued

FFSK 1200 bps

Tx FREQUENCY: 769.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-49.32	-49.6	-40
15.625 kHz	6.25 kHz	-76.85	-76.41	-60
21.875 kHz	6.25 kHz	-80.53	-80.54	-60
37.5 kHz	25 kHz	-79.11	-79.05	-60
62.5 kHz	25 kHz	-83.43	-83.41	-65
87.5 kHz	25 kHz	-85	-85	-65
150 kHz	100 kHz	-78.2	-78.19	-65
250 kHz	100 kHz	-81.61	-81.55	-65
350 kHz	100 kHz	-84.46	-84.41	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.2		-75
12 MHz to paired receive band	30 kHz (swept)	-106.3		-75
In the paired receive band	30 kHz (swept)	-110.9		-100

FFSK 1200 bps

Tx FREQUENCY: 774.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-49.07	-49.33	-40
15.625 kHz	6.25 kHz	-76.51	-76.13	-60
21.875 kHz	6.25 kHz	-79.32	-79.36	-60
37.5 kHz	25 kHz	-78.91	-78.78	-60
62.5 kHz	25 kHz	-82.43	-82.4	-65
87.5 kHz	25 kHz	-83.65	-83.66	-65
150 kHz	100 kHz	-78.11	-78.09	-65
250 kHz	100 kHz	-81.49	-81.48	-65
350 kHz	100 kHz	-84.22	-84.1	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.26		-75
12 MHz to paired receive band	30 kHz (swept)	-103.96		-75
In the paired receive band	30 kHz (swept)	-109.3		-100

Adjacent Channel Power – continued

FFSK 1200 bps

Tx FREQUENCY:

799.1 MHz

3 W

12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-48.7	-48.94	-40
15.625 kHz	6.25 kHz	-75.85	-75.49	-60
21.875 kHz	6.25 kHz	-79.76	-79.65	-60
37.5 kHz	25 kHz	-78.41	-78.17	-60
62.5 kHz	25 kHz	-82.69	-82.61	-65
87.5 kHz	25 kHz	-84.38	-84.36	-65
150 kHz	100 kHz	-78.12	-78.03	-65
250 kHz	100 kHz	-81.61	-81.52	-65
350 kHz	100 kHz	-84.47	-84.43	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.23		-75
12 MHz to paired receive band	30 kHz (swept)	-106.87		-75
In the paired receive band	30 kHz (swept)	-107.9		-100

FFSK 1200 bps

Tx FREQUENCY:

804.9 MHz

3 W

12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-48.66	-48.87	-40
15.625 kHz	6.25 kHz	-75.46	-75.09	-60
21.875 kHz	6.25 kHz	-79.34	-79.2	-60
37.5 kHz	25 kHz	-78.09	-77.99	-60
62.5 kHz	25 kHz	-82.46	-82.36	-65
87.5 kHz	25 kHz	-84.24	-84.19	-65
150 kHz	100 kHz	-78.1	-78.05	-65
250 kHz	100 kHz	-81.57	-81.47	-65
350 kHz	100 kHz	-84.46	-84.36	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.58		-75
12 MHz to paired receive band	30 kHz (swept)	-107.2		-75
In the paired receive band	30 kHz (swept)	-109.1		-100

Adjacent Channel Power - continued

FFSK 1200 bps
Tx FREQUENCY:

769.1 MHz

3 W

25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
15.625 kHz	6.25 kHz	-74.47	-74.32	-40
21.875 kHz	6.25 kHz	-80.4	-80.49	-60
37.5 kHz	25 kHz	-79.52	-79.51	-60
62.5 kHz	25 kHz	-83.67	-83.64	-65
87.5 kHz	25 kHz	-85.19	-85.2	-65
150 kHz	100 kHz	-78.17	-78.11	-65
250 kHz	100 kHz	-81.6	-81.53	-65
350 kHz	100 kHz	-84.39	-84.34	-65
>400 kHz to 12 MHz	30 kHz (swept)	-89.75		-75
12 MHz to paired receive band	30 kHz (swept)	-104.95		-75
In the paired receive band	30 kHz (swept)	-107.9		-100

FFSK 1200 bps
Tx FREQUENCY:

774.9 MHz

3 W

25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
15.625 kHz	6.25 kHz	-74.21	-73.67	-40
21.875 kHz	6.25 kHz	-79.31	-79.23	-60
37.5 kHz	25 kHz	-78.92	-78.8	-60
62.5 kHz	25 kHz	-82.52	-82.49	-65
87.5 kHz	25 kHz	-83.71	-83.72	-65
150 kHz	100 kHz	-78.03	-78.05	-65
250 kHz	100 kHz	-81.39	-81.39	-65
350 kHz	100 kHz	-84.14	-84.14	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.67		-75
12 MHz to paired receive band	30 kHz (swept)	-105.1		-75
In the paired receive band	30 kHz (swept)	-106.95		-100

Adjacent Channel Power - continued

FFSK 1200 bps

Tx FREQUENCY:

799.1 MHz

3 W

25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
15.625 kHz	6.25 kHz	-73.57	-73	-40
21.875 kHz	6.25 kHz	-79.26	-79.16	-60
37.5 kHz	25 kHz	-78.39	-78.18	-60
62.5 kHz	25 kHz	-82.69	-82.62	-65
87.5 kHz	25 kHz	-84.38	-84.34	-65
150 kHz	100 kHz	-78.07	-78.04	-65
250 kHz	100 kHz	-81.6	-81.59	-65
350 kHz	100 kHz	-84.42	-84.38	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.45		-75
12 MHz to paired receive band	30 kHz (swept)	-106.47		-75
In the paired receive band	30 kHz (swept)	-107.34		-100

FFSK 1200 bps

Tx FREQUENCY:

804.9 MHz

3 W

25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
15.625 kHz	6.25 kHz	-73.21	-72.58	-40
21.875 kHz	6.25 kHz	-78.87	-78.73	-60
37.5 kHz	25 kHz	-78.05	-77.86	-60
62.5 kHz	25 kHz	-82.44	-82.35	-65
87.5 kHz	25 kHz	-84.23	-84.18	-65
150 kHz	100 kHz	-78.05	-78.01	-65
250 kHz	100 kHz	-81.55	-81.45	-65
350 kHz	100 kHz	-84.48	-84.37	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.8		-75
12 MHz to paired receive band	30 kHz (swept)	-106.74		-75
In the paired receive band	30 kHz (swept)	-109.37		-100

Adjacent Channel Power – continued

FFSK 2400 bps

Tx FREQUENCY:

769.1 MHz

3 W

12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-48.69	-49.17	-40
15.625 kHz	6.25 kHz	-76.57	-76.18	-60
21.875 kHz	6.25 kHz	-79.72	-79.43	-60
37.5 kHz	25 kHz	-79.34	-79.2	-60
62.5 kHz	25 kHz	-83.3	-83.28	-65
87.5 kHz	25 kHz	-84.89	-84.91	-65
150 kHz	100 kHz	-78.23	-78.19	-65
250 kHz	100 kHz	-81.62	-81.63	-65
350 kHz	100 kHz	-84.46	-84.46	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.16		-75
12 MHz to paired receive band	30 kHz (swept)	-106.07		-75
In the paired receive band	30 kHz (swept)	-108.4		-100

FFSK 2400 bps

Tx FREQUENCY:

774.9 MHz

3 W

12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-48.59	-49.02	-40
15.625 kHz	6.25 kHz	-76.48	-76.14	-60
21.875 kHz	6.25 kHz	-79.45	-79.23	-60
37.5 kHz	25 kHz	-78.9	-78.76	-60
62.5 kHz	25 kHz	-82.46	-82.43	-65
87.5 kHz	25 kHz	-83.65	-83.67	-65
150 kHz	100 kHz	-78.07	-78.06	-65
250 kHz	100 kHz	-81.47	-81.42	-65
350 kHz	100 kHz	-84.16	-84.14	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.07		-75
12 MHz to paired receive band	30 kHz (swept)	-104.77		-75
In the paired receive band	30 kHz (swept)	-108.78		-100

Adjacent Channel Power - continued

FFSK 2400 bps

Tx FREQUENCY: 799.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-48.44	-48.78	-40
15.625 kHz	6.25 kHz	-75.78	-75.44	-60
21.875 kHz	6.25 kHz	-79.61	-79.47	-60
37.5 kHz	25 kHz	-78.26	-78.09	-60
62.5 kHz	25 kHz	-82.63	-82.55	-65
87.5 kHz	25 kHz	-84.32	-84.29	-65
150 kHz	100 kHz	-78.07	-78.08	-65
250 kHz	100 kHz	-81.55	-81.54	-65
350 kHz	100 kHz	-84.52	-84.39	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.87		-75
12 MHz to paired receive band	30 kHz (swept)	-106.54		-75
In the paired receive band	30 kHz (swept)	-107.38		-100

FFSK 2400 bps

Tx FREQUENCY: 804.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-48.39	-48.7	-40
15.625 kHz	6.25 kHz	-75.35	-74.98	-60
21.875 kHz	6.25 kHz	-79.24	-79.13	-60
37.5 kHz	25 kHz	-77.99	-77.75	-60
62.5 kHz	25 kHz	-82.41	-82.31	-65
87.5 kHz	25 kHz	-84.17	-84.13	-65
150 kHz	100 kHz	-78.12	-78.05	-65
250 kHz	100 kHz	-81.61	-81.5	-65
350 kHz	100 kHz	-84.51	-84.42	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.54		-75
12 MHz to paired receive band	30 kHz (swept)	-106.7		-75
In the paired receive band	30 kHz (swept)	-108.4		-100

Adjacent Channel Power - continued

FFSK 2400 bps

Tx FREQUENCY: 769.1 MHz 3 W 25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
15.625 kHz	6.25 kHz	-74.11	-73.39	-40
21.875 kHz	6.25 kHz	-79.15	-78.87	-60
37.5 kHz	25 kHz	-79.04	-78.89	-60
62.5 kHz	25 kHz	-83.11	-83.07	-65
87.5 kHz	25 kHz	-84.76	-84.78	-65
150 kHz	100 kHz	-78.19	-78.19	-65
250 kHz	100 kHz	-81.58	-81.58	-65
350 kHz	100 kHz	-84.38	-84.46	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.69		-75
12 MHz to paired receive band	30 kHz (swept)	-105.42		-75
In the paired receive band	30 kHz (swept)	-108.68		-100

FFSK 2400 bps

Tx FREQUENCY: 774.9 MHz 3 W 25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
15.625 kHz	6.25 kHz	-74.07	-73.45	-40
21.875 kHz	6.25 kHz	-79.15	-78.92	-60
37.5 kHz	25 kHz	-78.77	-78.63	-60
62.5 kHz	25 kHz	-82.37	-82.35	-65
87.5 kHz	25 kHz	-83.63	-83.65	-65
150 kHz	100 kHz	-78	-77.92	-65
250 kHz	100 kHz	-81.47	-81.45	-65
350 kHz	100 kHz	-84.17	-84.14	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.37		-75
12 MHz to paired receive band	30 kHz (swept)	-105.45		-75
In the paired receive band	30 kHz (swept)	-108.2		-100

Adjacent Channel Power - continued

FFSK 2400 bps

Tx FREQUENCY:

799.1 MHz

3 W

25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
15.625 kHz	6.25 kHz	-73.58	-72.96	-40
21.875 kHz	6.25 kHz	-79	-79.06	-60
37.5 kHz	25 kHz	-78.19	-78.18	-60
62.5 kHz	25 kHz	-82.6	-82.52	-65
87.5 kHz	25 kHz	-84.35	-84.32	-65
150 kHz	100 kHz	-78.07	-78.06	-65
250 kHz	100 kHz	-81.64	-81.48	-65
350 kHz	100 kHz	-84.45	-84.37	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.9		-75
12 MHz to paired receive band	30 kHz (swept)	-106.9		-75
In the paired receive band	30 kHz (swept)	-107.68		-100

FFSK 2400 bps

Tx FREQUENCY:

804.9 MHz

3 W

25 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
15.625 kHz	6.25 kHz	-73.3	-72.67	-40
21.875 kHz	6.25 kHz	-78.85	-78.69	-60
37.5 kHz	25 kHz	-77.95	-77.76	-60
62.5 kHz	25 kHz	-82.4	-82.3	-65
87.5 kHz	25 kHz	-84.18	-84.14	-65
150 kHz	100 kHz	-78.03	-77.97	-65
250 kHz	100 kHz	-81.51	-81.47	-65
350 kHz	100 kHz	-84.45	-84.3	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.21		-75
12 MHz to paired receive band	30 kHz (swept)	-106.69		-75
In the paired receive band	30 kHz (swept)	-108.47		-100

Adjacent Channel Power - continued

DMR

Tx FREQUENCY: 769.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-43.94	-43.03	-40
15.625 kHz	6.25 kHz	-74.59	-74.35	-60
21.875 kHz	6.25 kHz	-78.89	-78.74	-60
37.5 kHz	25 kHz	-79.14	-78.98	-60
62.5 kHz	25 kHz	-83.26	-83.24	-65
87.5 kHz	25 kHz	-84.89	-84.9	-65
150 kHz	100 kHz	-78.32	-78.33	-65
250 kHz	100 kHz	-81.8	-81.78	-65
350 kHz	100 kHz	-84.62	-84.57	-65
>400 kHz to 12 MHz	30 kHz (swept)	-91.07		-75
12 MHz to paired receive band	30 kHz (swept)	-105.34		-75
In the paired receive band	30 kHz (swept)	-110.5		-100

DMR

Tx FREQUENCY: 774.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-43.74	-42.71	-40
15.625 kHz	6.25 kHz	-74.49	-74.27	-60
21.875 kHz	6.25 kHz	-78.93	-78.74	-60
37.5 kHz	25 kHz	-78.78	-78.65	-60
62.5 kHz	25 kHz	-82.47	-82.43	-65
87.5 kHz	25 kHz	-83.67	-83.7	-65
150 kHz	100 kHz	-78.07	-78.06	-65
250 kHz	100 kHz	-81.45	-81.41	-65
350 kHz	100 kHz	-84.25	-84.14	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.35		-75
12 MHz to paired receive band	30 kHz (swept)	-105.23		-75
In the paired receive band	30 kHz (swept)	-108.7		-100

Adjacent Channel Power - continued

DMR

Tx FREQUENCY: 799.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-43.55	-42.39	-40
15.625 kHz	6.25 kHz	-74.01	-73.7	-60
21.875 kHz	6.25 kHz	-78.89	-78.84	-60
37.5 kHz	25 kHz	-78.29	-78.07	-60
62.5 kHz	25 kHz	-82.69	-82.62	-65
87.5 kHz	25 kHz	-84.39	-84.35	-65
150 kHz	100 kHz	-78.03	-77.95	-65
250 kHz	100 kHz	-81.51	-81.51	-65
350 kHz	100 kHz	-84.38	-84.31	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.42		-75
12 MHz to paired receive band	30 kHz (swept)	-107.1		-75
In the paired receive band	30 kHz (swept)	-108.7		-100

DMR

Tx FREQUENCY: 804.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-43.57	-42.28	-40
15.625 kHz	6.25 kHz	-73.72	-73.42	-60
21.875 kHz	6.25 kHz	-78.61	-78.49	-60
37.5 kHz	25 kHz	-78.02	-77.65	-60
62.5 kHz	25 kHz	-82.47	-82.39	-65
87.5 kHz	25 kHz	-84.26	-84.21	-65
150 kHz	100 kHz	-78.04	-77.94	-65
250 kHz	100 kHz	-81.5	-81.44	-65
350 kHz	100 kHz	-84.37	-84.29	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.27		-75
12 MHz to paired receive band	30 kHz (swept)	-106.73		-75
In the paired receive band	30 kHz (swept)	-108.2		-100

Adjacent Channel Power - continued

P25 phase I

Tx FREQUENCY: 769.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-41.34	-40.83	-40
15.625 kHz	6.25 kHz	-77.21	-77.06	-60
21.875 kHz	6.25 kHz	-80.65	-80.8	-60
37.5 kHz	25 kHz	-79.44	-79.46	-60
62.5 kHz	25 kHz	-83.63	-83.6	-65
87.5 kHz	25 kHz	-85.15	-85.15	-65
150 kHz	100 kHz	-78.48	-78.4	-65
250 kHz	100 kHz	-81.82	-81.75	-65
350 kHz	100 kHz	-84.69	-84.67	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.63		-75
12 MHz to paired receive band	30 kHz (swept)	-105.24		-75
In the paired receive band	30 kHz (swept)	-109.36		-100

P25 phase I

Tx FREQUENCY: 774.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-41.39	-40.35	-40
15.625 kHz	6.25 kHz	-76.88	-76.65	-60
21.875 kHz	6.25 kHz	-80.15	-80.23	-60
37.5 kHz	25 kHz	-78.95	-78.92	-60
62.5 kHz	25 kHz	-82.58	-82.56	-65
87.5 kHz	25 kHz	-83.77	-83.78	-65
150 kHz	100 kHz	-78.22	-78.09	-65
250 kHz	100 kHz	-81.58	-81.51	-65
350 kHz	100 kHz	-84.27	-84.22	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.15		-75
12 MHz to paired receive band	30 kHz (swept)	-105.68		-75
In the paired receive band	30 kHz (swept)	-108.24		-100

Adjacent Channel Power - continued

P25 phase I

Tx FREQUENCY: 799.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-41.36	-40.36	-40
15.625 kHz	6.25 kHz	-76.41	-76.21	-60
21.875 kHz	6.25 kHz	-80.31	-80.25	-60
37.5 kHz	25 kHz	-79.03	-78.73	-60
62.5 kHz	25 kHz	-83.11	-83.03	-65
87.5 kHz	25 kHz	-84.72	-84.68	-65
150 kHz	100 kHz	-78.27	-78.18	-65
250 kHz	100 kHz	-81.7	-81.66	-65
350 kHz	100 kHz	-84.65	-84.56	-65
>400 kHz to 12 MHz	30 kHz (swept)	-91.63		-75
12 MHz to paired receive band	30 kHz (swept)	-107.32		-75
In the paired receive band	30 kHz (swept)	-107.84		-100

P25 phase I

Tx FREQUENCY: 804.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-41.23	-40.03	-40
15.625 kHz	6.25 kHz	-75.74	-75.51	-60
21.875 kHz	6.25 kHz	-79.6	-79.5	-60
37.5 kHz	25 kHz	-78.4	-78.2	-60
62.5 kHz	25 kHz	-82.65	-82.56	-65
87.5 kHz	25 kHz	-84.4	-84.34	-65
150 kHz	100 kHz	-78.07	-78.05	-65
250 kHz	100 kHz	-81.6	-81.51	-65
350 kHz	100 kHz	-84.55	-84.38	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.27		-75
12 MHz to paired receive band	30 kHz (swept)	-106.89		-75
In the paired receive band	30 kHz (swept)	-108.39		-100

Adjacent Channel Power - continued

P25 phase II

Tx FREQUENCY: 769.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-42.88	-41.76	-40
15.625 kHz	6.25 kHz	-76.23	-75.97	-60
21.875 kHz	6.25 kHz	-79.57	-79.35	-60
37.5 kHz	25 kHz	-79.18	-79.02	-60
62.5 kHz	25 kHz	-83.17	-83.13	-65
87.5 kHz	25 kHz	-84.84	-84.85	-65
150 kHz	100 kHz	-78.15	-78.15	-65
250 kHz	100 kHz	-81.59	-81.54	-65
350 kHz	100 kHz	-84.41	-84.36	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.79		-75
12 MHz to paired receive band	30 kHz (swept)	-106.22		-75
In the paired receive band	30 kHz (swept)	-108.97		-100

P25 phase II

Tx FREQUENCY: 774.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-42.7	-41.5	-40
15.625 kHz	6.25 kHz	-76.28	-75.9	-60
21.875 kHz	6.25 kHz	-79.48	-79.12	-60
37.5 kHz	25 kHz	-78.86	-78.72	-60
62.5 kHz	25 kHz	-82.43	-82.39	-65
87.5 kHz	25 kHz	-83.65	-83.66	-65
150 kHz	100 kHz	-78.16	-78.1	-65
250 kHz	100 kHz	-81.53	-81.51	-65
350 kHz	100 kHz	-84.26	-84.19	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.58		-75
12 MHz to paired receive band	30 kHz (swept)	-105.75		-75
In the paired receive band	30 kHz (swept)	-108.03		-100

Adjacent Channel Power - continued

P25 phase II

Tx FREQUENCY: 799.1 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP(dBc)
9.375 kHz	6.25 kHz	-42.6	-41.41	-40
15.625 kHz	6.25 kHz	-75.7	-75.38	-60
21.875 kHz	6.25 kHz	-79.42	-79.48	-60
37.5 kHz	25 kHz	-78.3	-78.25	-60
62.5 kHz	25 kHz	-82.66	-82.59	-65
87.5 kHz	25 kHz	-84.37	-84.34	-65
150 kHz	100 kHz	-78.21	-78.22	-65
250 kHz	100 kHz	-81.77	-81.67	-65
350 kHz	100 kHz	-84.63	-84.54	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.97		-75
12 MHz to paired receive band	30 kHz (swept)	-107.52		-75
In the paired receive band	30 kHz (swept)	-108.24		-100

P25 phase II

Tx FREQUENCY: 804.9 MHz 3 W 12.5 kHz Channel Spacing

Frequency Offset	Measurement Bandwidth	ACP Measured Lower (dBc)	ACP Measured Upper (dBc)	Maximum ACP (dBc)
9.375 kHz	6.25 kHz	-42.57	-41.22	-40
15.625 kHz	6.25 kHz	-75.25	-74.95	-60
21.875 kHz	6.25 kHz	-79.14	-79.03	-60
37.5 kHz	25 kHz	-78.04	-77.79	-60
62.5 kHz	25 kHz	-82.43	-82.33	-65
87.5 kHz	25 kHz	-84.24	-84.18	-65
150 kHz	100 kHz	-78.15	-78.08	-65
250 kHz	100 kHz	-81.61	-81.59	-65
350 kHz	100 kHz	-84.53	-84.48	-65
>400 kHz to 12 MHz	30 kHz (swept)	-90.76		-75
12 MHz to paired receive band	30 kHz (swept)	-106.06		-75
In the paired receive band	30 kHz (swept)	-108.43		-100

TRANSMITTER SPURIOUS EMISSIONS (CONDUCTED)

SPECIFICATIONS: FCC 47 CFR 2.1051

RSS-119 5.8

GUIDE: TIA/EIA-603D 2.2.13

MEASUREMENT PROCEDURE:

1. Refer Annex A for equipment set up.
2. The frequency range examined was from the lowest frequency generated within the EUT, to a frequency higher than the 10th Harmonic:
100 kHz to Fc-BW
Fc+ BW to 10Fc (9 GHz)
3. The EUT was set to transmit high or low power, modulated with DMR. A scan is performed with a resolution bandwidth of 10 kHz and a video bandwidth of 30 kHz for frequencies up to 1 GHz, and a resolution bandwidth of 1 MHz and a video bandwidth of 3 MHz for frequencies above 1 GHz. A filter was used for frequencies just below the second harmonic to 3 GHz.
4. The spectrum analyser was loaded with the appropriate calibration figures to compensate for the cables, attenuator and filter losses.

Spurious emissions which were attenuated by more than 20 dB below the limit were not recorded.

A photograph of the test set-up is included below.

MEASUREMENT RESULTS:

See the tables and plots on the following pages for 12.5 kHz channel spacing.

LIMIT CLAUSES: FCC 47 CFR 90.210

RSS-119 5.8

Photo: Conducted Emissions Test Setup



Spurious Emissions (Tx Conducted)

SPECIFICATION: FCC CFR 2.1051

RSS-119 5.8

12.5 kHz Channel Spacing

762.1 MHz @ 3 W

Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~

12.5 kHz Channel Spacing

762.1 MHz @ 1 W

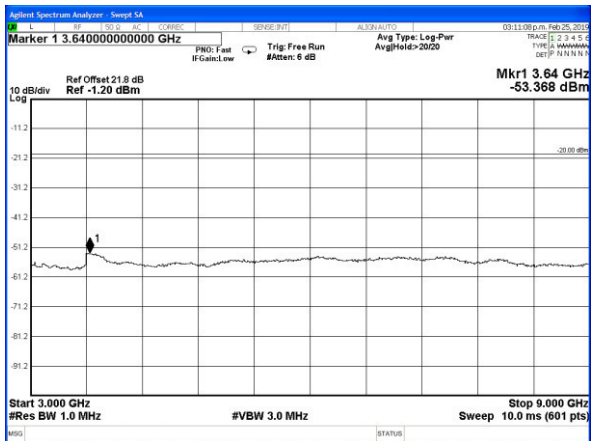
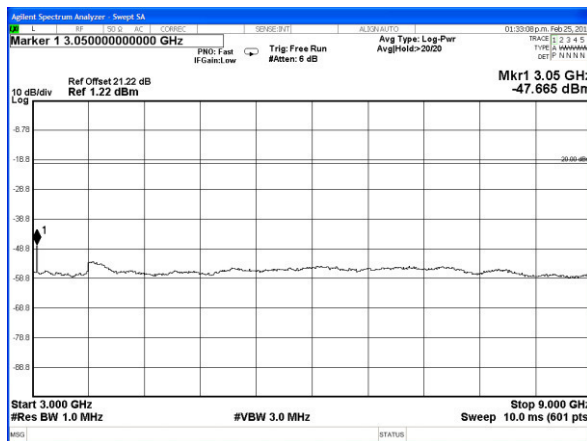
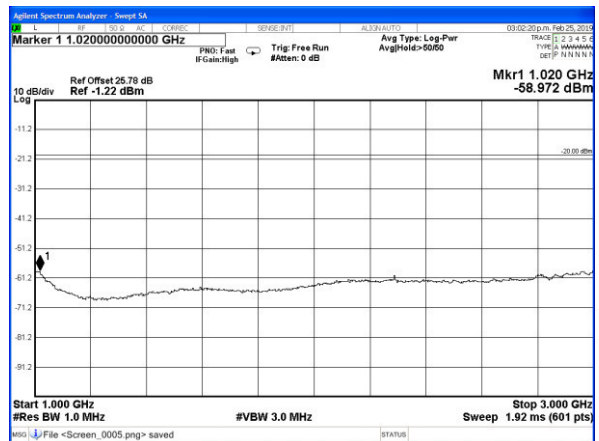
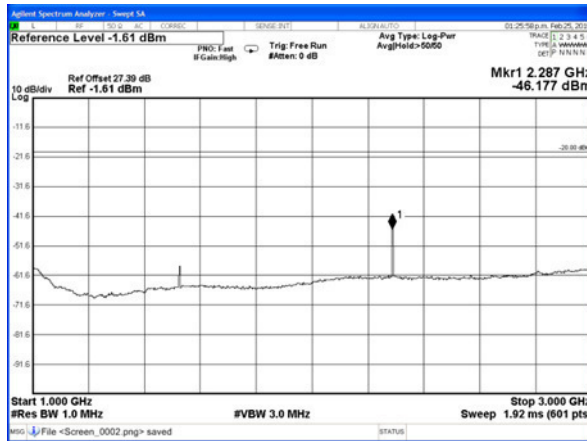
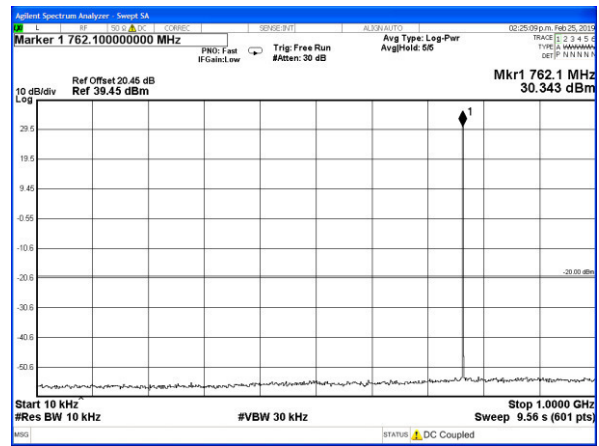
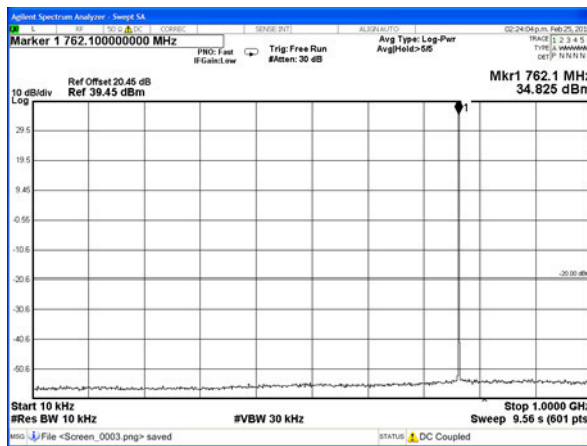
Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz ± 3.0 dB	
No emissions were detected at a level greater than 20 dB below the limit.		

762.1MHz

3W

1W



Spurious Emissions (Tx Conducted)

SPECIFICATION: FCC CFR 2.1051

RSS-119 5.8

12.5 kHz Channel Spacing

774.9 MHz @ 3 W

Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~

12.5 kHz Channel Spacing

774.9 MHz @ 1 W

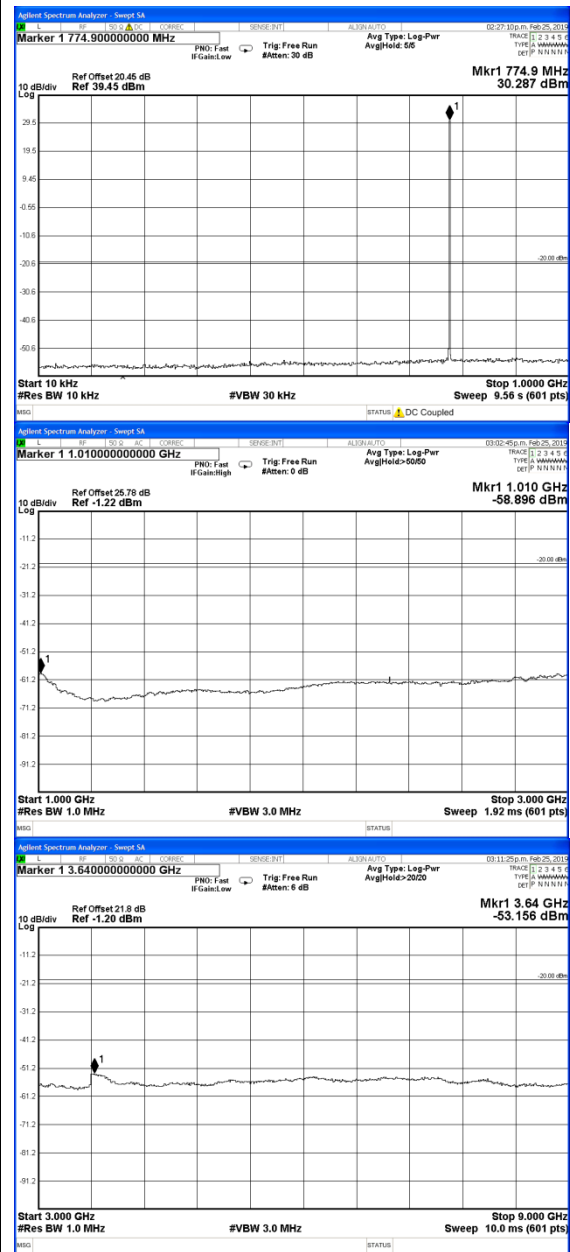
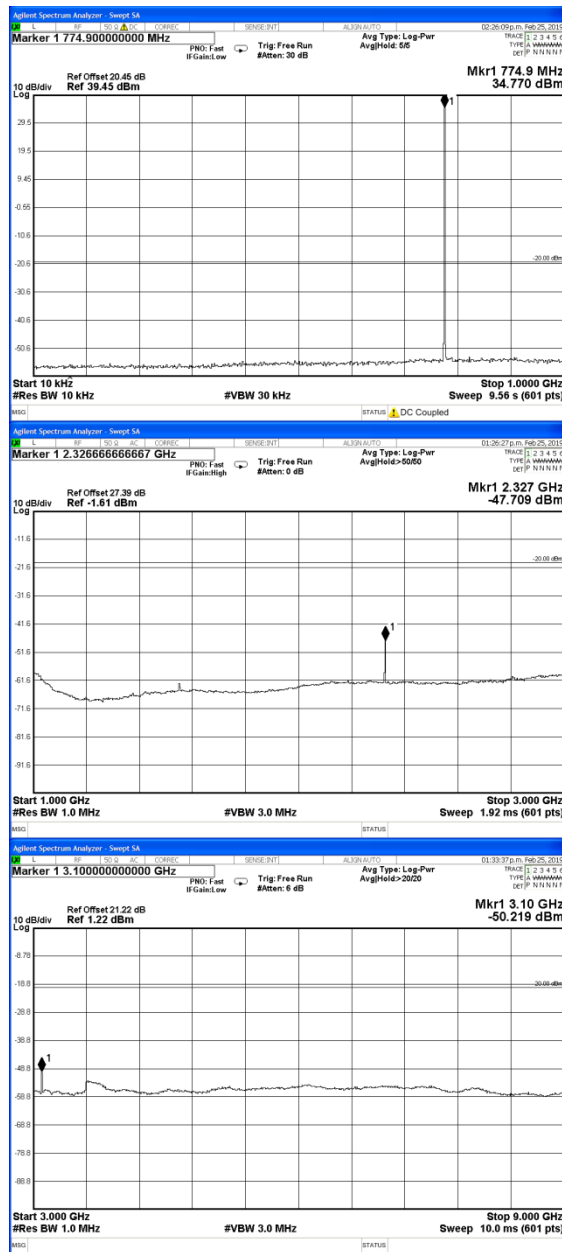
Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz ± 3.0 dB	
No emissions were detected at a level greater than 20 dB below the limit.		

774.9MHz

3W

1W



Spurious Emissions (Tx Conducted)

SPECIFICATION: FCC CFR 2.1051

RSS-119 5.8

12.5 kHz Channel Spacing

788.1 MHz @ 3 W

Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~

12.5 kHz Channel Spacing

788.1 MHz @ 1 W

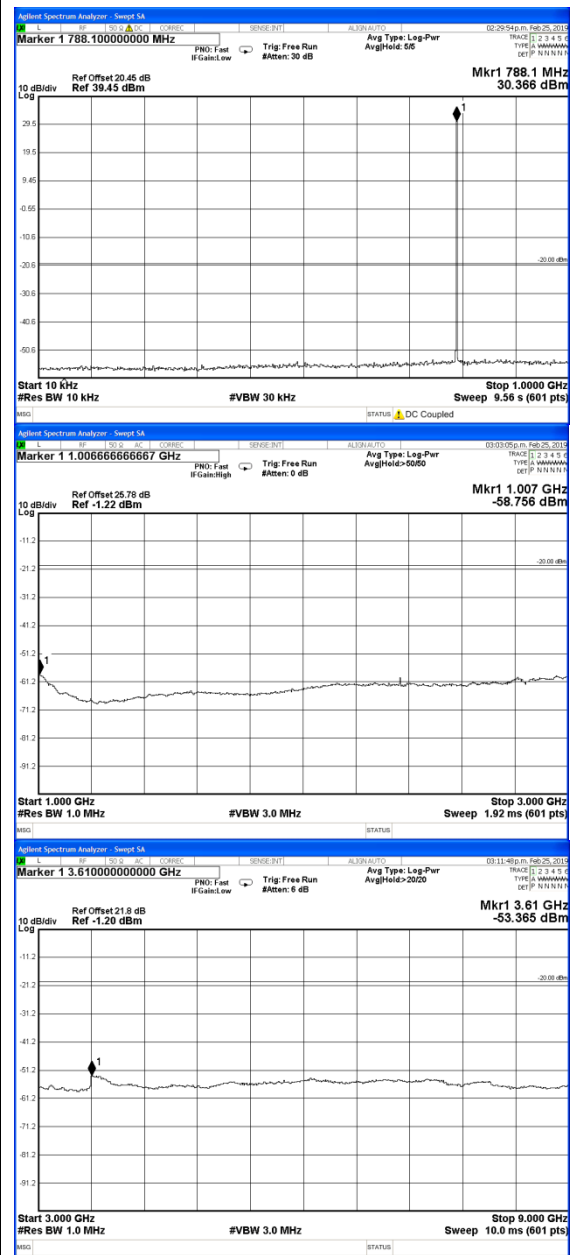
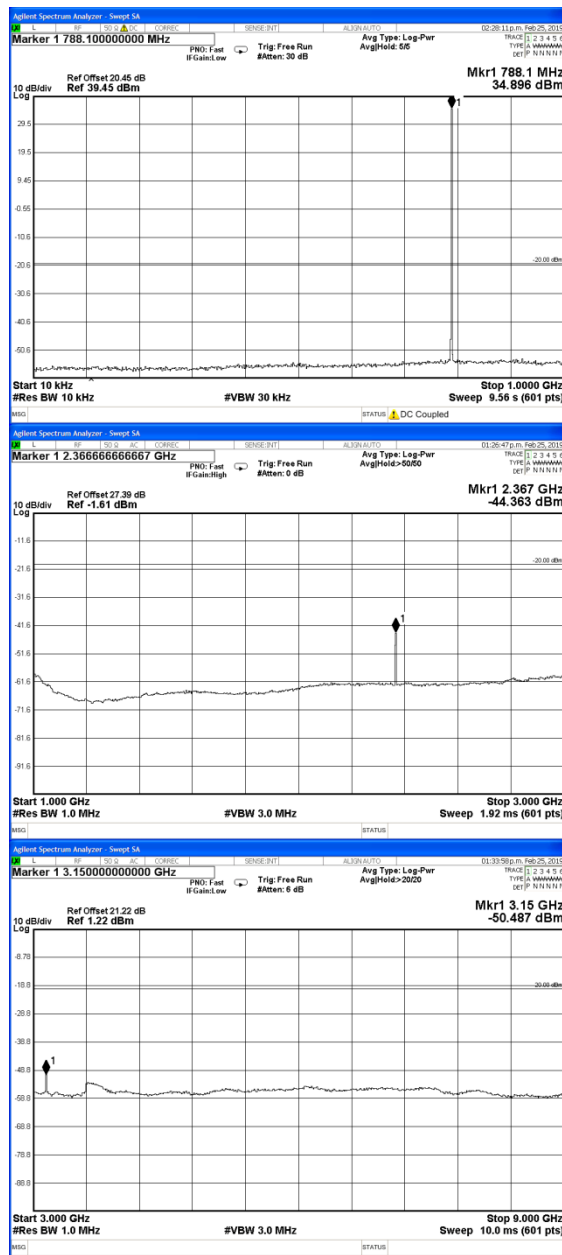
Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz ± 3.0 dB	
No emissions were detected at a level greater than 20 dB below the limit.		

788.1MHz

3W

1W



Spurious Emissions (Tx Conducted)

SPECIFICATION: FCC CFR 2.1051

RSS-119 5.8

12.5 kHz Channel Spacing

804.9 MHz @ 3 W

Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~

12.5 kHz Channel Spacing

804.9 MHz @ 1 W

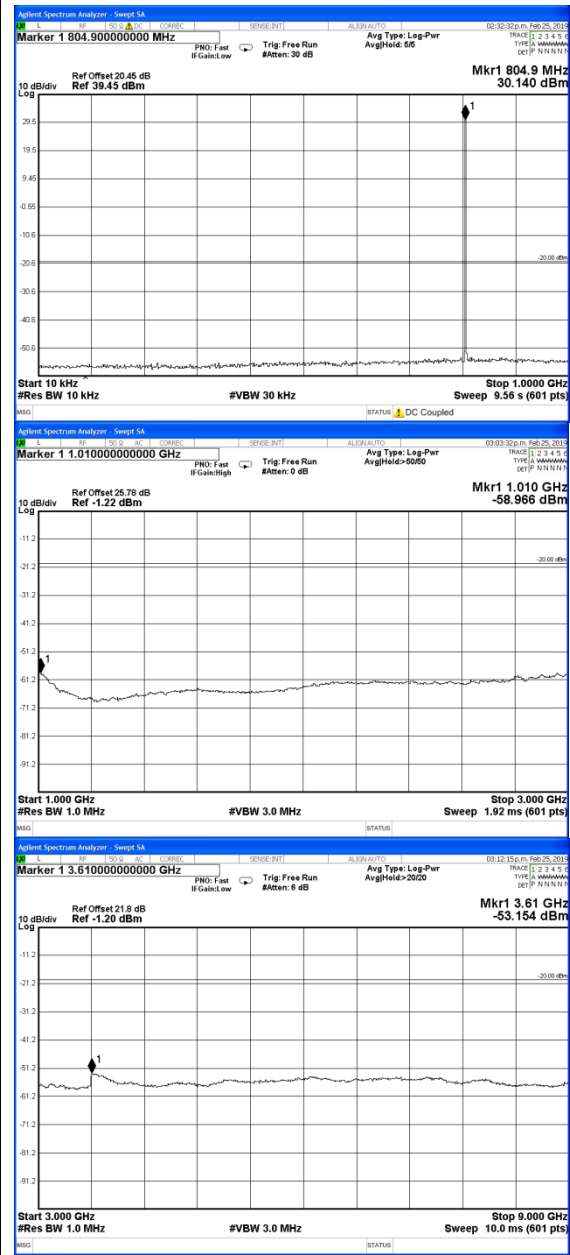
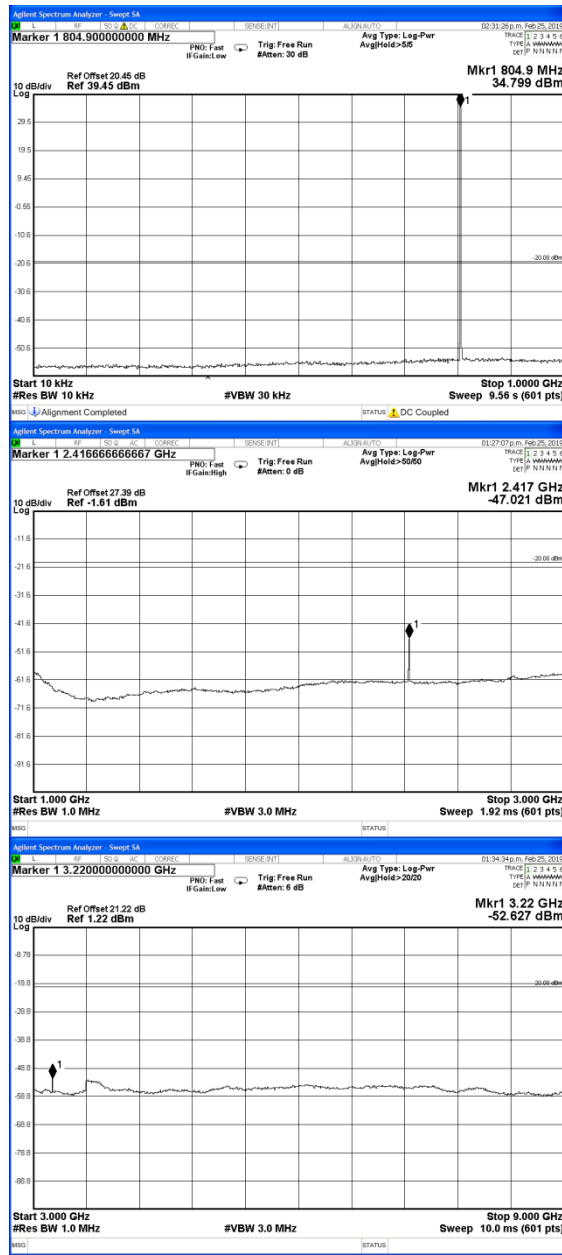
Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz ± 3.0 dB	
No emissions were detected at a level greater than 20 dB below the limit.		

804.9MHz

3W

1W



Spurious Emissions (Tx Conducted)

SPECIFICATION: FCC CFR 2.1051

RSS-119 5.8

12.5 kHz Channel Spacing

806.1 MHz @ 3 W

Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~

12.5 kHz Channel Spacing

806.1 MHz @ 1 W

Emission Mask D

Emission Frequency (MHz)	Level (dBm)	Level (dBc)
~	~	~
Measurement Uncertainty:	≤12.75 GHz ± 3.0 dB	
No emissions were detected at a level greater than 20 dB below the limit.		