

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

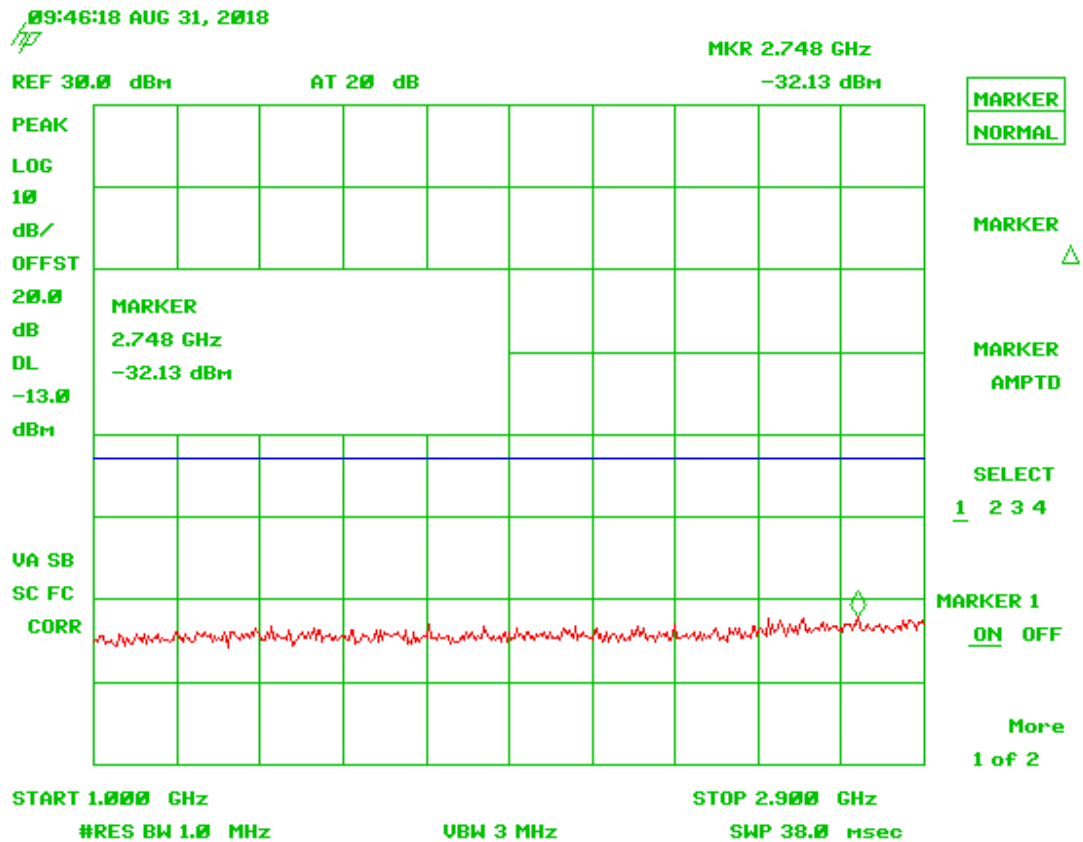
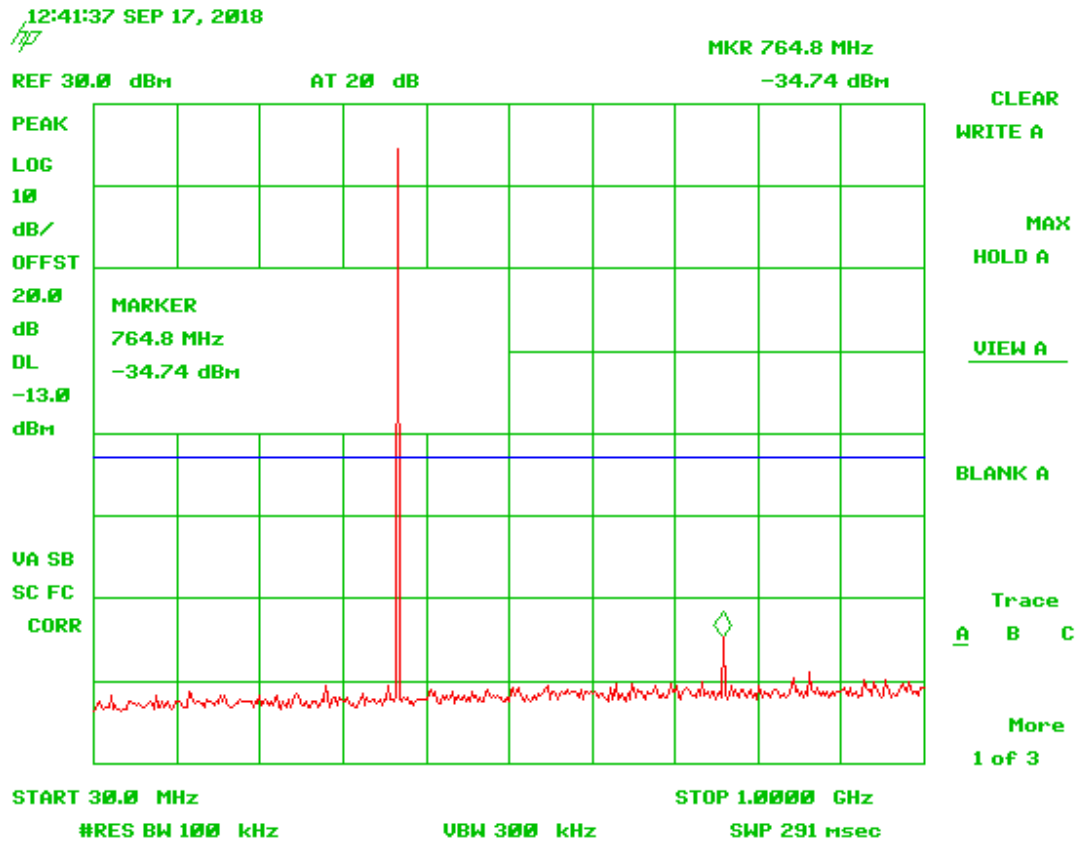


Figure 233. 174 MHz, above 1 GHz

## 2.14.2.2 UHF Conducted Spurious Emissions



**Figure 234. 381 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.  
(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

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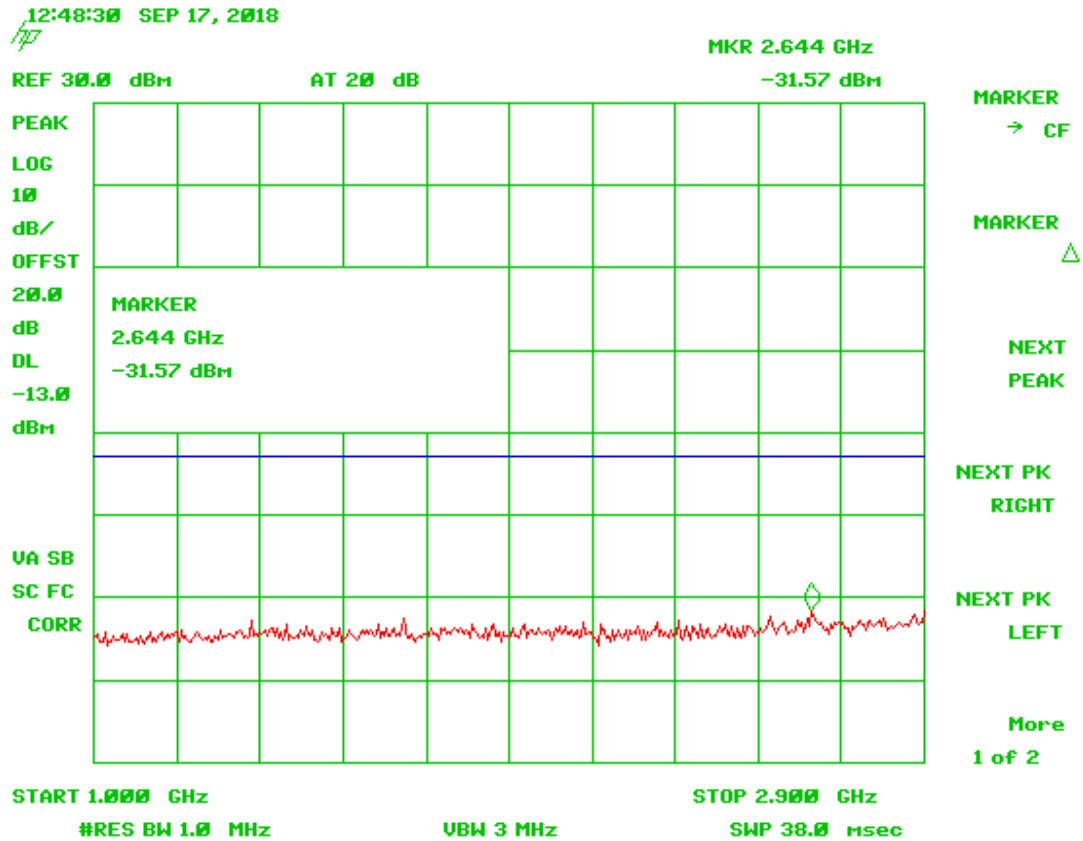


Figure 235. 381 MHz, 1 – 2.9 GHz

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
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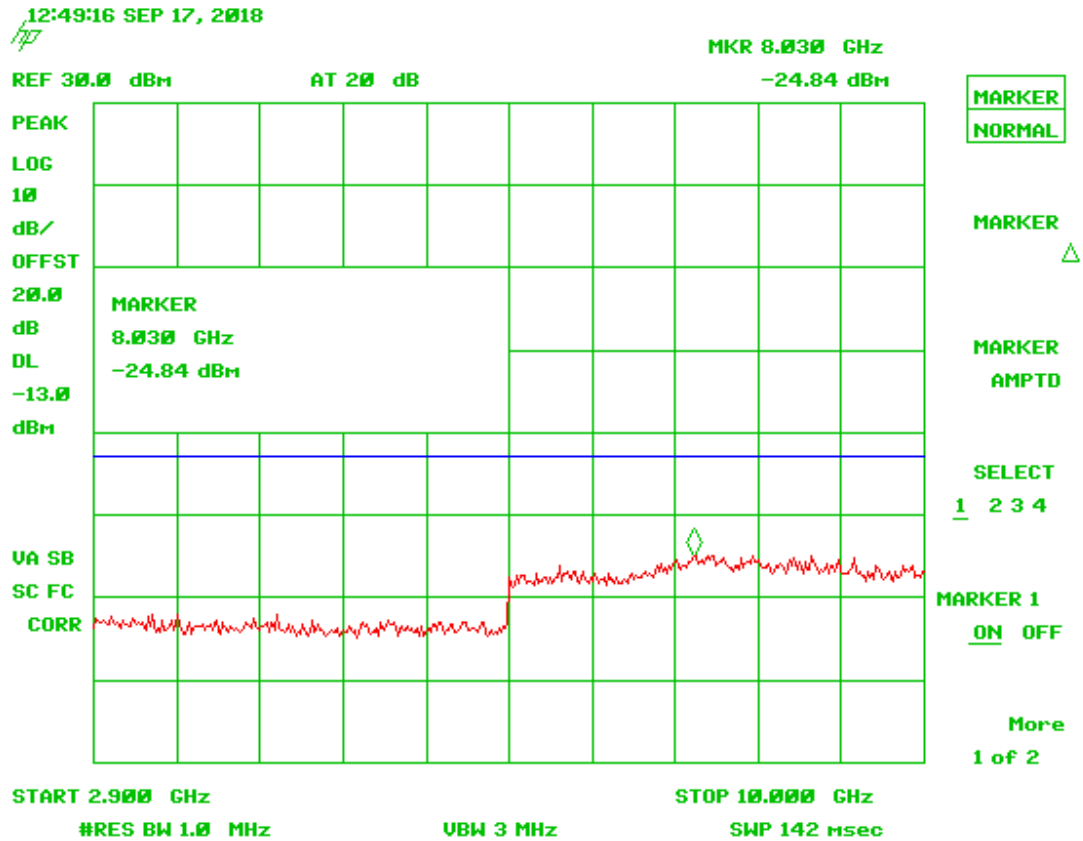
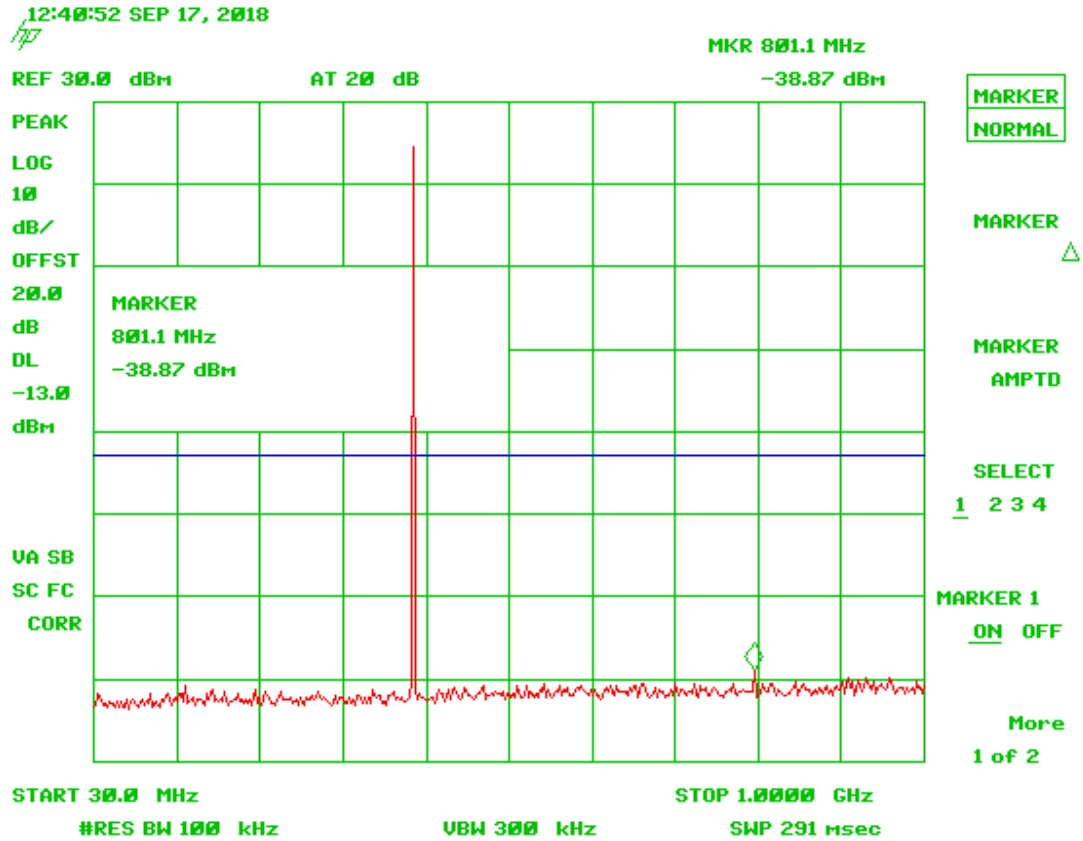


Figure 236. 381 MHz, 2.9 – 10 GHz

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
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Safe-Com Wireless  
SAFE-1000

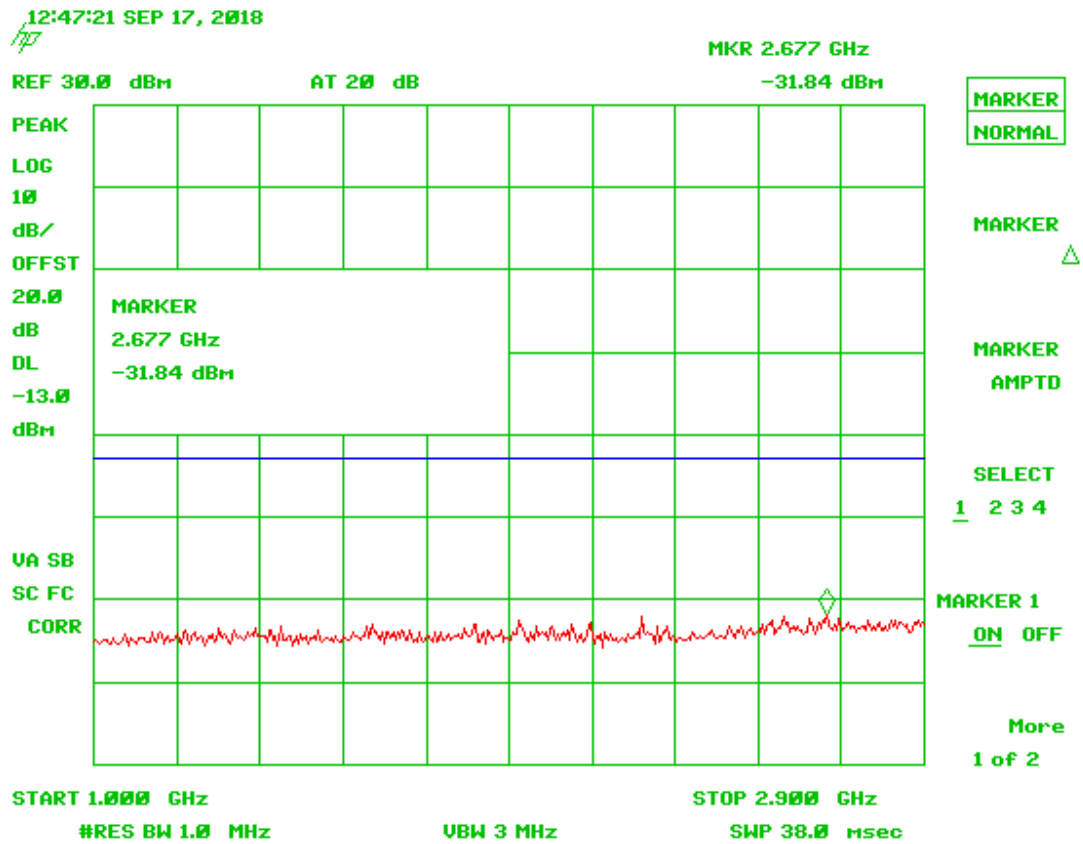


**Figure 237. 400 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.  
(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
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SAFE-1000

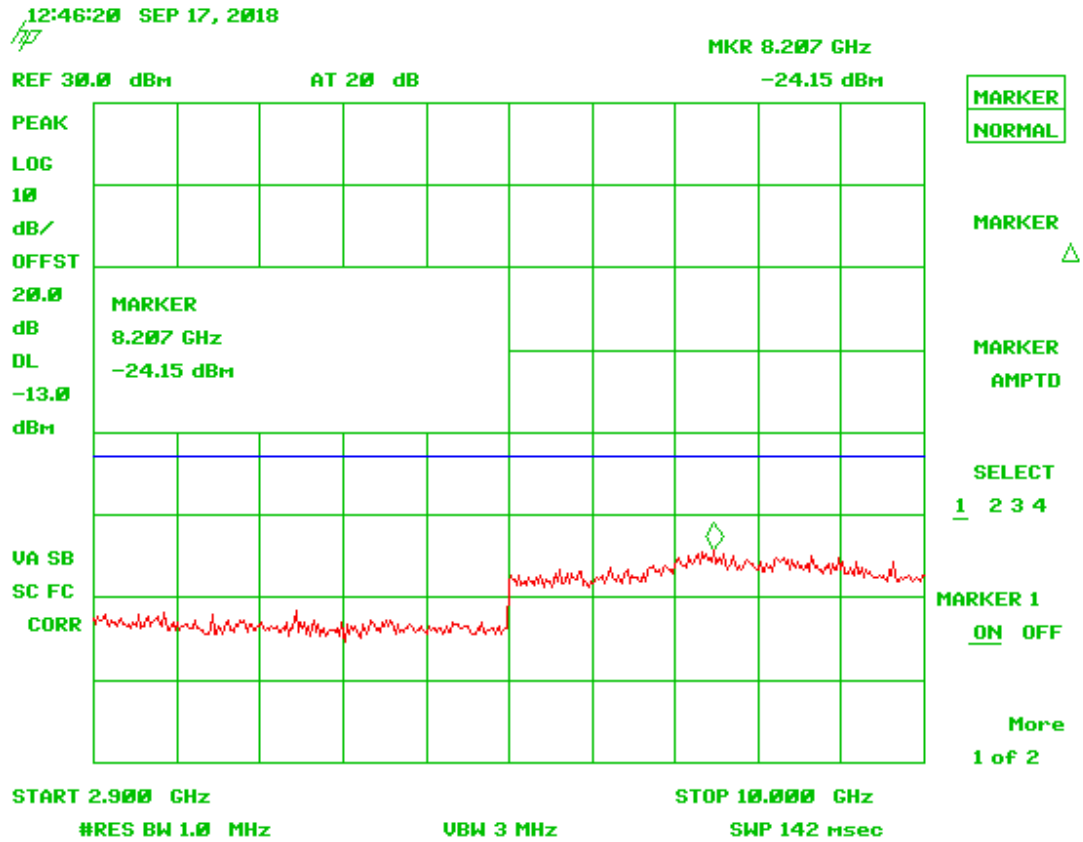


**Figure 238. 400 MHz, 1 – 2.9 GHz**

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

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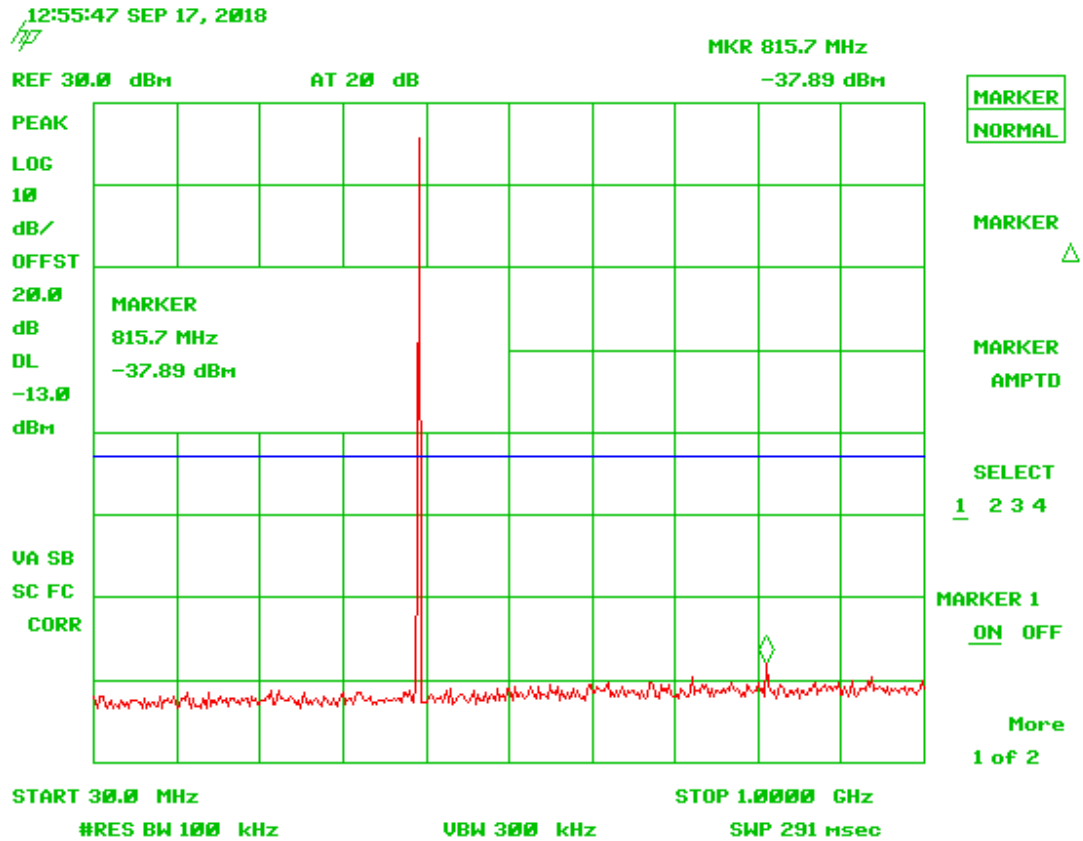


**Figure 239. 400 MHz, 2.9 – 10 GHz**

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
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Report Number:  
Issue Date:  
Customer:  
Model:

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**Figure 240. 407 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.



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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

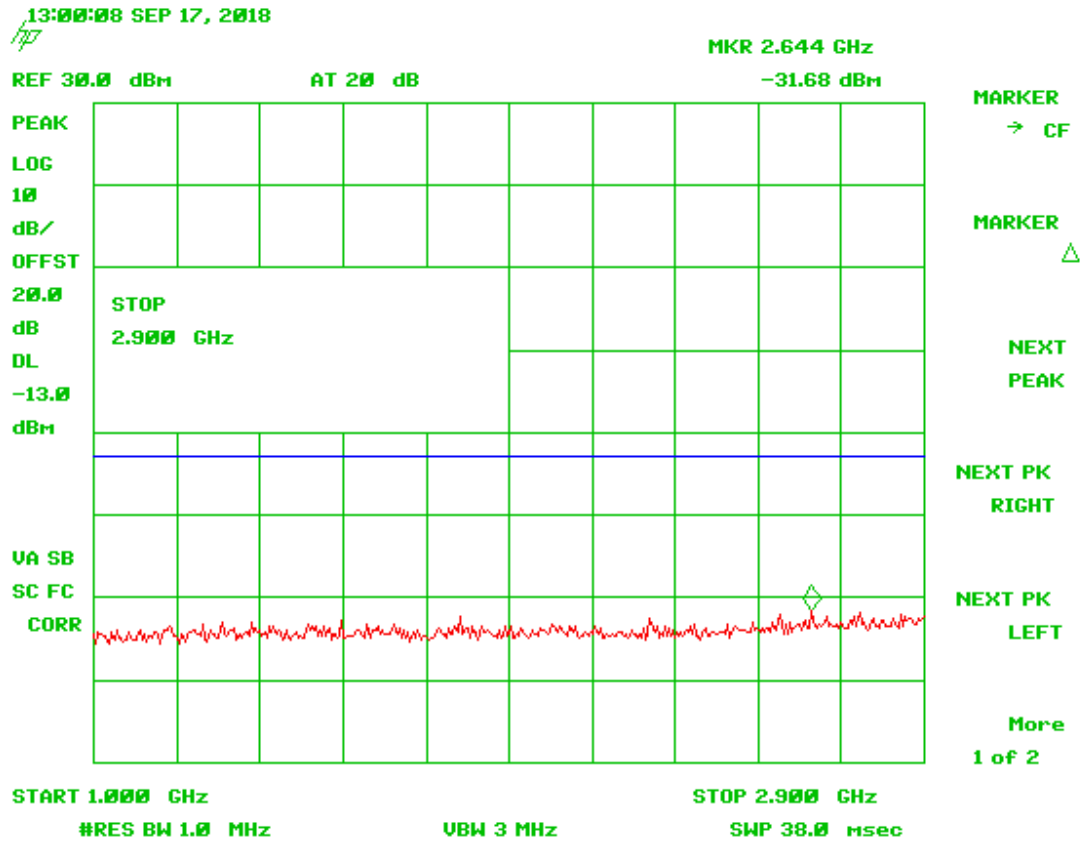


Figure 241. 407 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

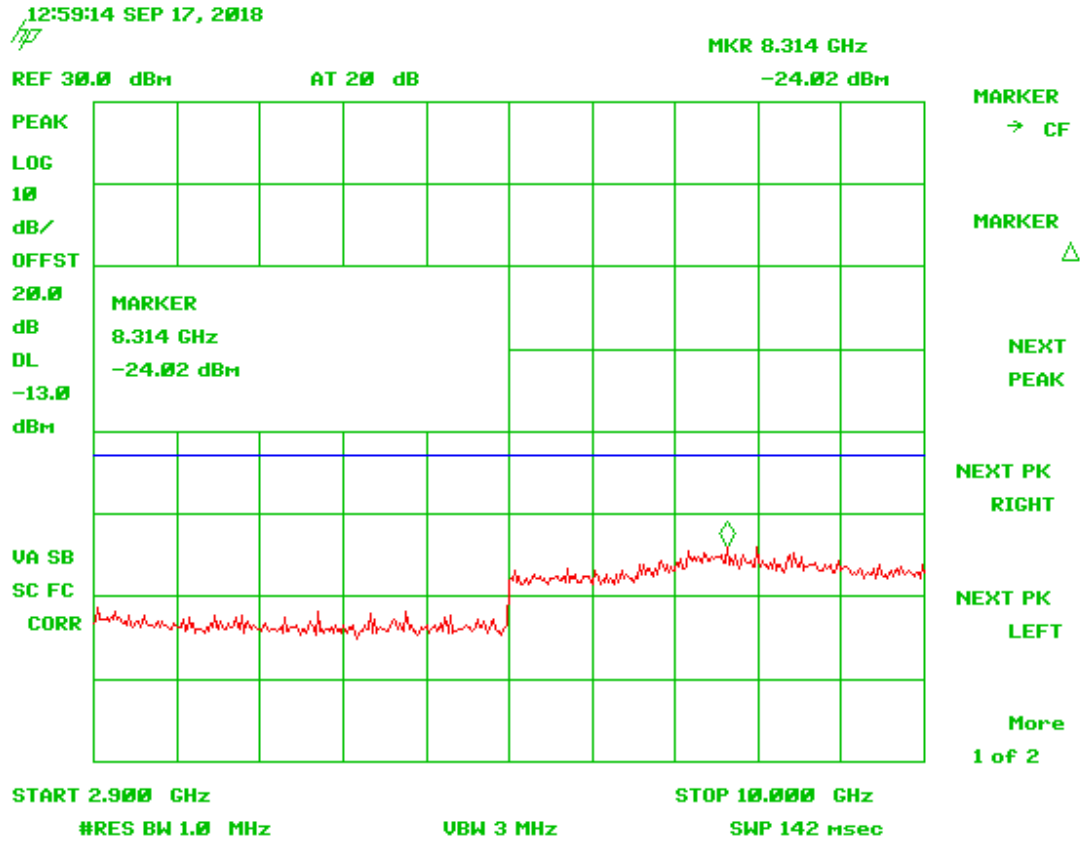
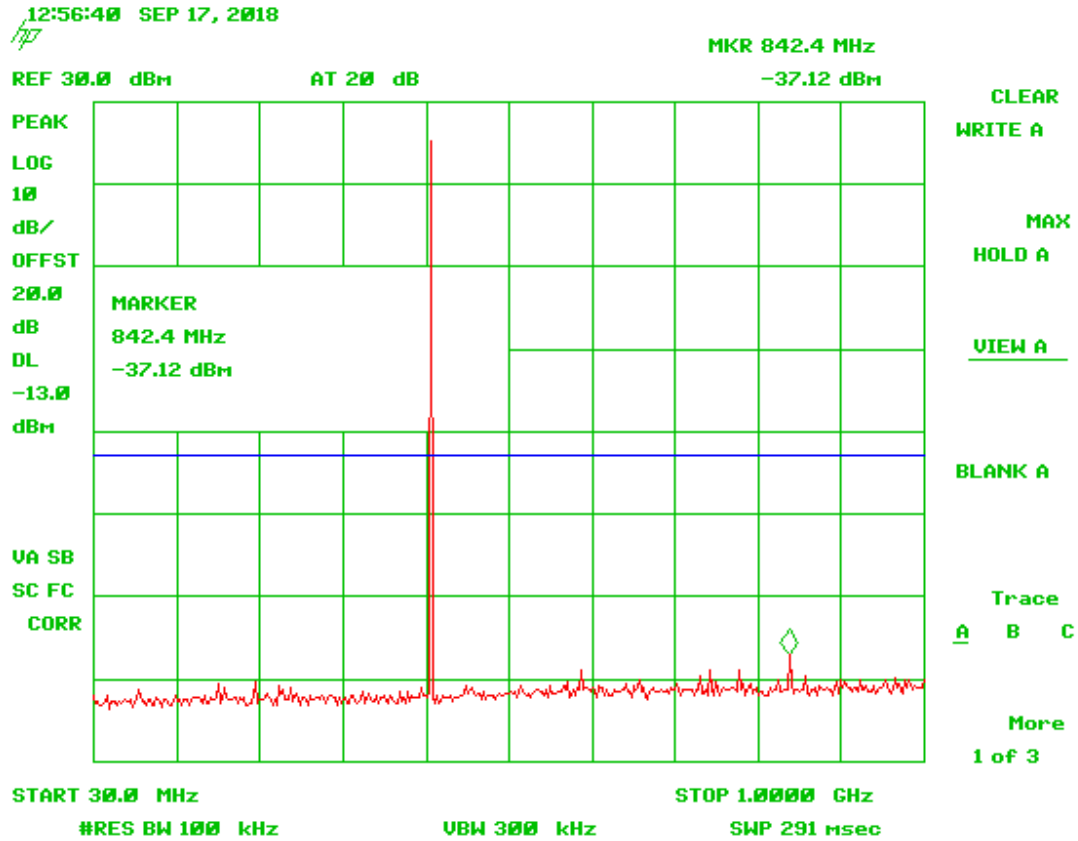


Figure 242. 407 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
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Report Number:  
Issue Date:  
Customer:  
Model:

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Safe-Com Wireless  
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**Figure 243. 420 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

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Model:

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22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

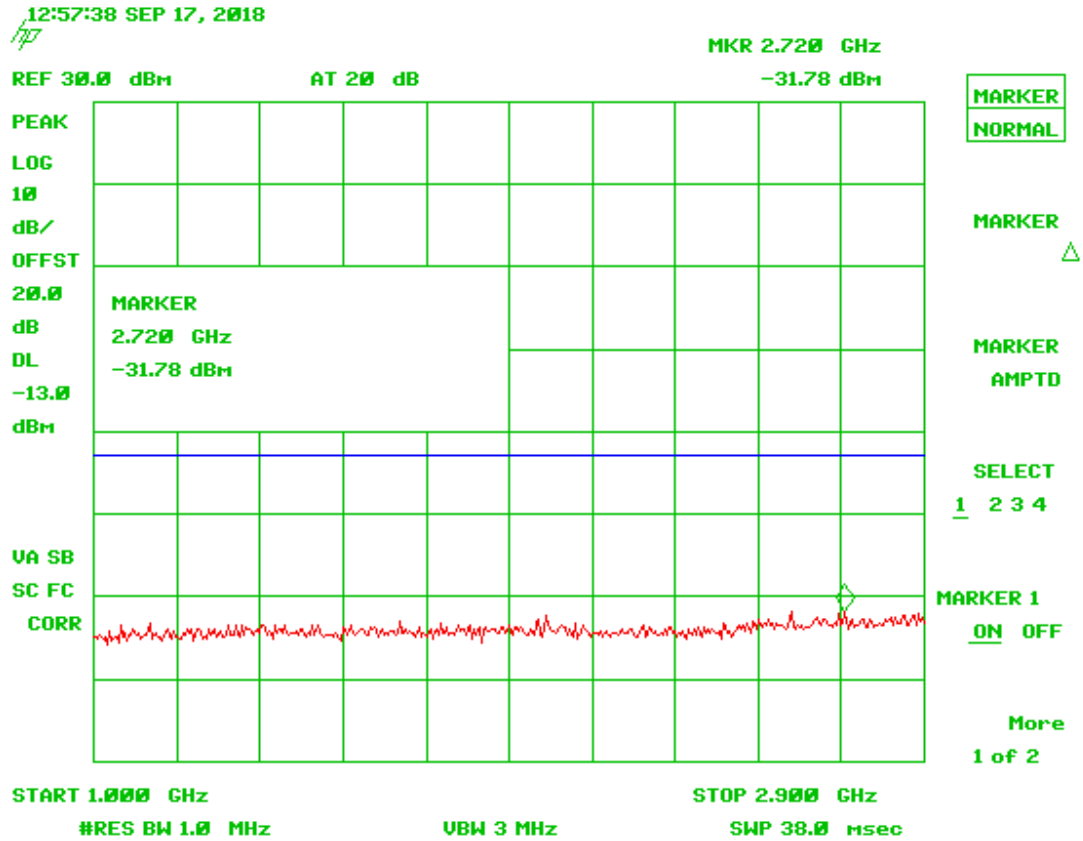


Figure 244. 420 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

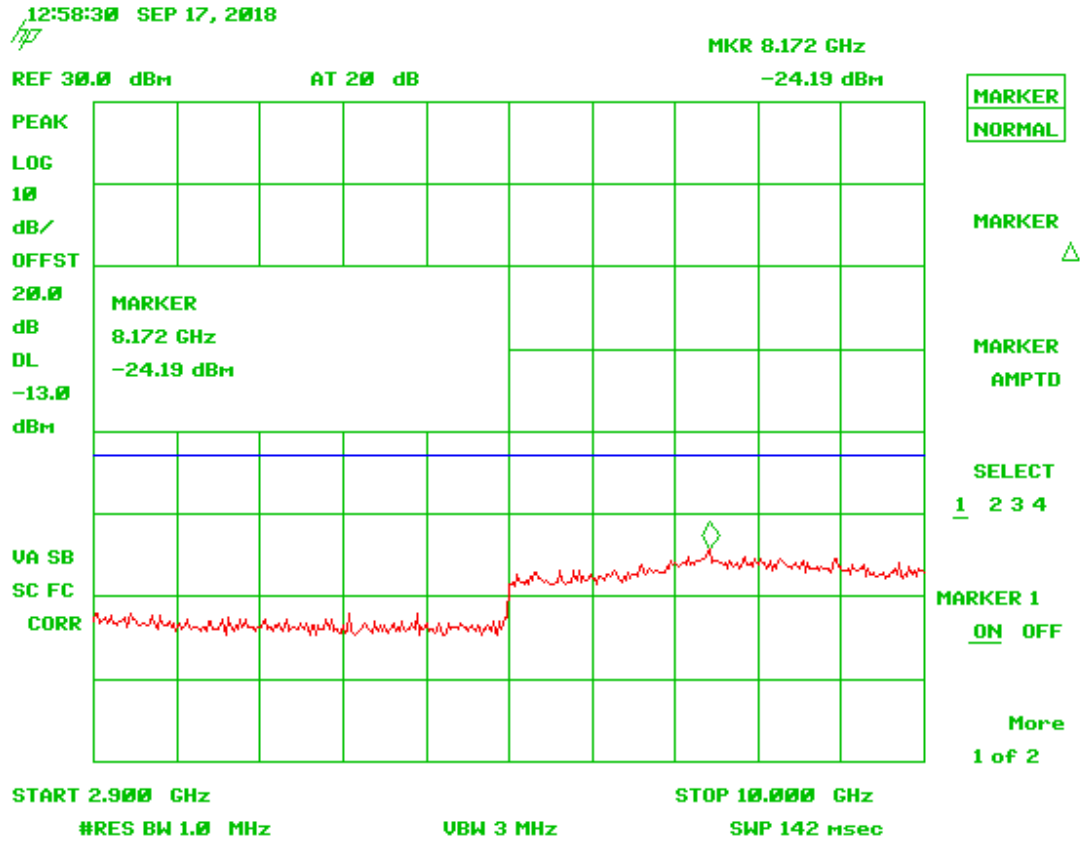


Figure 245. 420 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

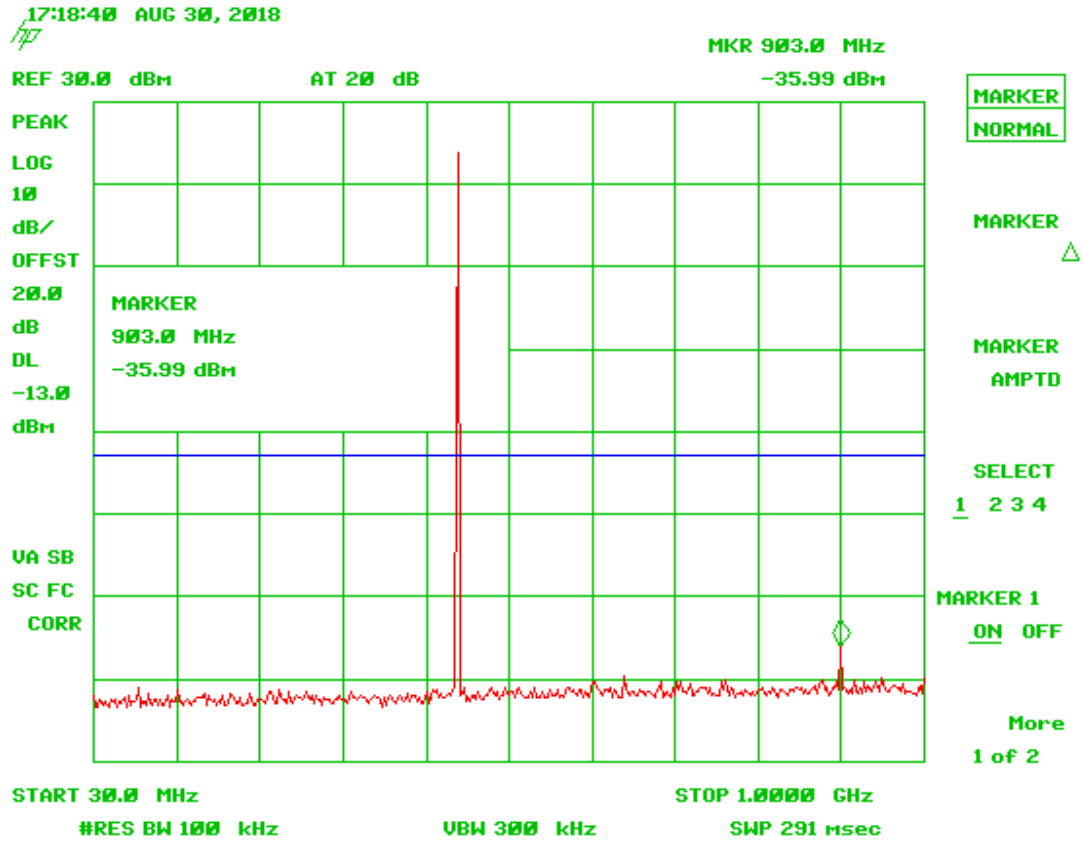


Figure 246. 451 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

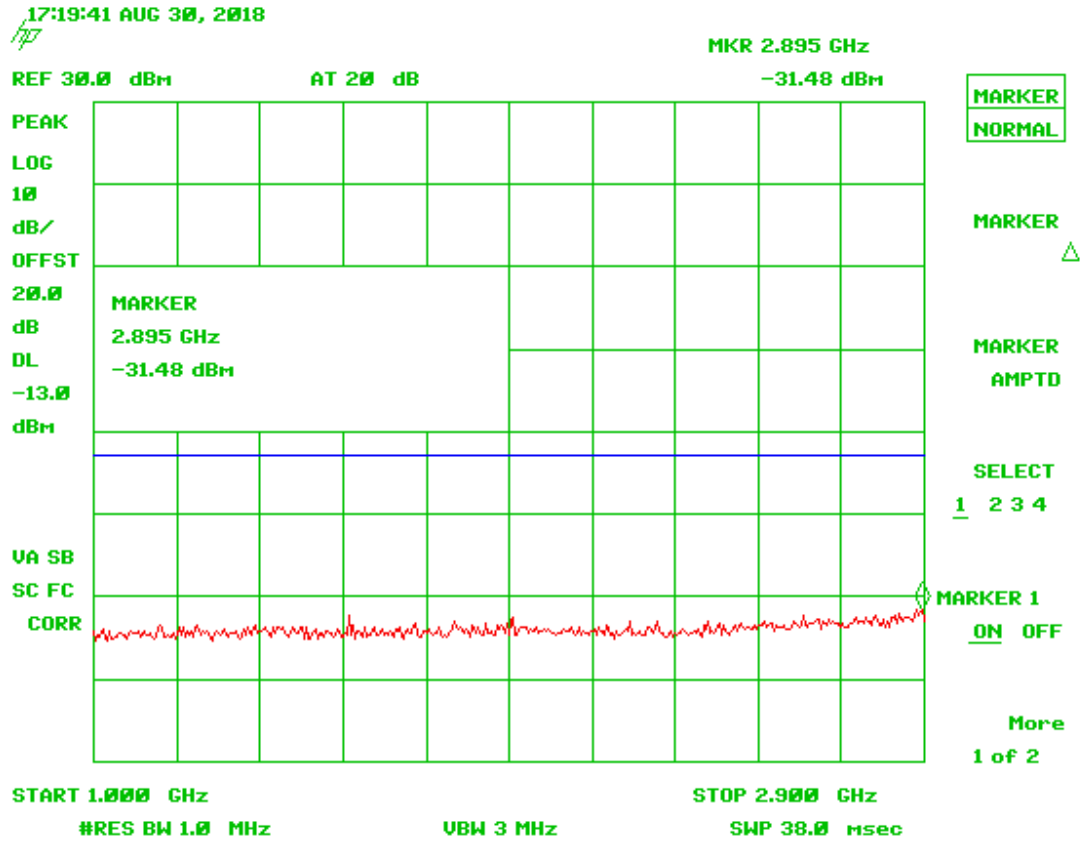


Figure 247. 451 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

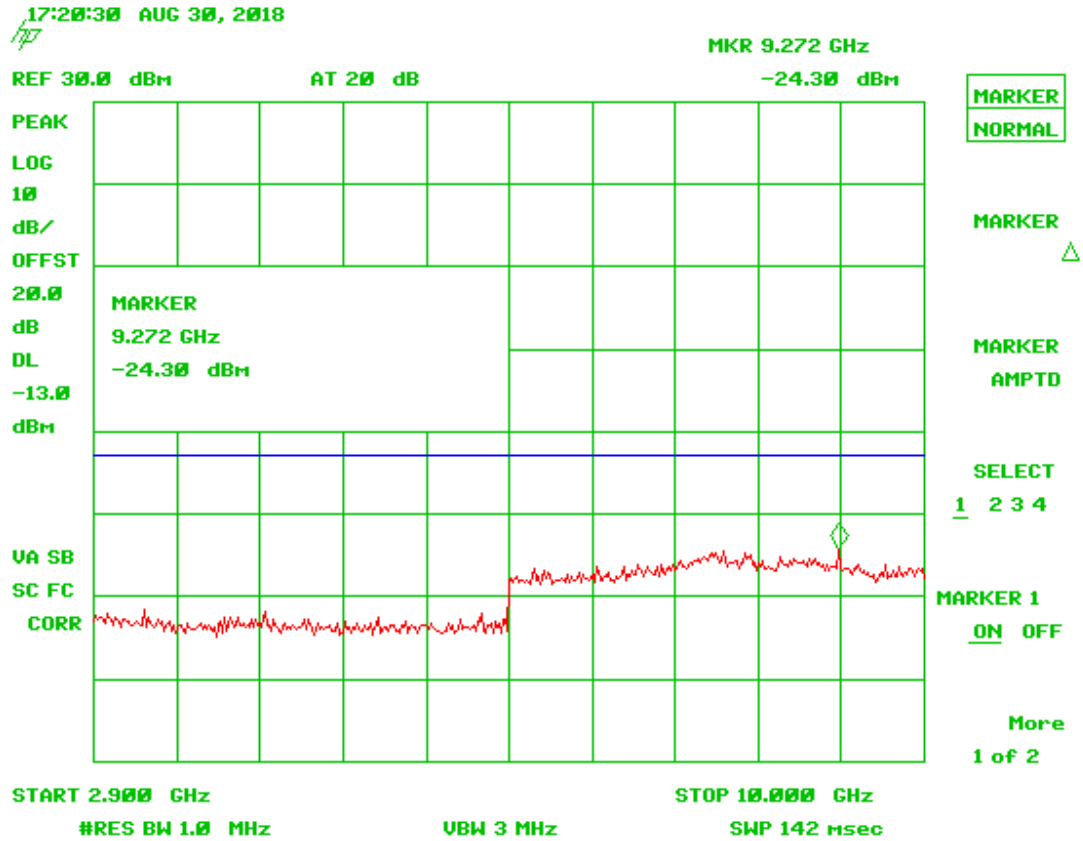


Figure 248. 451 MHz, 2.9 – 10 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

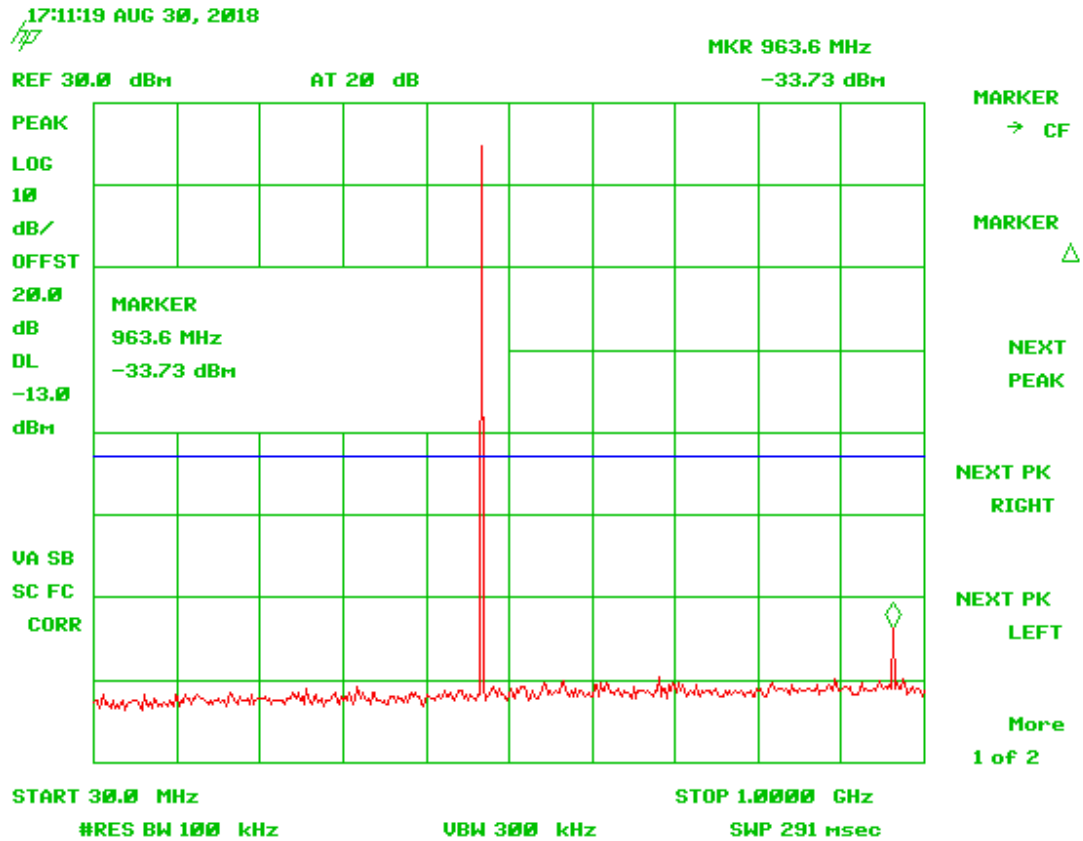


Figure 249. 481 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

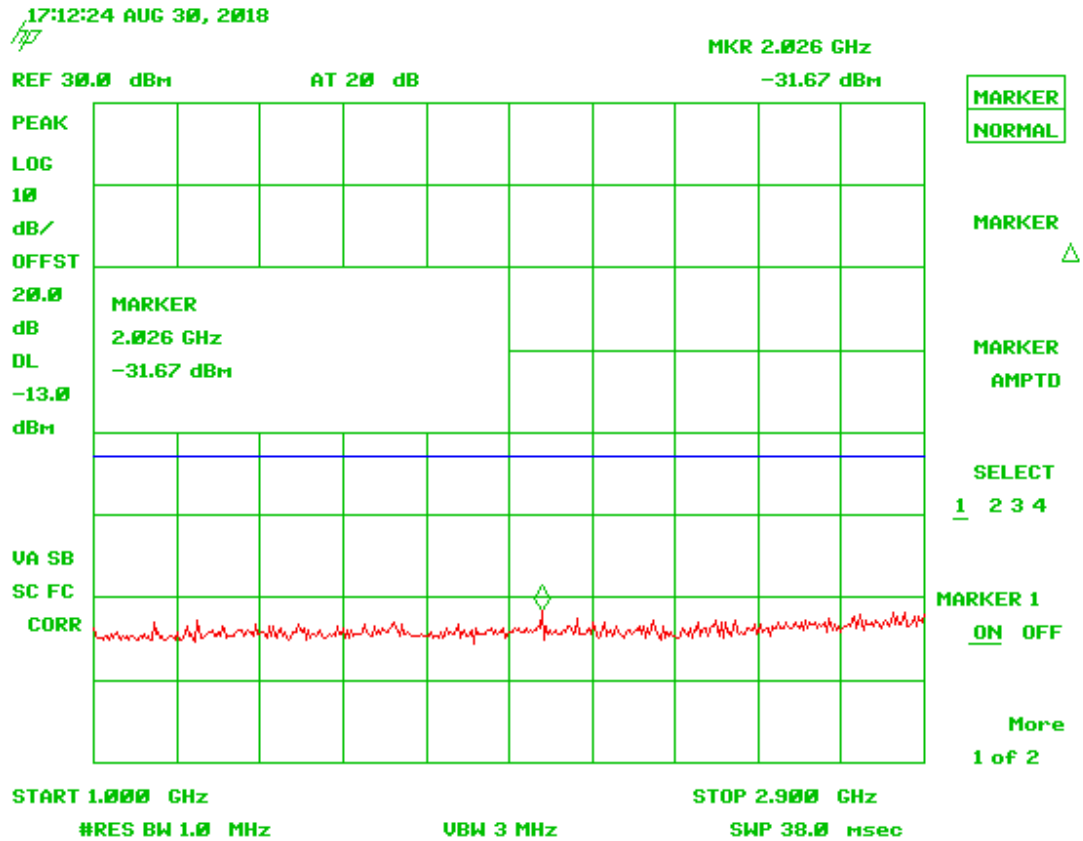


Figure 250. 481 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

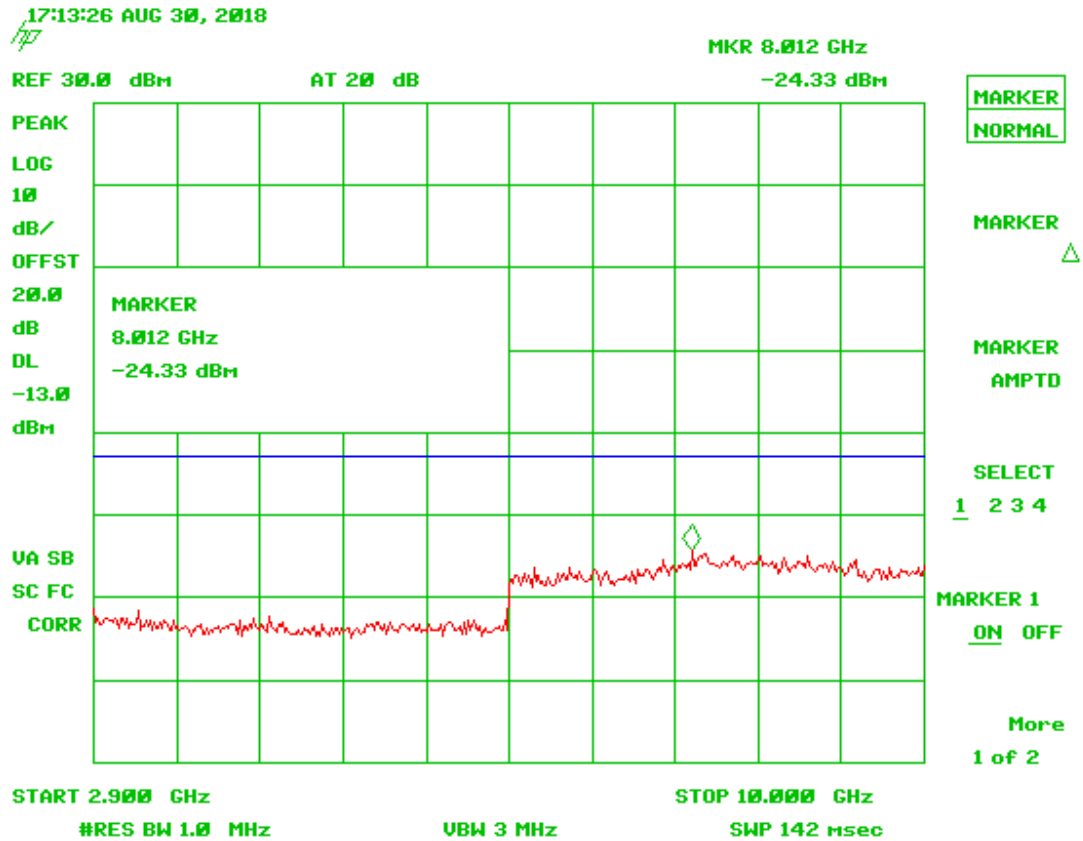


Figure 251. 481 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

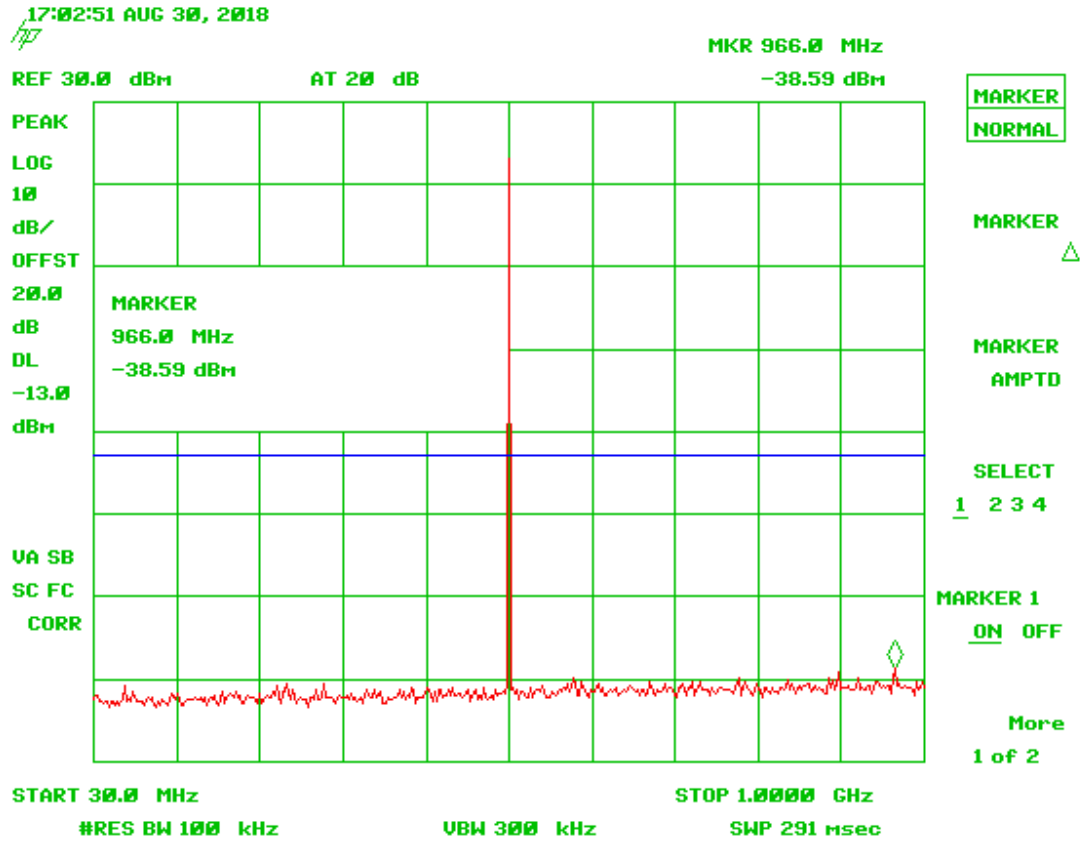


Figure 252. 512 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

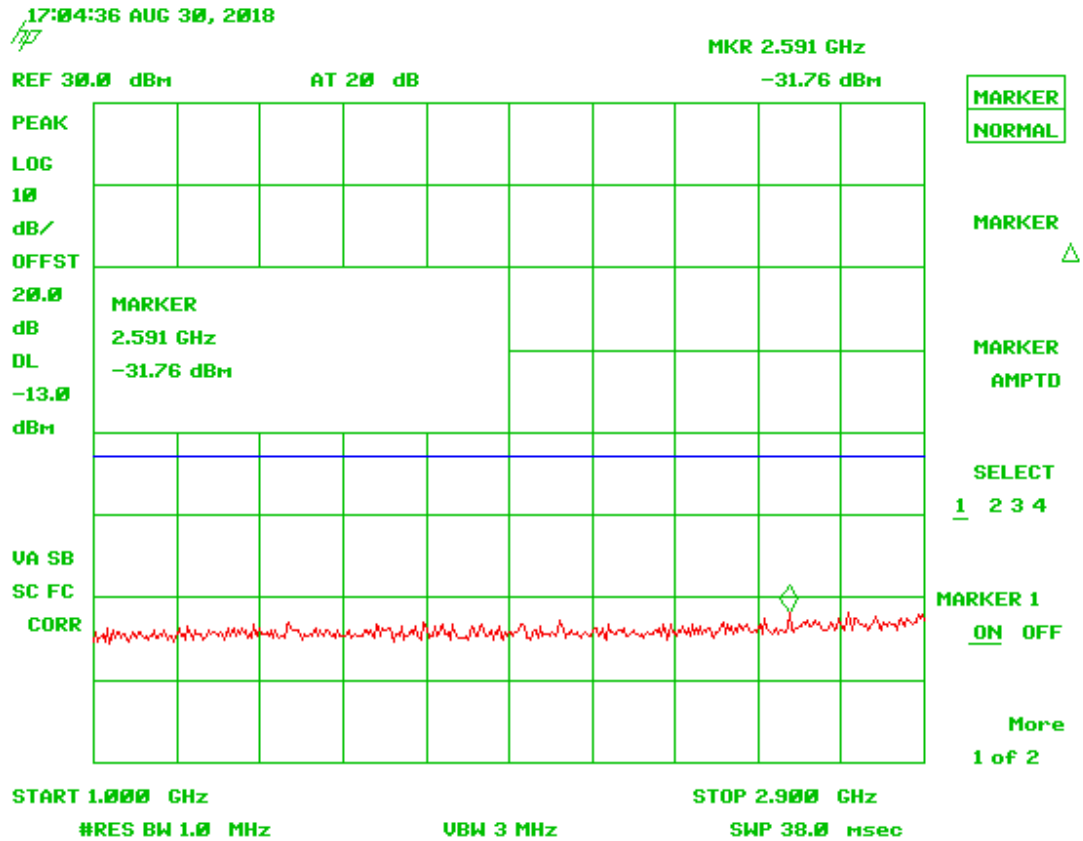


Figure 253. 512 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

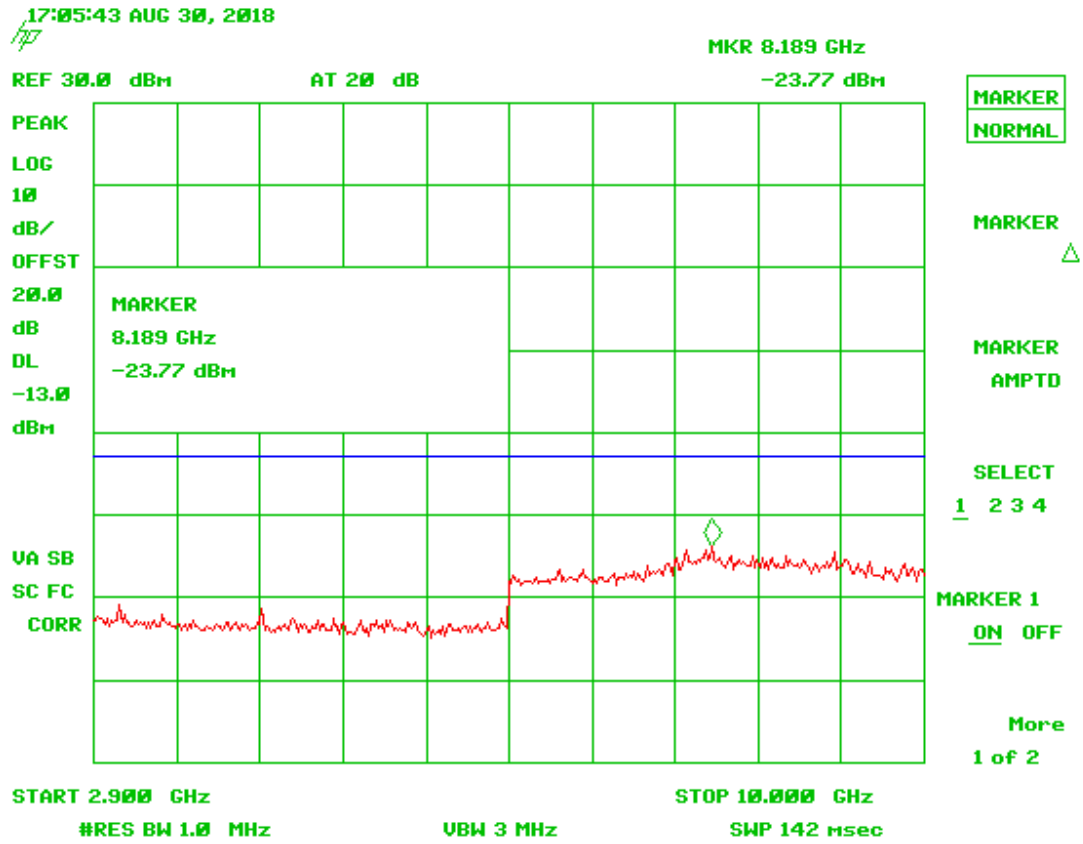
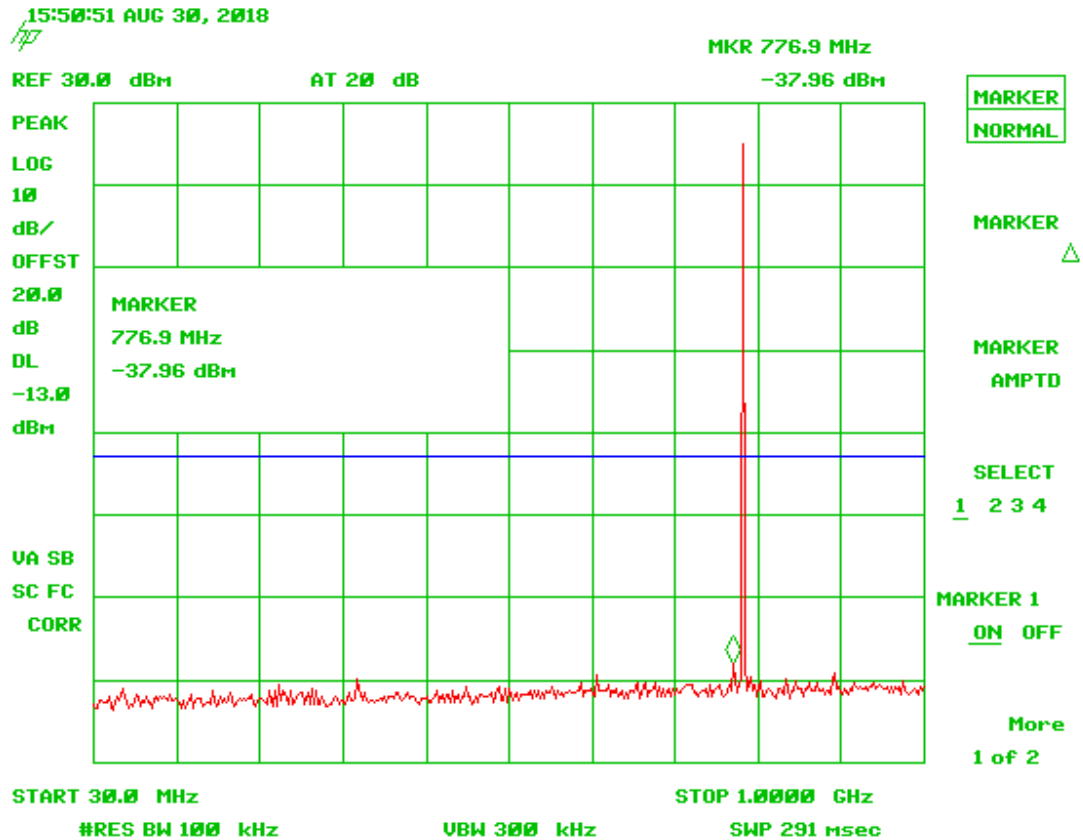


Figure 254. 512 MHz, 2.9 – 10 GHz

### 2.14.2.3 700 MHz Conducted Spurious Emissions



**Figure 255. 788 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

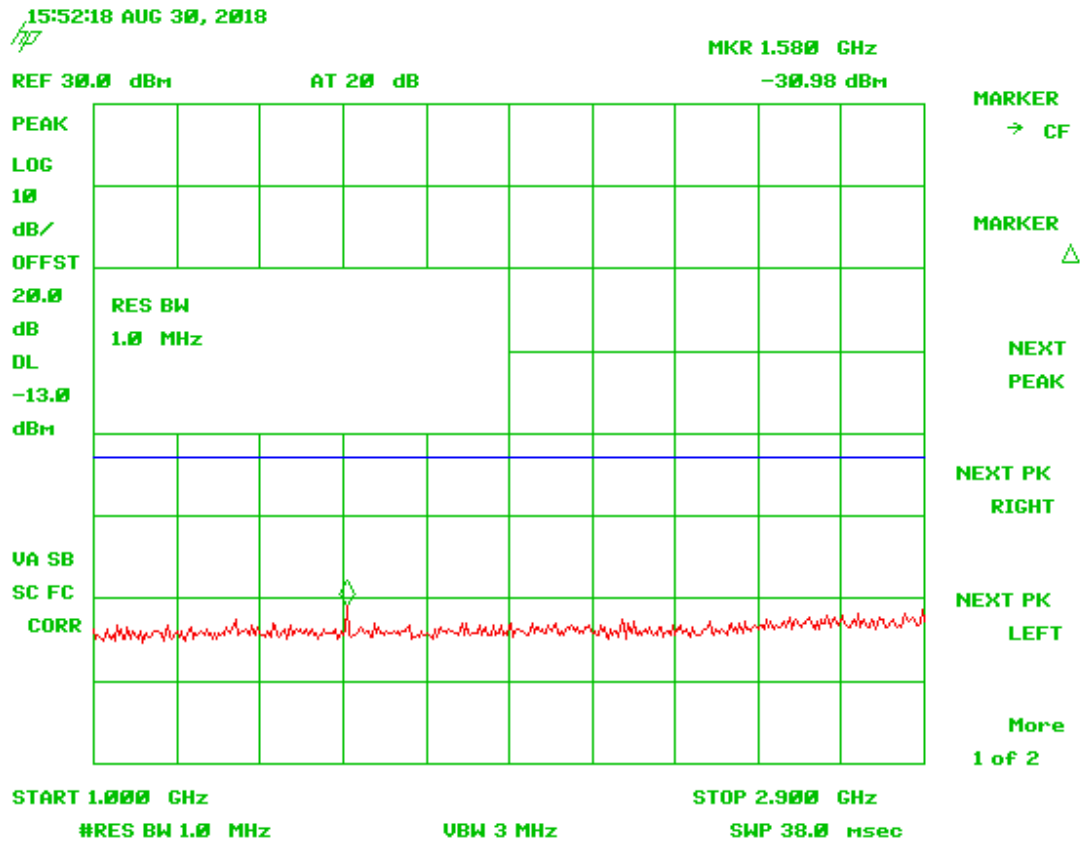


Figure 256. 788 MHz, 1 – 2.9 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

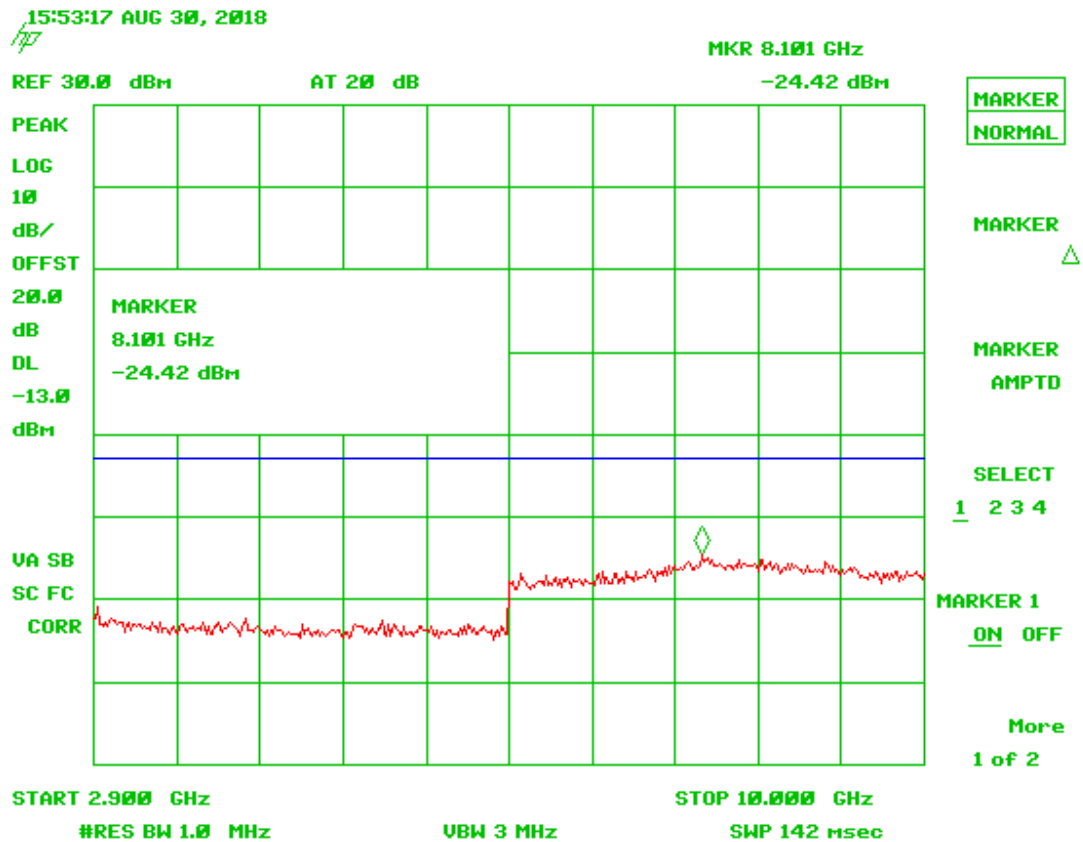
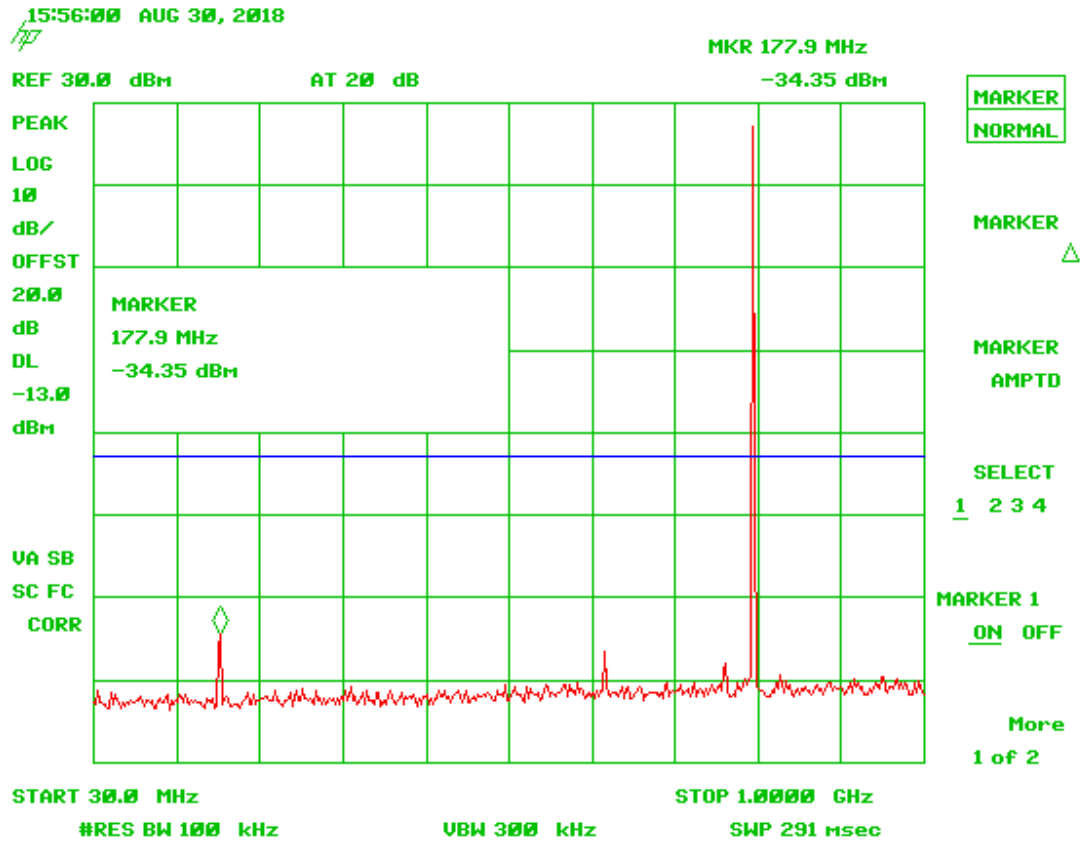


Figure 257. 788MHz, 2.9 – 10 GHz



**Figure 258. 798 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
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18-0181  
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SAFE-1000

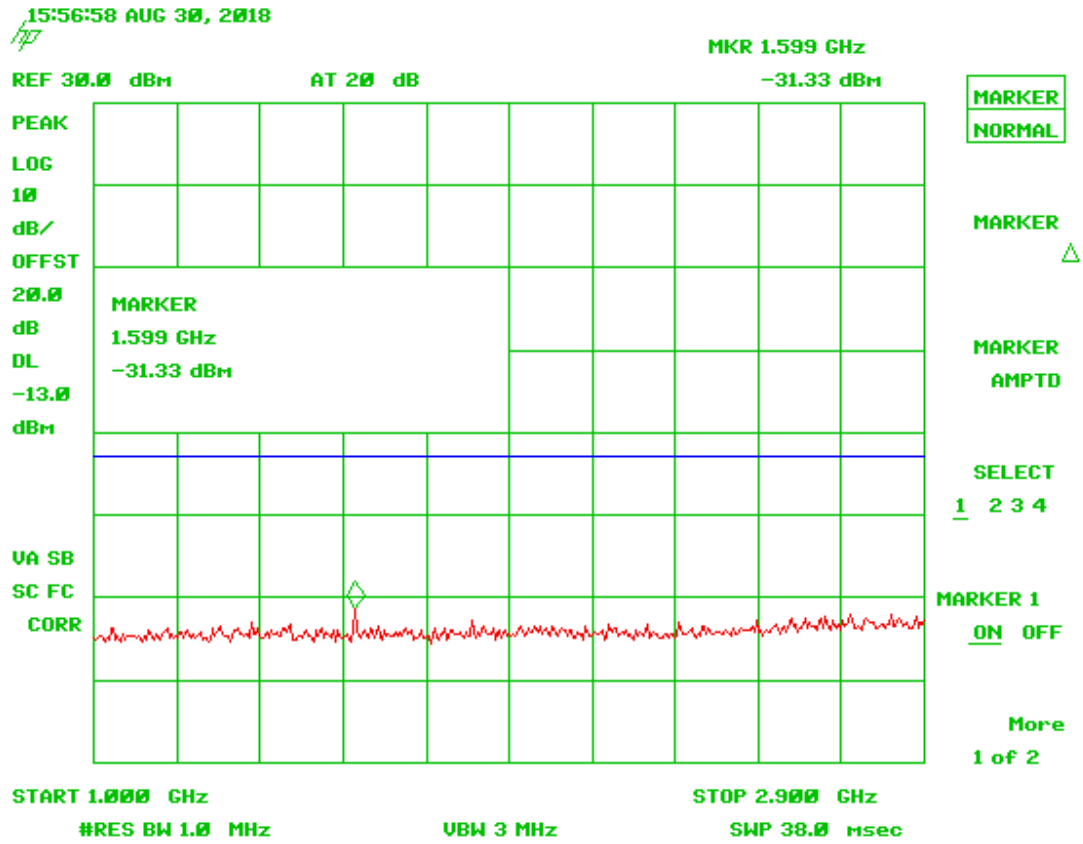


Figure 259. 798 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

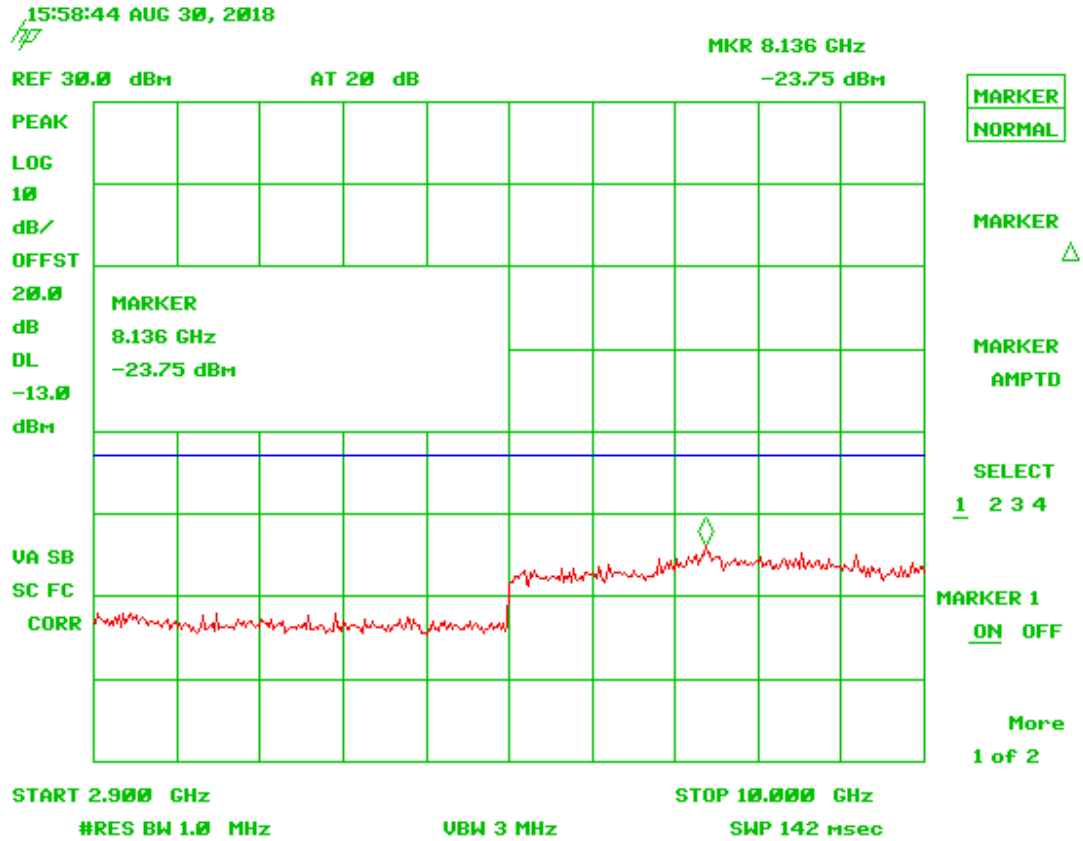
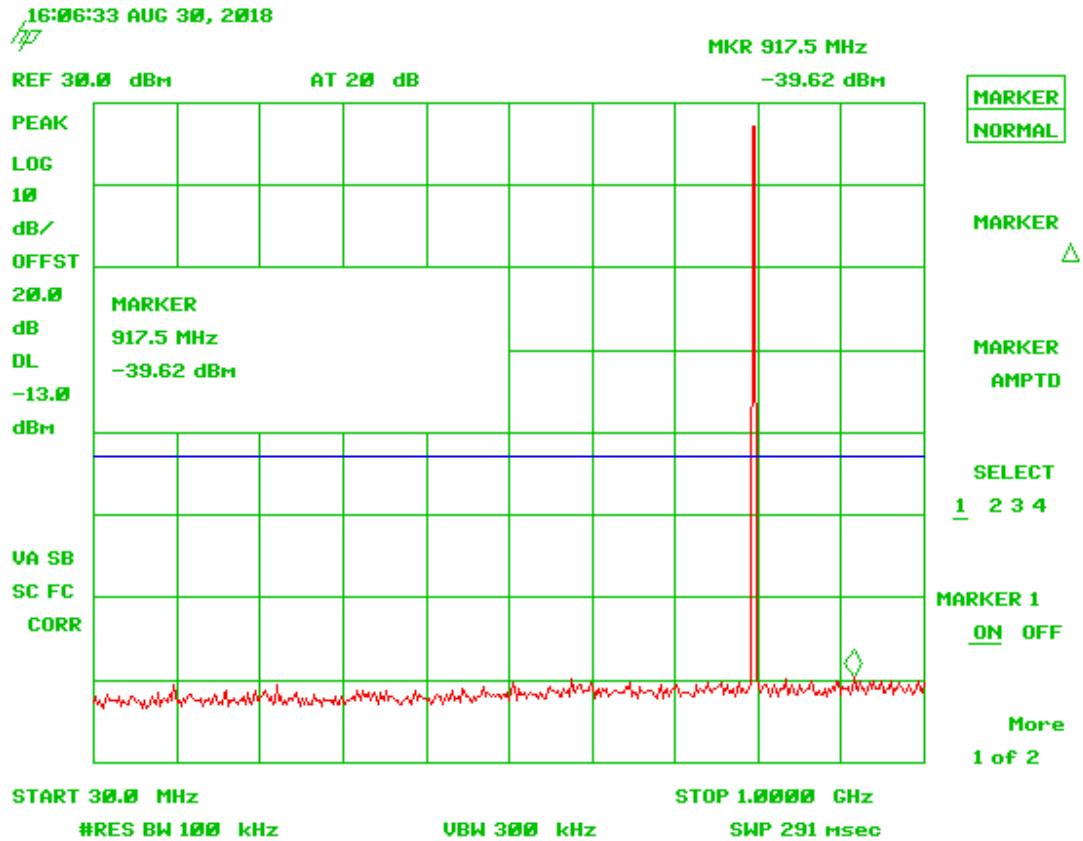


Figure 260. 798 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
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IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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September 10, 2018  
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SAFE-1000



**Figure 261. 799 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

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Customer:  
Model:

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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

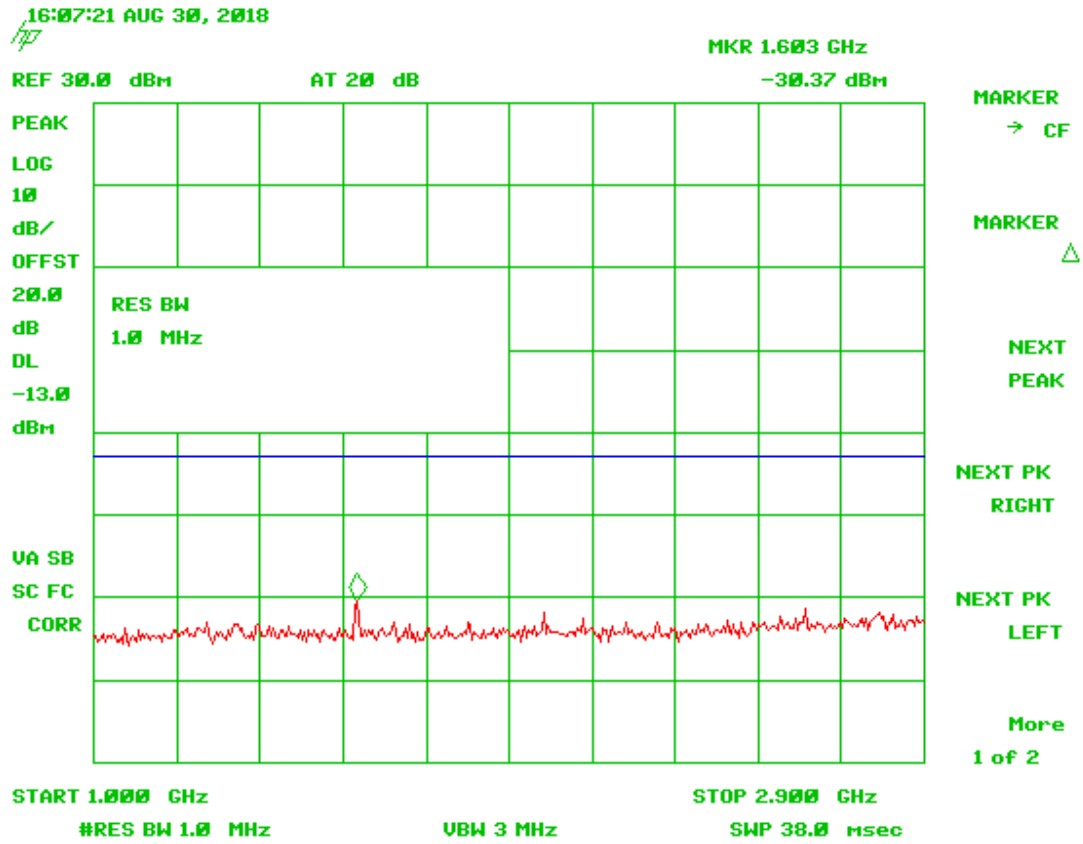


Figure 262. 799 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

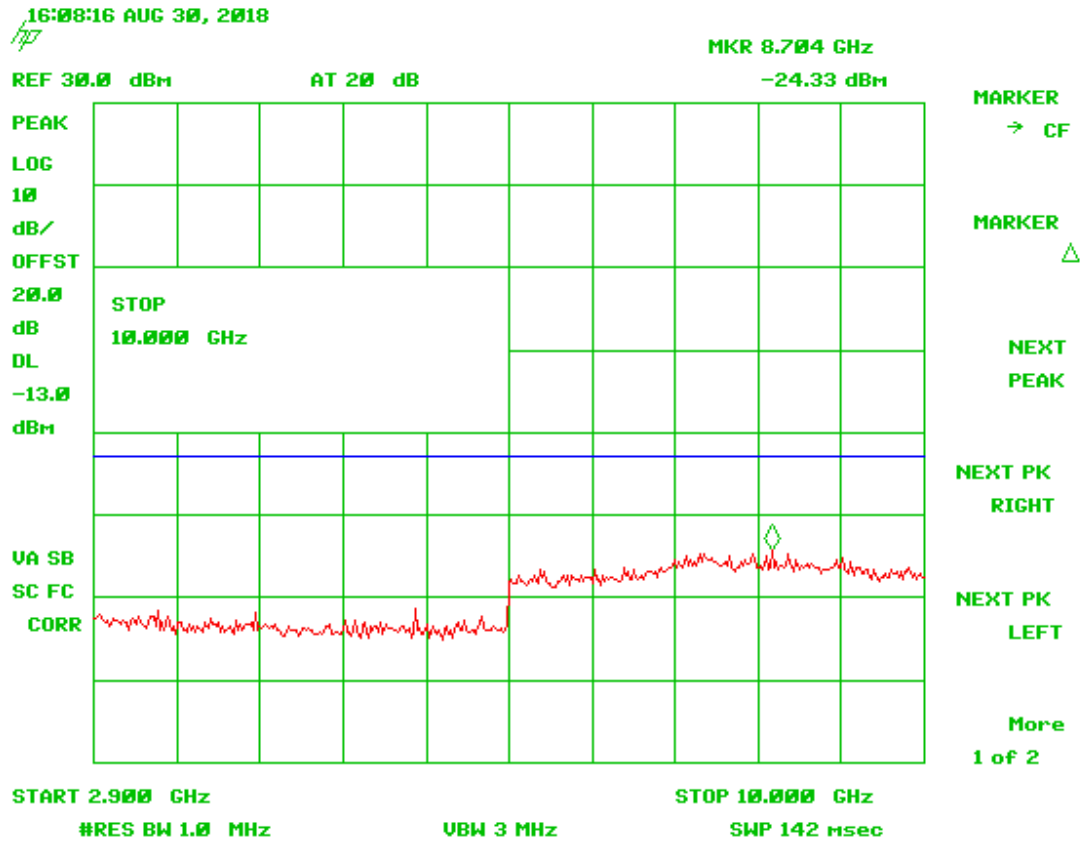


Figure 263. 799 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

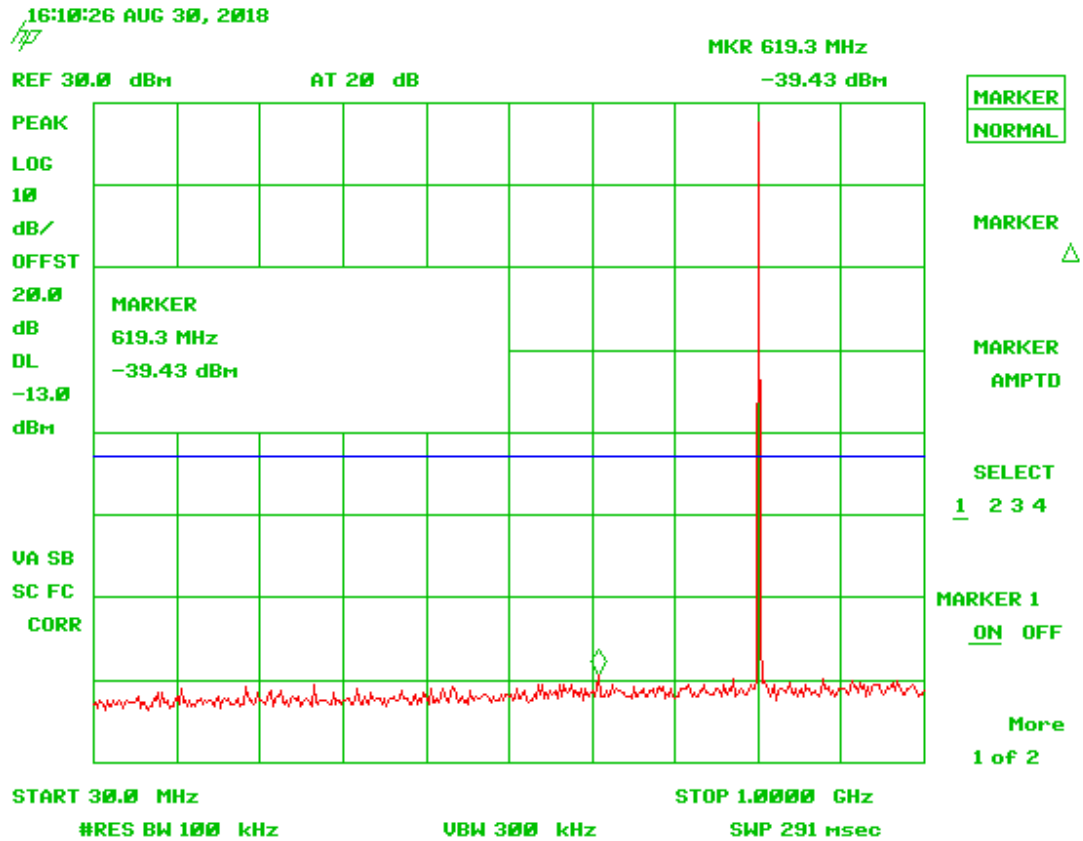


Figure 264. 805 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.



U.S. Tech Test Report:  
FCC ID:  
IC:  
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18-0181  
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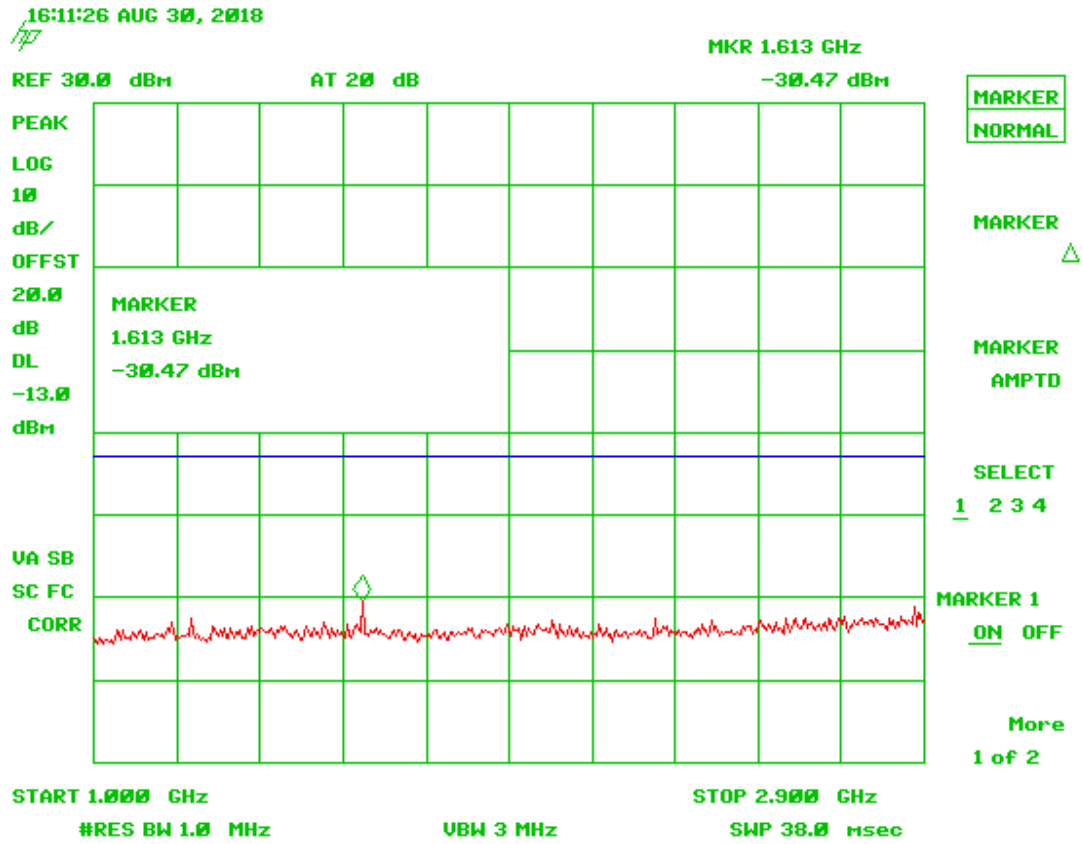


Figure 265. 805 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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18-0181  
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SAFE-1000

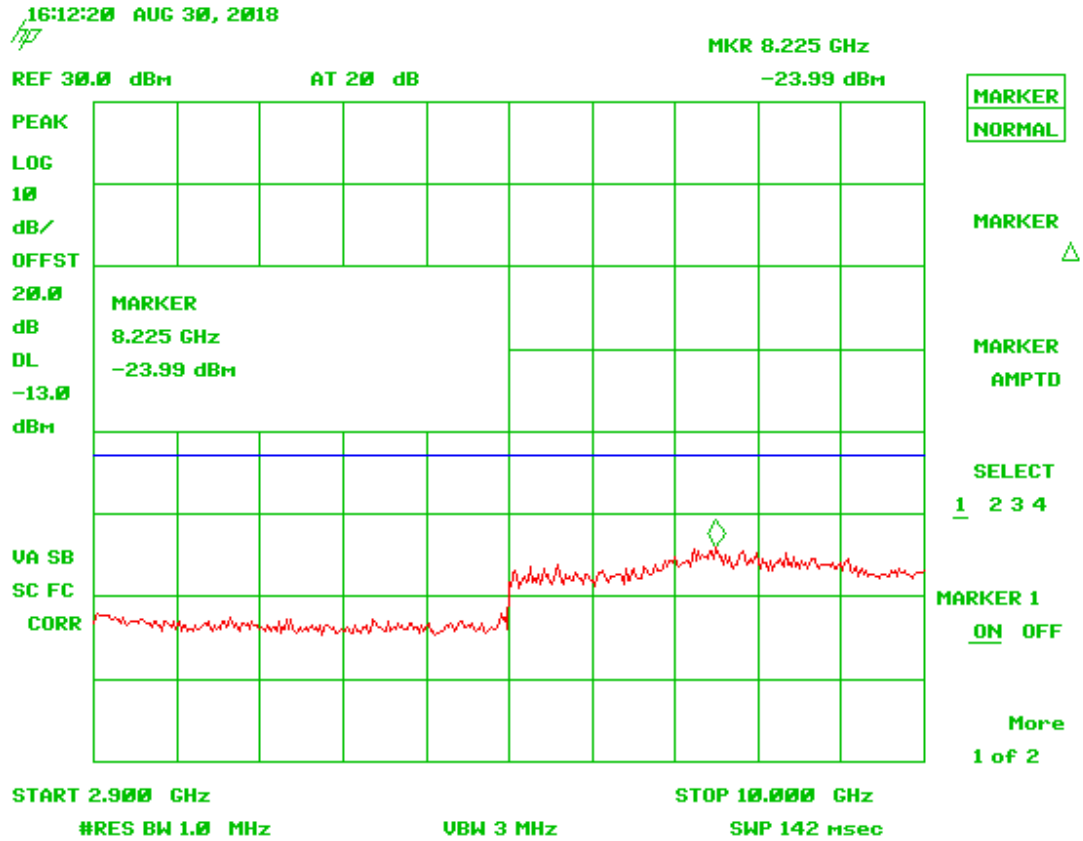


Figure 266. 805 MHz, 2.9 – 10 GHz

## 2.14.2.4 800 MHz Conducted Spurious Emissions

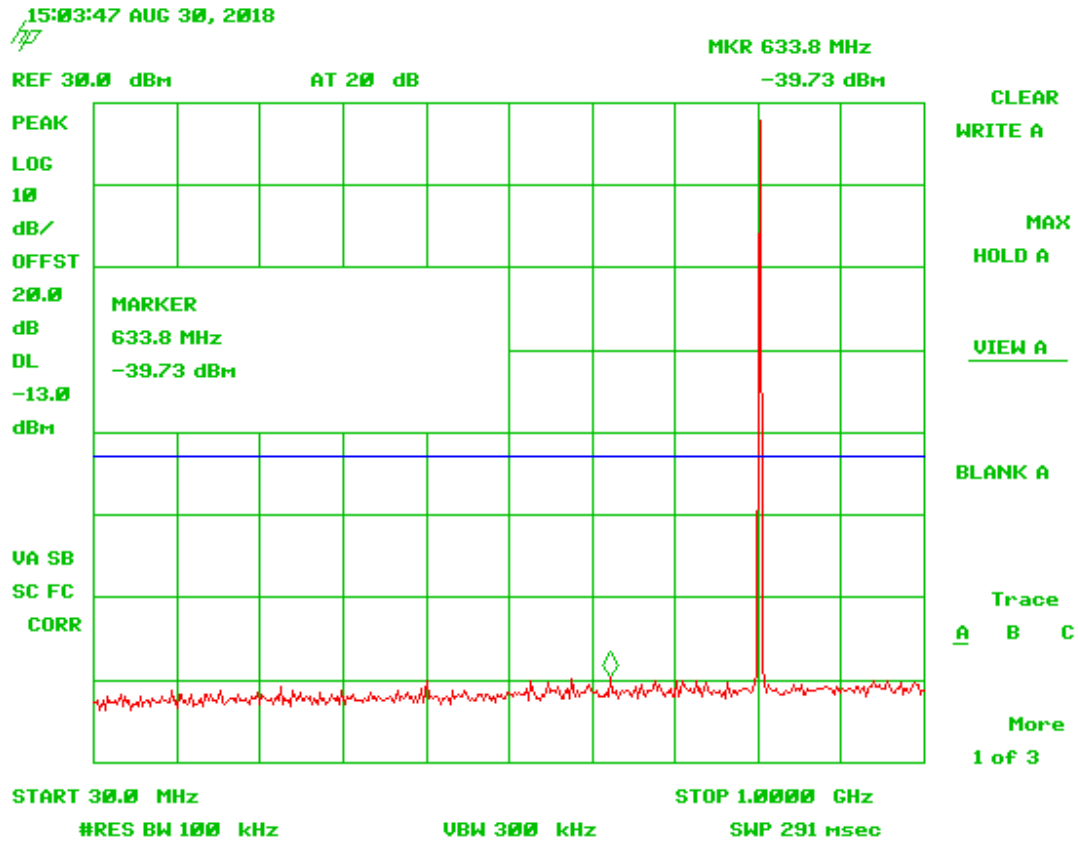


Figure 267. 806 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
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18-0181  
September 10, 2018  
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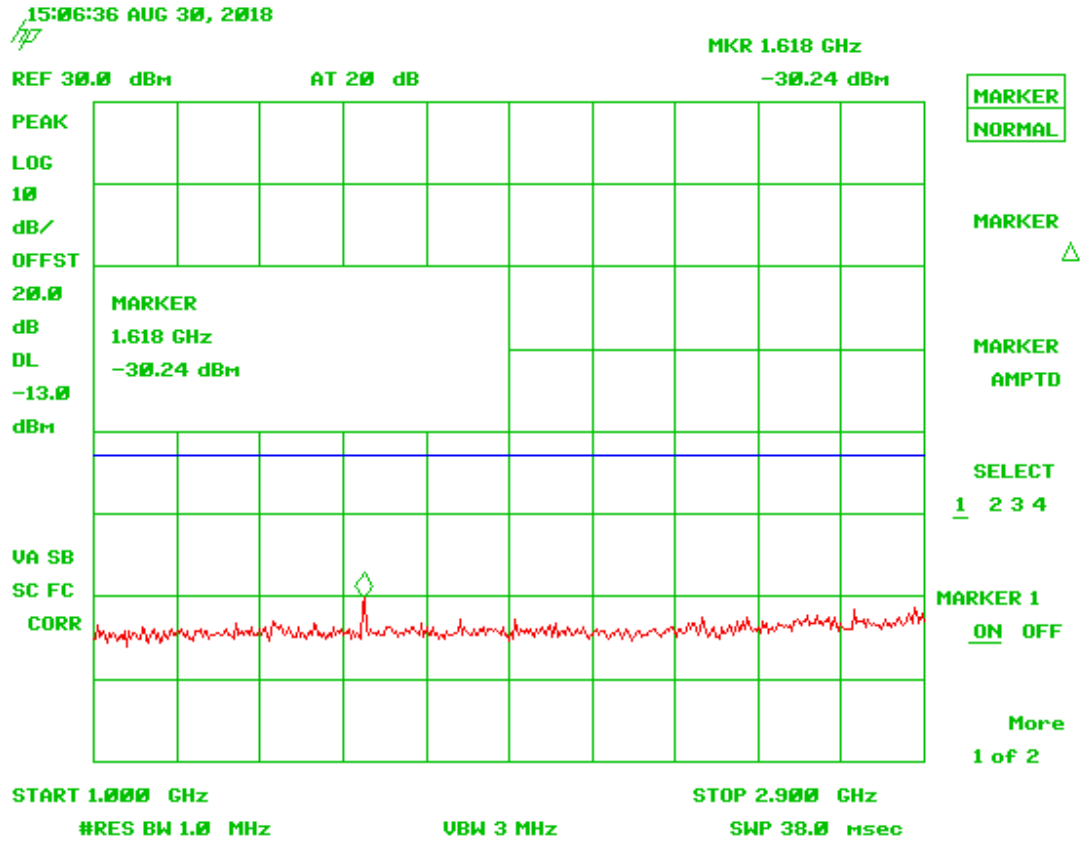


Figure 268. 806 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
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Customer:  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

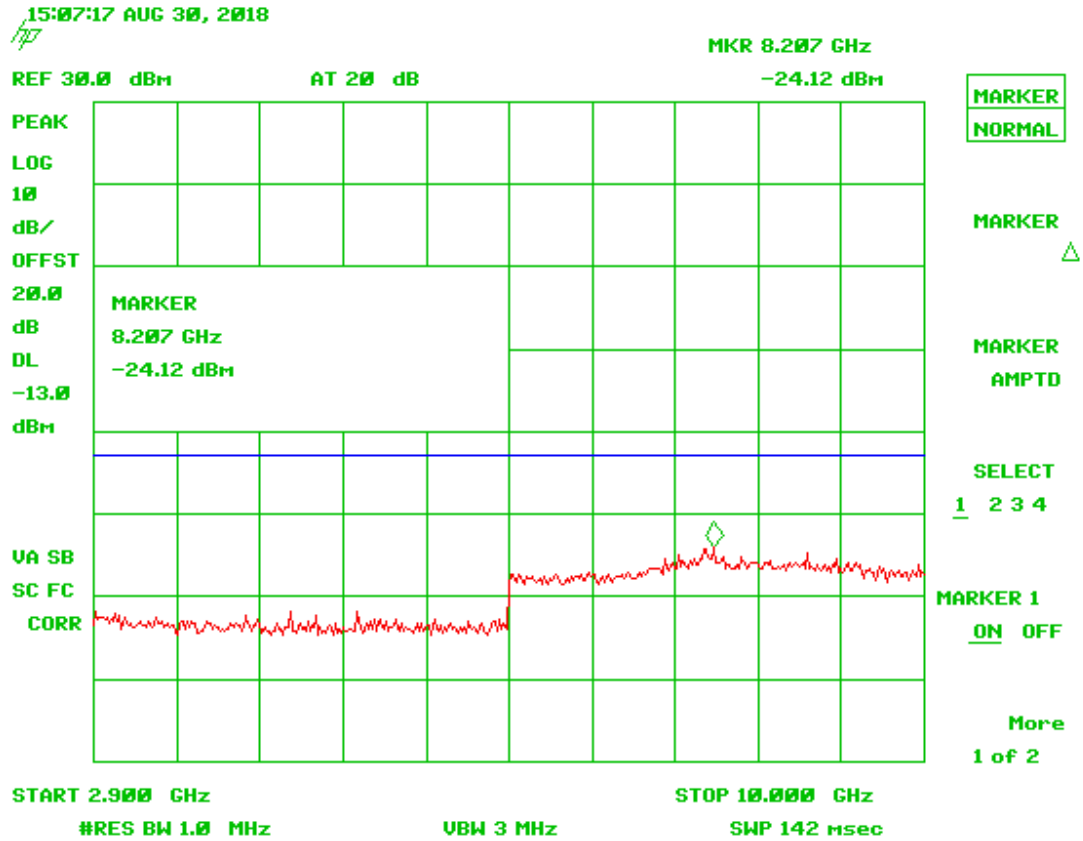
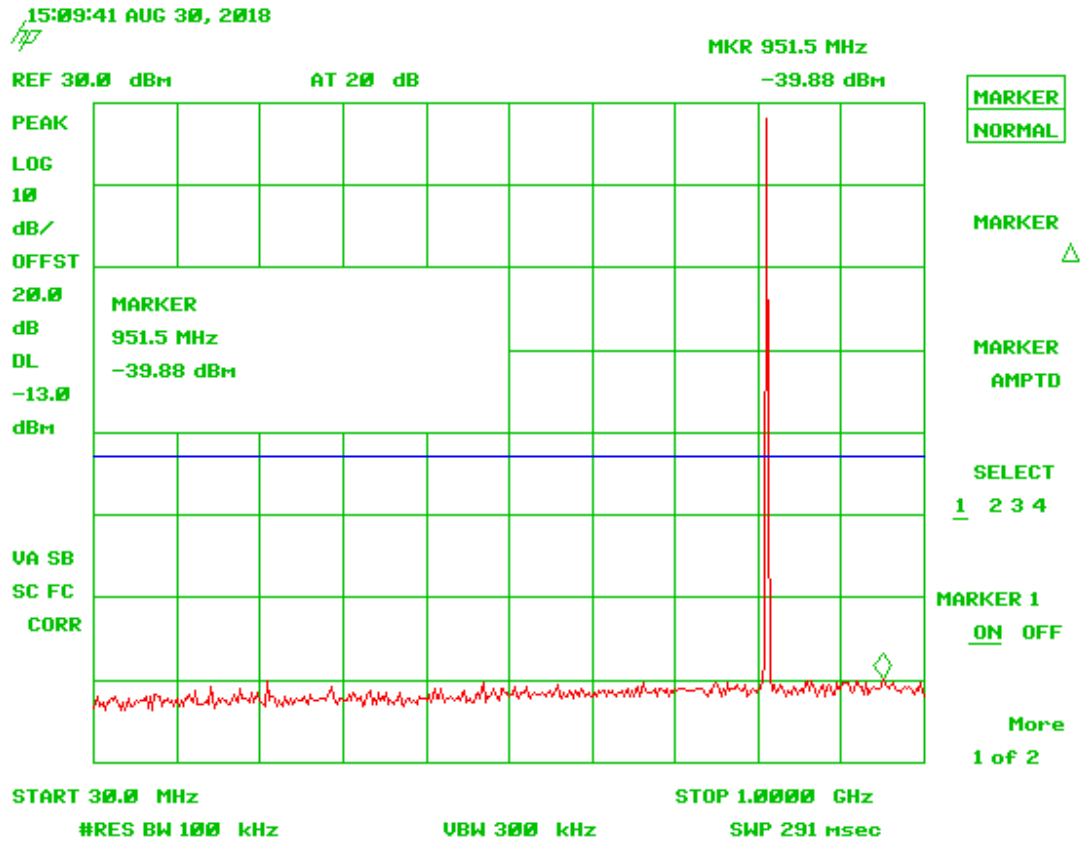


Figure 269. 806 MHz, 2.9 - 10 GHz

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 Safe-Com Wireless  
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**Figure 270. 815 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

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Customer:  
Model:

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2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

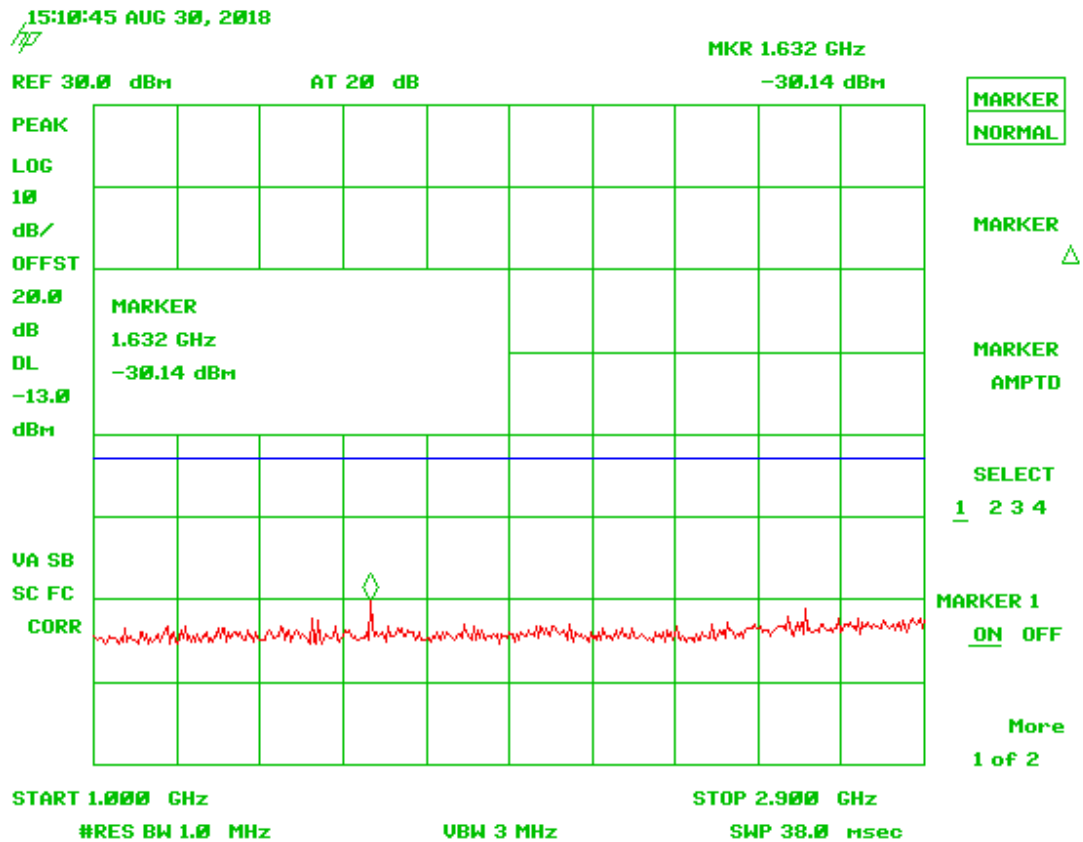


Figure 271. 815 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

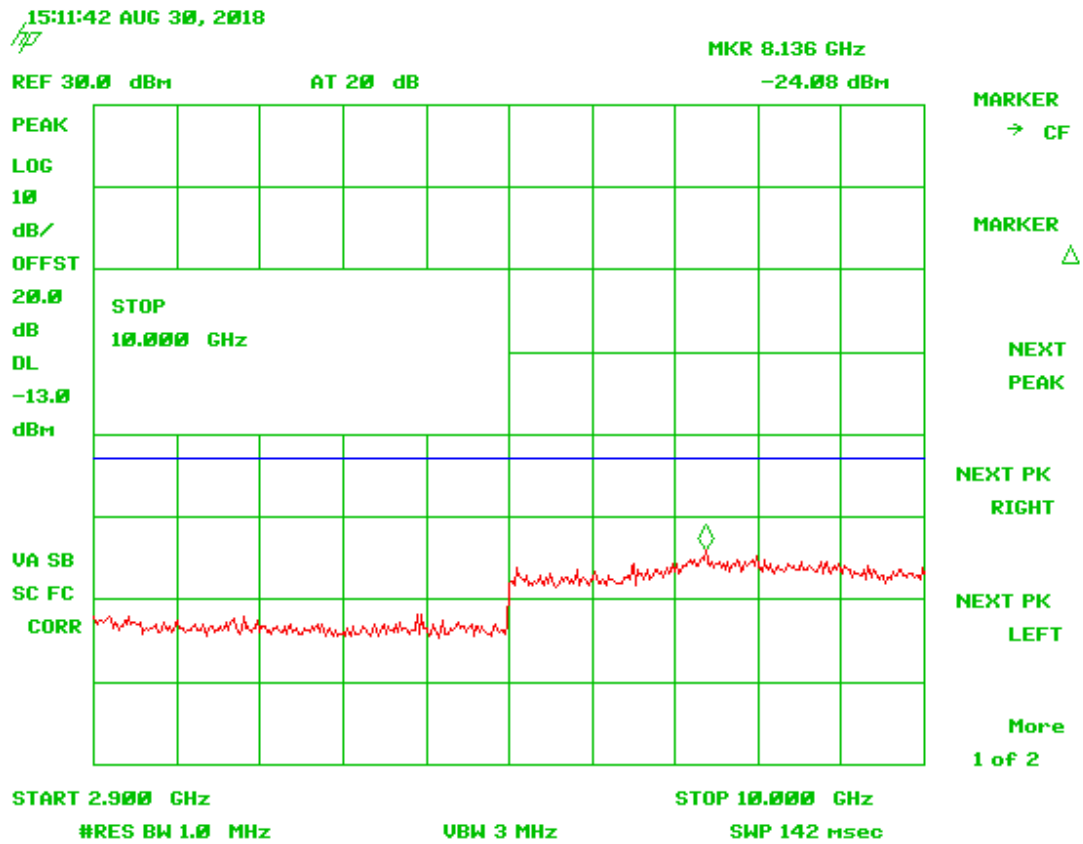


Figure 272. 815 MHz, 2.9 - 10 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

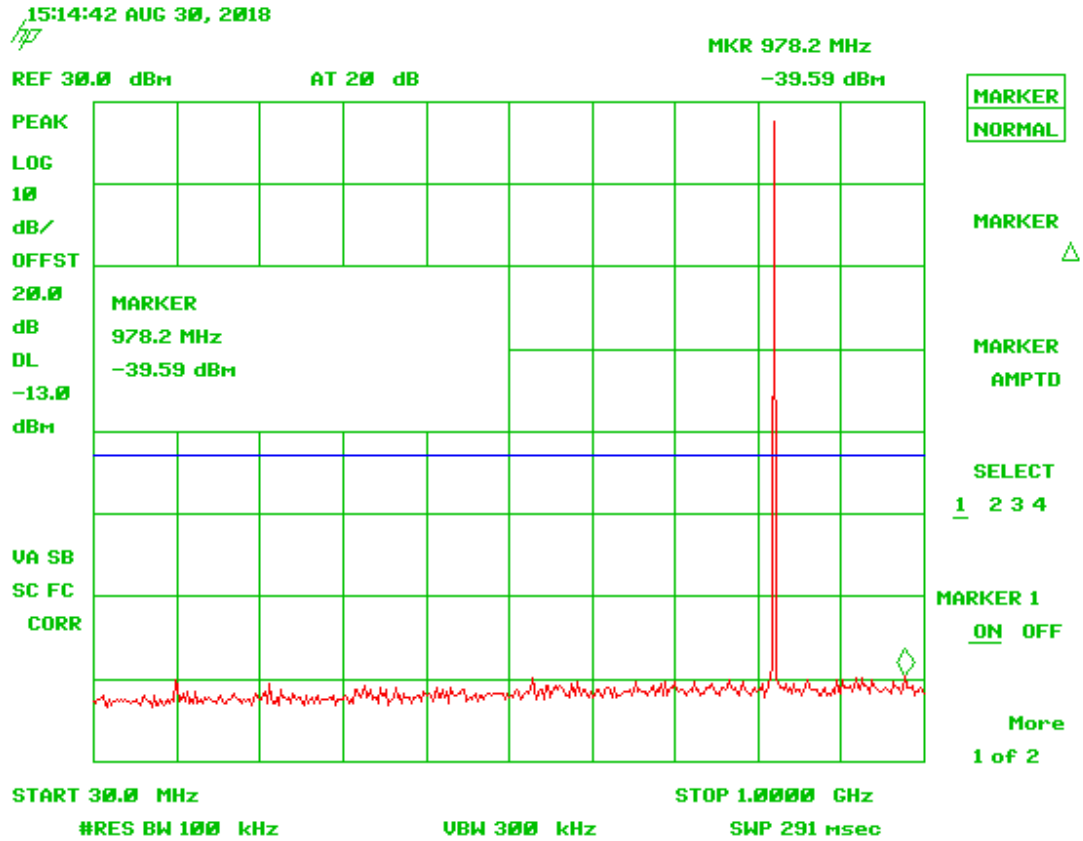


Figure 273. 824 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

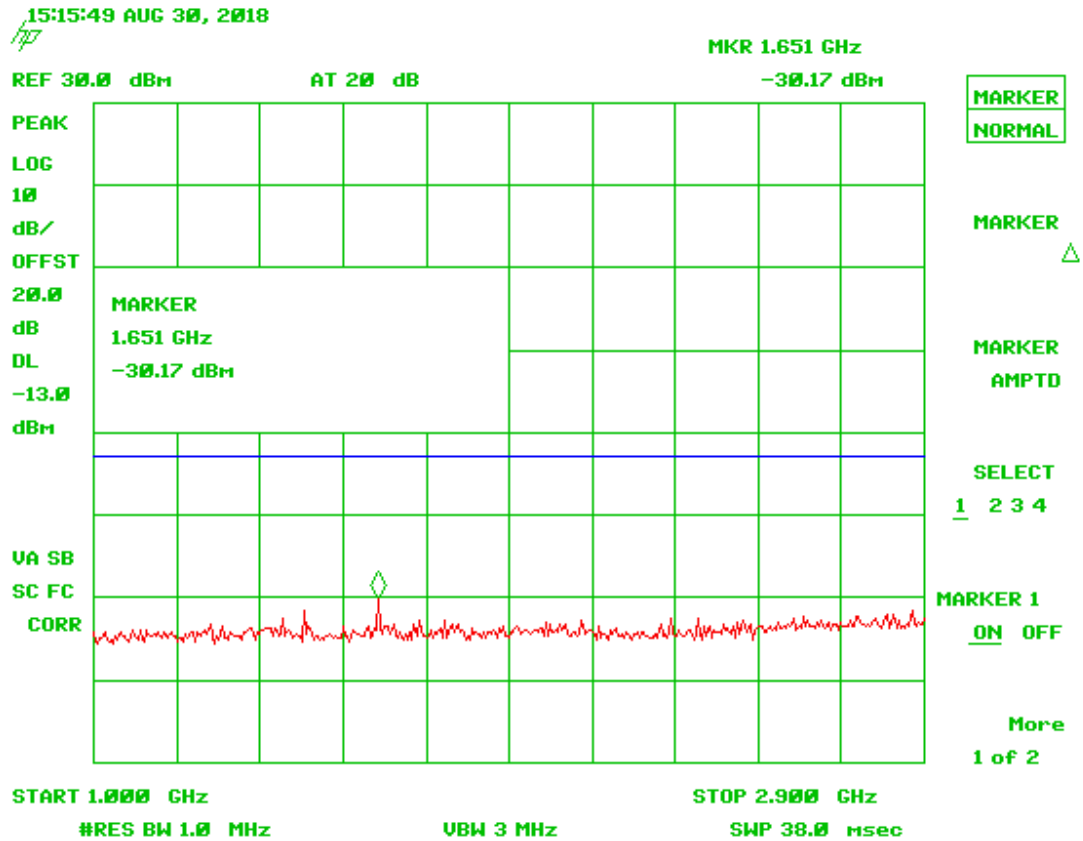


Figure 274. 824 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
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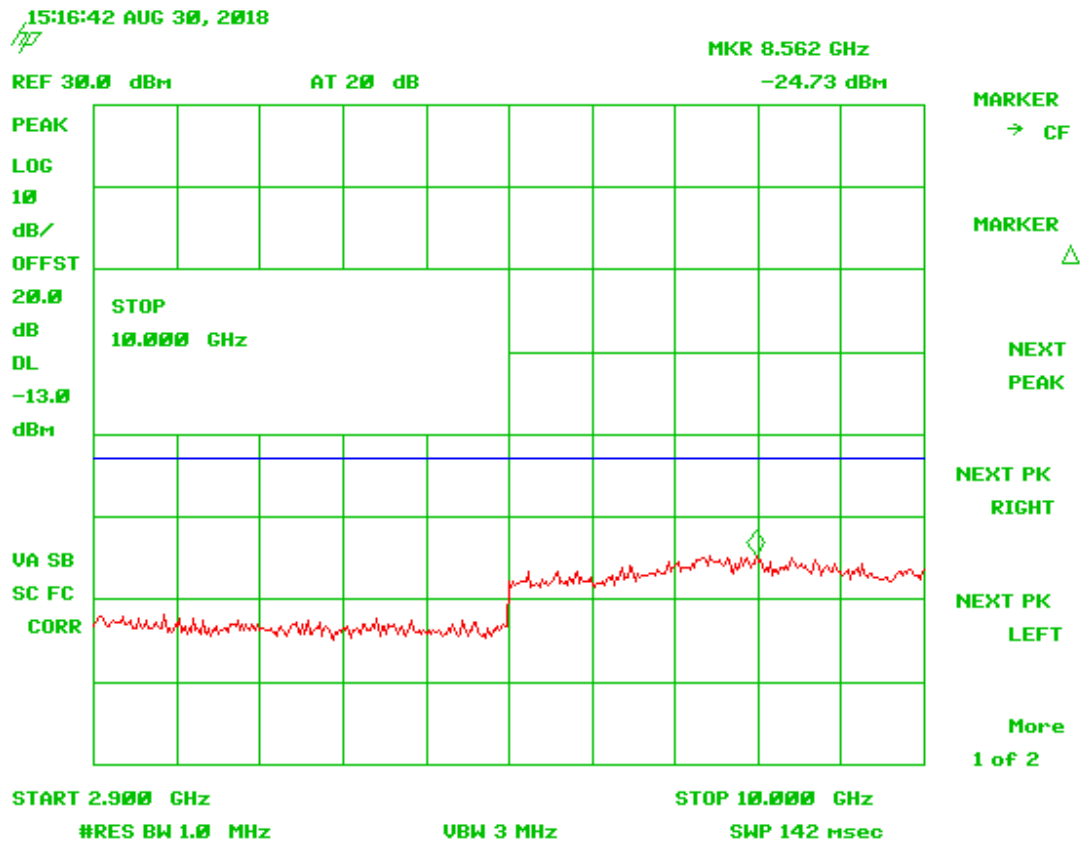


Figure 275. 824 MHz, 2.9 – 10 GHz

## 2.14.2.5 900 MHz Conducted Spurious Emissions

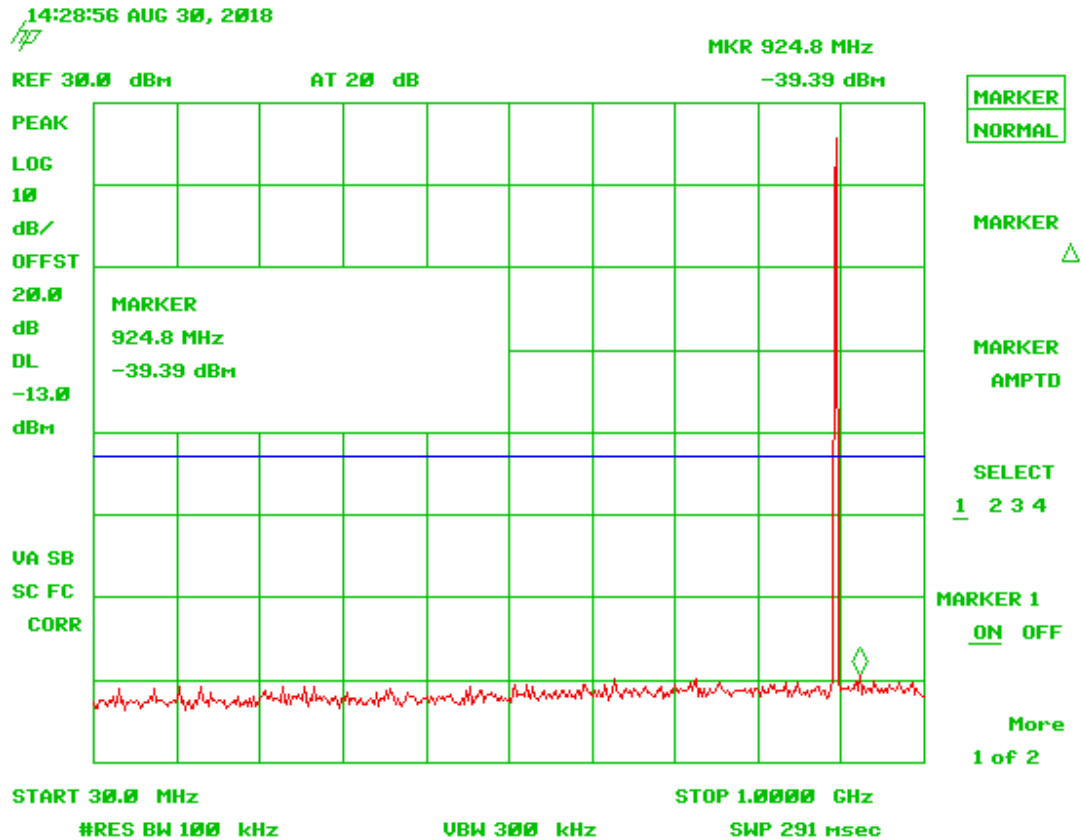


Figure 276. 896 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

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FCC ID:  
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Customer:  
Model:

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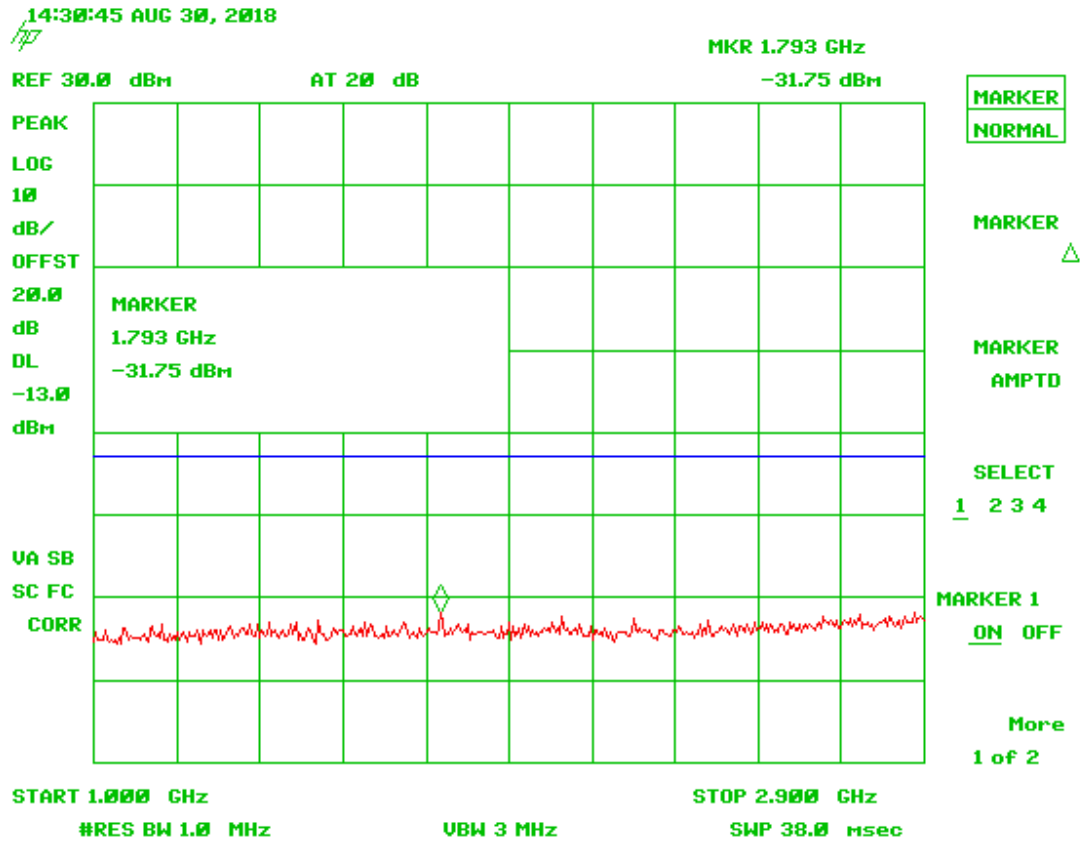


Figure 277. 896 MHz, 1 – 2.9 GHz

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FCC ID:  
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Issue Date:  
Customer:  
Model:

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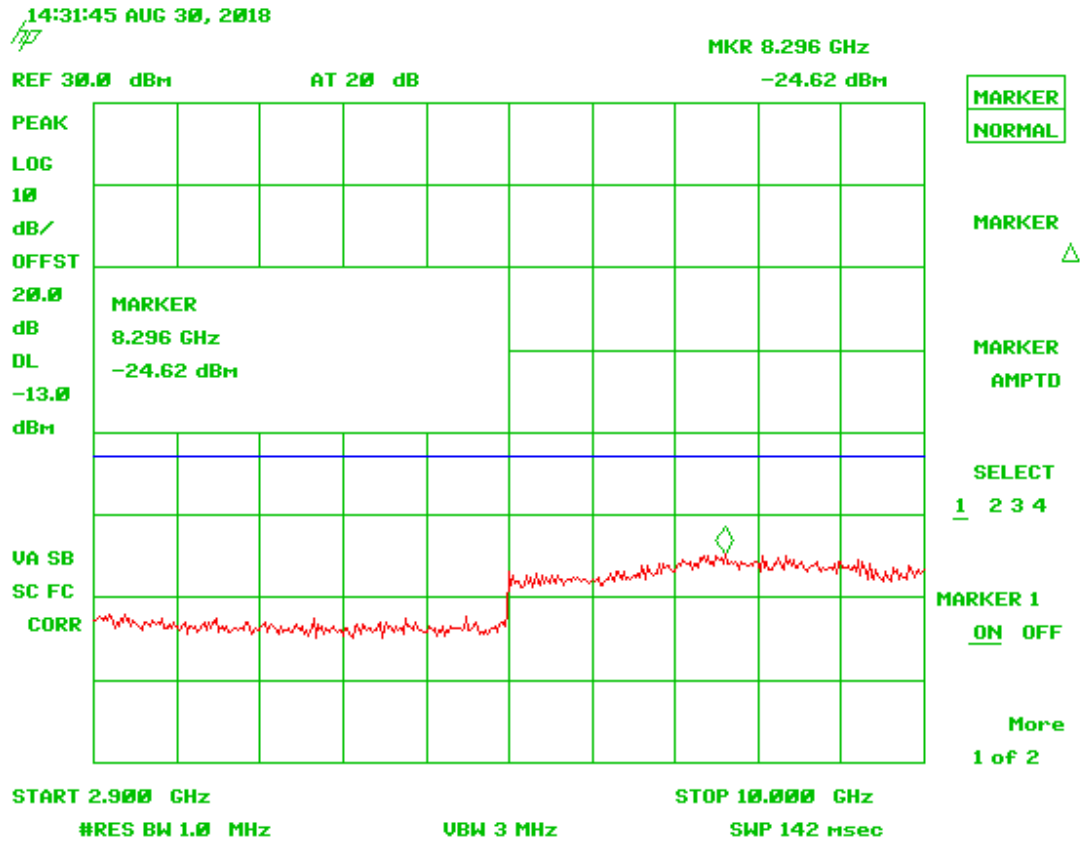
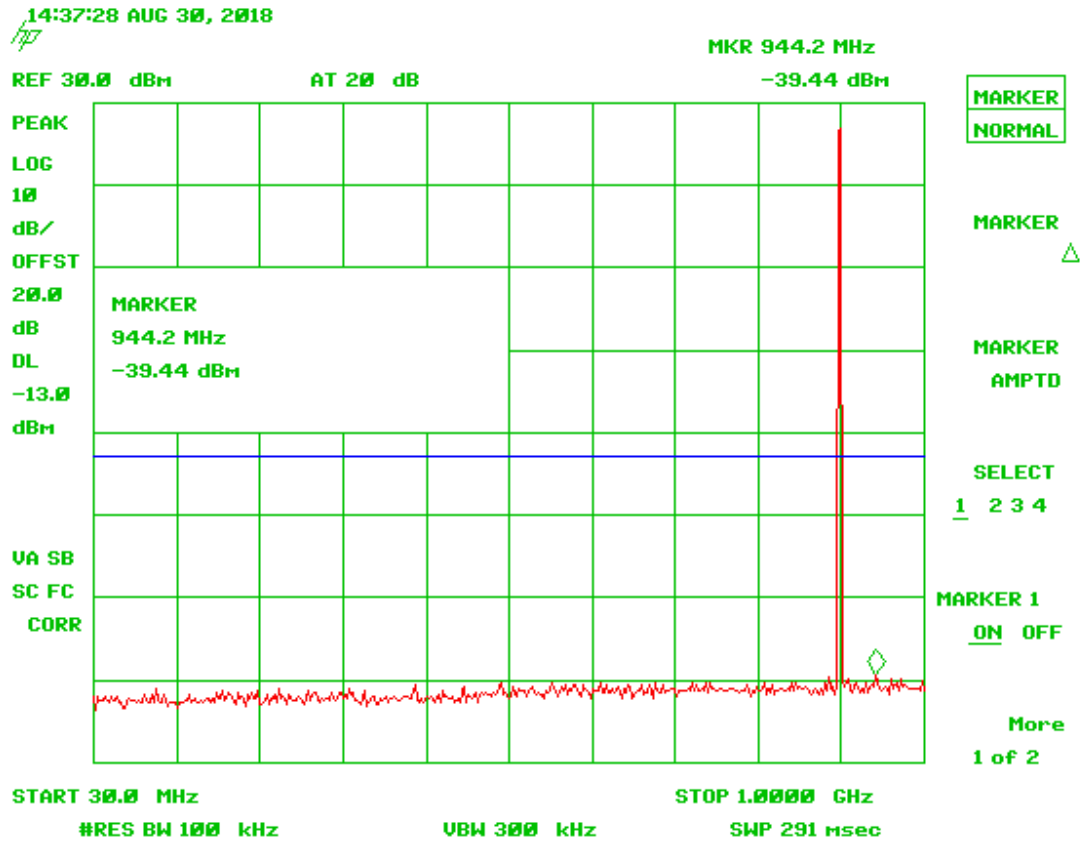


Figure 278. 896 MHz, 2.9 – 10 GHz

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**Figure 279. 901 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

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Model:

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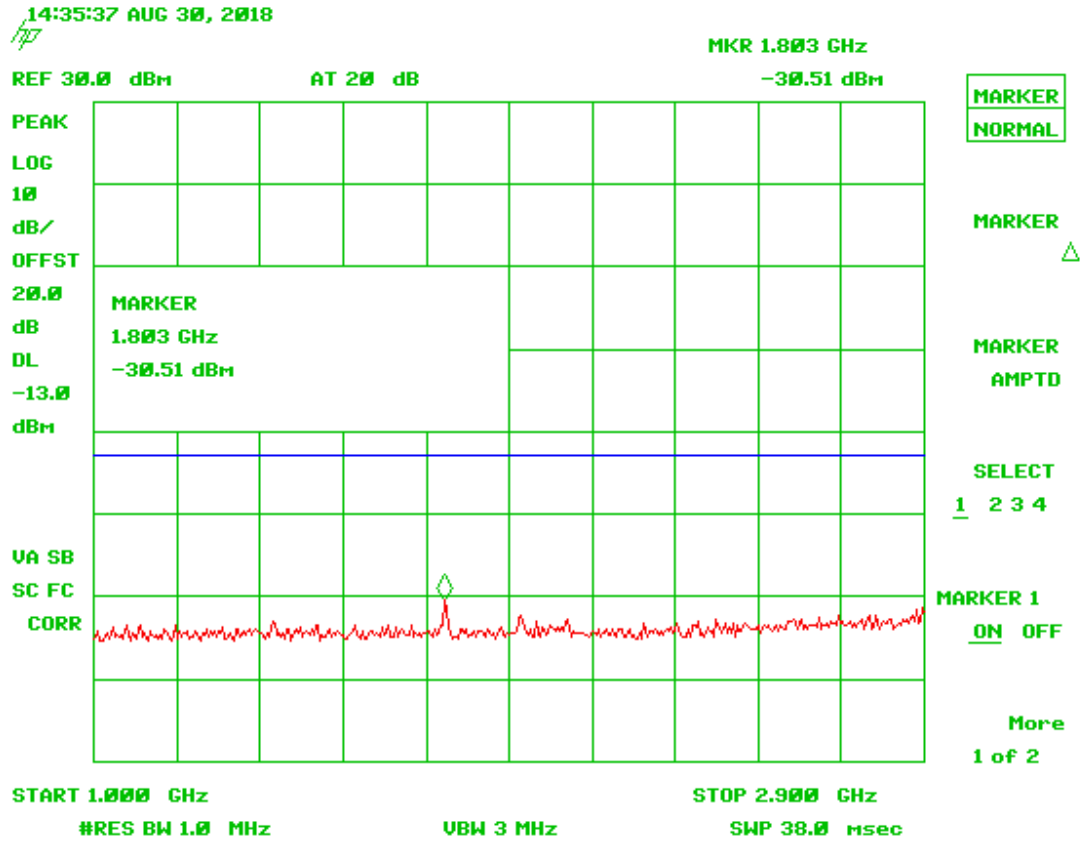


Figure 280. 901 MHz, 1 – 2.9 GHz



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FCC ID:  
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Report Number:  
Issue Date:  
Customer:  
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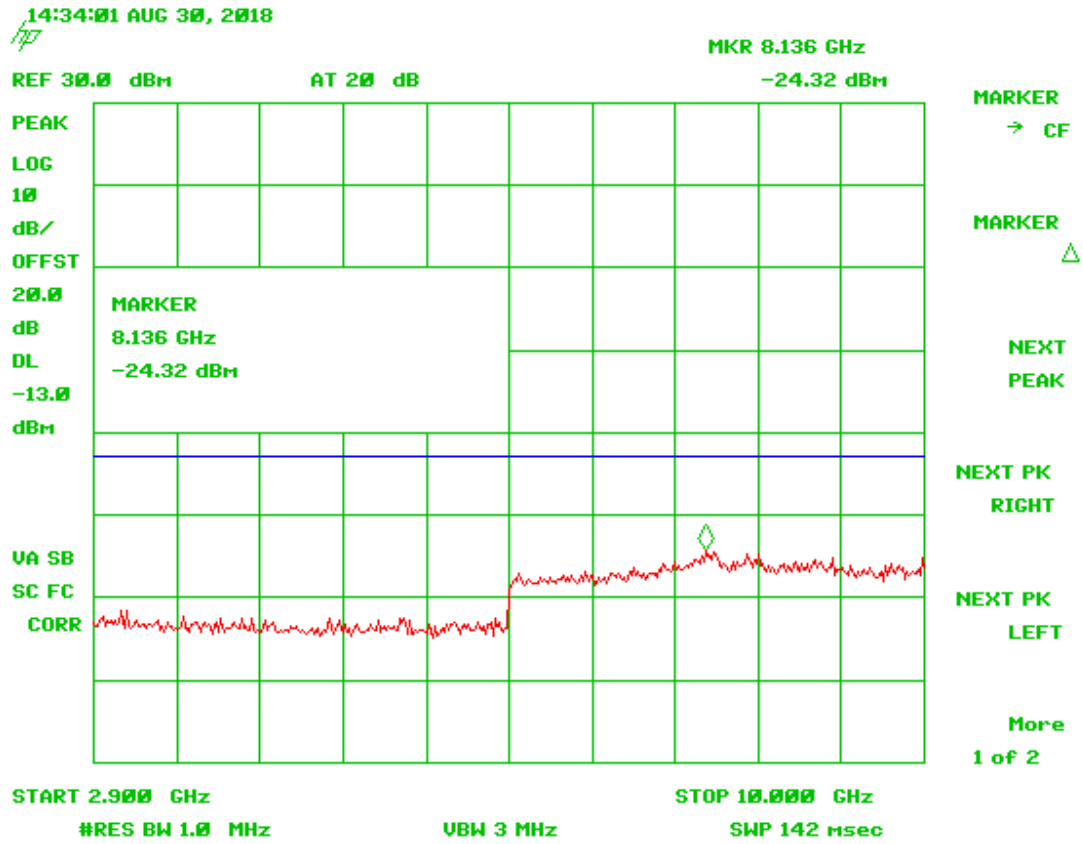


Figure 281. 901 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

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## 2.15 Unintentional Emissions (FCC Section 15.107, 15.109 and RSS-Gen) - Uplink

### 2.15.1 Radiated Spurious Emissions

The EUT was evaluated for unintentional spurious emissions per verification procedures for the Head End enclosure unit. Those results are presented in this section of the test report.

**Table 3. Radiated Spurious Emissions**

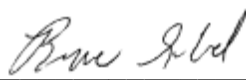
Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP+DC (dB/m)	Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector PK/QP/AVG
146.00	41.60	-23.69	17.91	43.5	3m./VERT	25.6	PK
40.01	47.00	-26.49	20.51	39.0	3m./VERT	18.5	PK
44.36	34.35	-26.42	7.93	39.0	3m./HORZ	31.1	PK
151.80	42.39	-24.13	18.26	43.5	3m./HORZ	25.2	PK
214.00	36.46	-24.52	11.94	43.5	3m./HORZ	31.6	PK
218.00	32.07	-24.47	7.60	46.4	3m./HORZ	38.8	PK
214.00	42.85	-24.92	17.93	43.5	3m./VERT	25.6	PK
988.00	36.45	-12.69	23.76	49.5	3m./VERT	25.7	PK
212.00	42.66	-24.52	18.14	43.5	3m./HORZ	25.4	PK
2968.00	51.80	-9.24	42.56	49.5	3.0m./HORZ	6.9	PK
1095.00	49.81	-18.47	31.34	49.5	3.0m./HORZ	18.2	PK
1171.00	50.29	-17.12	33.17	49.5	3.0m./VERT	16.3	PK
2963.57	52.23	-9.13	43.10	49.5	3.0m./VERT	6.4	AVG

Sample Calculation at 146.00 MHz:

Magnitude of Measured Frequency	41.60	dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	-23.69	dB/m
Corrected Result	17.91	dBuV/m

Test Date: August 3, 2018

Tested By

Signature:  Name: Bruce Arnold

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

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## 2.15.2 Conducted Powerline Spurious Emissions

The EUT was evaluated for conducted powerline emissions per verification procedures for the Head End enclosure unit. Those results are presented in this section of the test report.

**Table 4. Conducted Powerline Emissions – Head End Unit**

Frequency (MHz)	Test Data (dBuV)	IL+CA-AMP (dB)	Results (dBuV)	Limits (dBuV)	Phase Neutral	Margin (dB)	Limits QP/AVG	Detector PK/QP/AVG
0.1649	49.67	0.43	50.10	66.0	Phase	15.9	AVG	PK
0.5338	40.14	0.15	40.29	60.0	Phase	19.7	AVG	PK
4.5200	32.05	0.23	32.28	60.0	Phase	27.7	AVG	PK
9.8250	30.55	0.39	30.94	60.0	Phase	29.1	AVG	PK
13.1000	33.63	0.54	34.17	60.0	Phase	25.8	AVG	PK
28.4300	30.45	0.87	31.32	60.0	Phase	28.7	AVG	PK
0.1631	48.67	0.55	49.22	66.0	Neutral	16.8	AVG	PK
0.5338	38.65	0.29	38.94	60.0	Neutral	21.1	AVG	PK
3.5400	26.27	0.36	26.63	60.0	Neutral	33.4	AVG	PK
9.4620	29.58	0.50	30.08	60.0	Neutral	29.9	AVG	PK
11.1800	31.72	0.57	32.29	60.0	Neutral	27.7	AVG	PK
29.1000	28.28	1.17	29.45	60.0	Neutral	30.6	AVG	PK

### SAMPLE CALCULATION at 0.1649 MHz:

Magnitude of Measured Frequency	49.67	dBuV
+ Cable Loss+ LISN Loss	0.43	dB
=Corrected Result	50.10	dBuV
Limit	66.00	dBuV
-Corrected Result	50.10	dBuV
Margin	15.90	dB

Test Date: August 21, 2018

Tested By

Signature: 

Name: Bruce Arnold

## 2.16 RF Power Output (FCC Section 2.1046, 90.219(e)(1), RSS-131, 6.2) - Downlink

The output power capability of a signal booster must be designed for deployments providing a radiated power not exceeding 5 Watts ERP for each retransmitted channel.

The EUT was connected to a spectrum analyzer through a 20 dB power attenuator. All cables and attenuator losses were input into the spectrum analyzer as either a reference level offset or an external preamp gain correction to ensure that accurate readings were obtained.

A CW signal was utilized and transmitted through the EUT. The RF input signal was set at least 0.2 dB below the AGC threshold. The spectrum analyzer was set to the following settings: RBW= 100 kHz, Video= 3x RBW, Span of 1 MHz.

The output power levels are recorded below:

Band	Tuned Frequency	Measured Output power (dBm)	FCC max Output Power limit ( 5 Watt)	Margin (dB) From the output limit
VHF	*138.00 MHz	31.48	37 dBm	5.52
	145.00 MHz	31.07	37 dBm	5.93
	150.00 MHz	27.32	37 dBm	9.68
	162.00 MHz	27.14	37 dBm	9.86
	174.00 MHz	24.13	37 dBm	12.87
UHF	*380.00 MHz	28.46	37 dBm	8.54
	*400.00 MHz	29.22	37 dBm	7.78
	406.00 MHz	29.03	37 dBm	7.97
	421.00 MHz	29.28	37 dBm	7.72
	450.00 MHz	25.03	37 dBm	11.97
	480.00 MHz	24.84	37 dBm	12.16
	511.00 MHz	23.18	37 dBm	13.82
700	758.00 MHz	30.07	37 dBm	6.93
	763.00 MHz	27.70	37 dBm	9.30
	768.00 MHz	29.90	37 dBm	7.10
	769.00 MHz	29.12	37 dBm	7.88
	775.00 MHz	27.04	37 dBm	9.96
800	851.00 MHz	31.17	37 dBm	5.83
	860.00 MHz	30.11	37 dBm	6.89
	869.00 MHz	28.91	37 dBm	8.09
900	930.00 MHz	27.66	37 dBm	9.34
	935.00 MHz	28.65	37 dBm	8.35
	938.00 MHz	28.75	37 dBm	8.25
	941.00 MHz	29.33	37 dBm	7.67

(\*) Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

## 2.17 Output Power Plots

Following are the Downlink Output Power Plots.

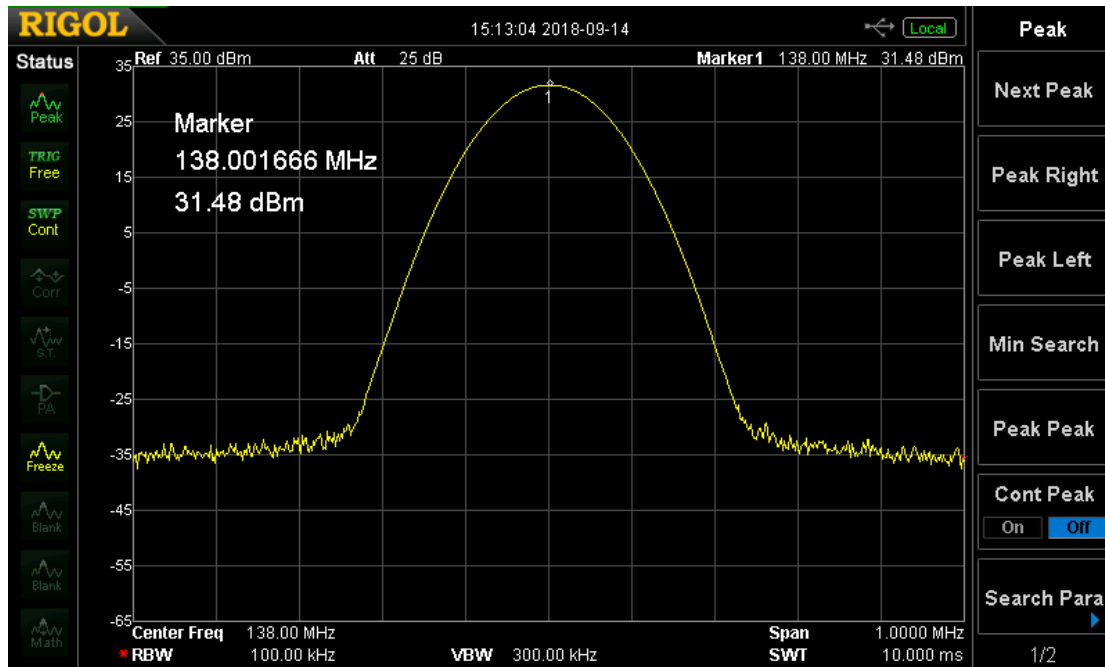


Figure 282. 138 MHz Output Power Plot

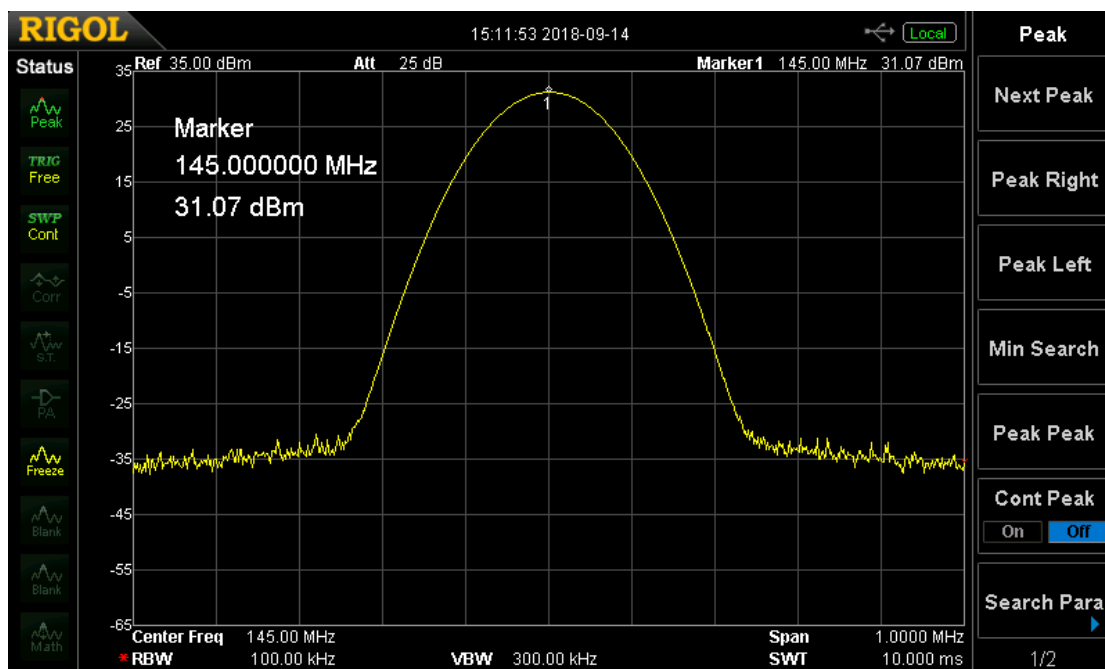


Figure 283. 145 MHz Output Power Plot

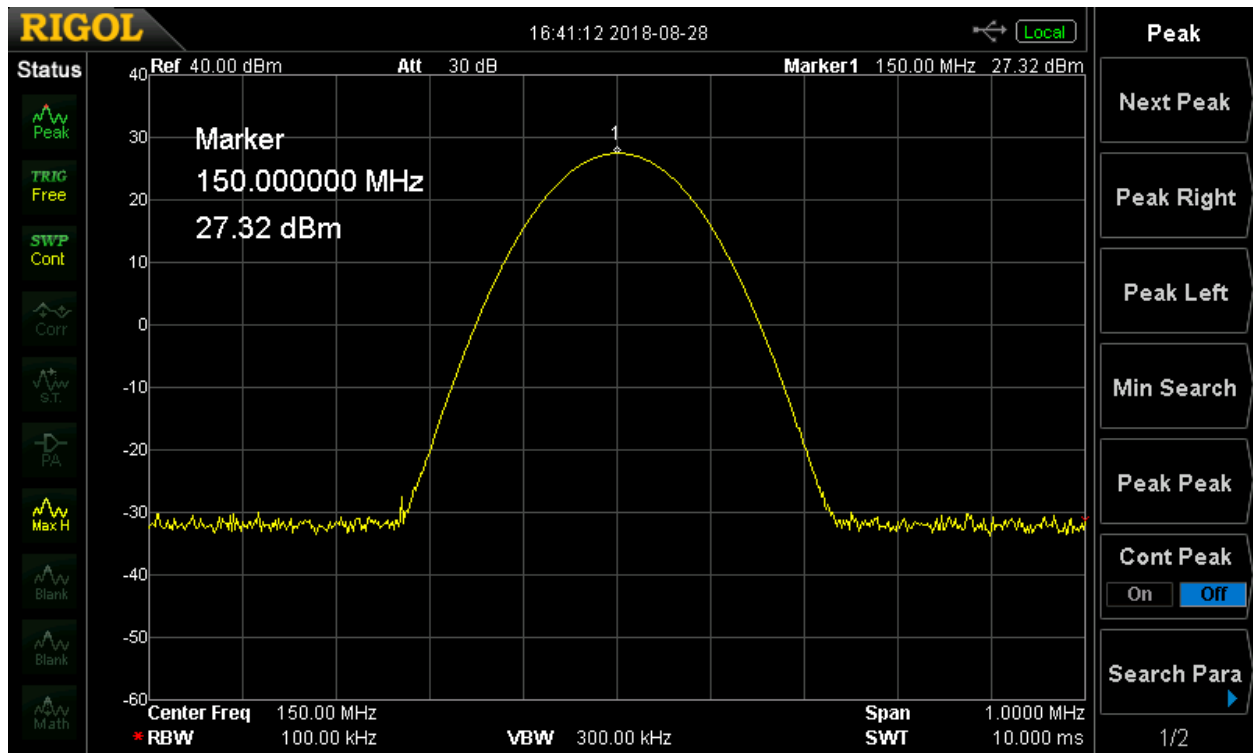


Figure 284. 150 MHz Output Power Plot

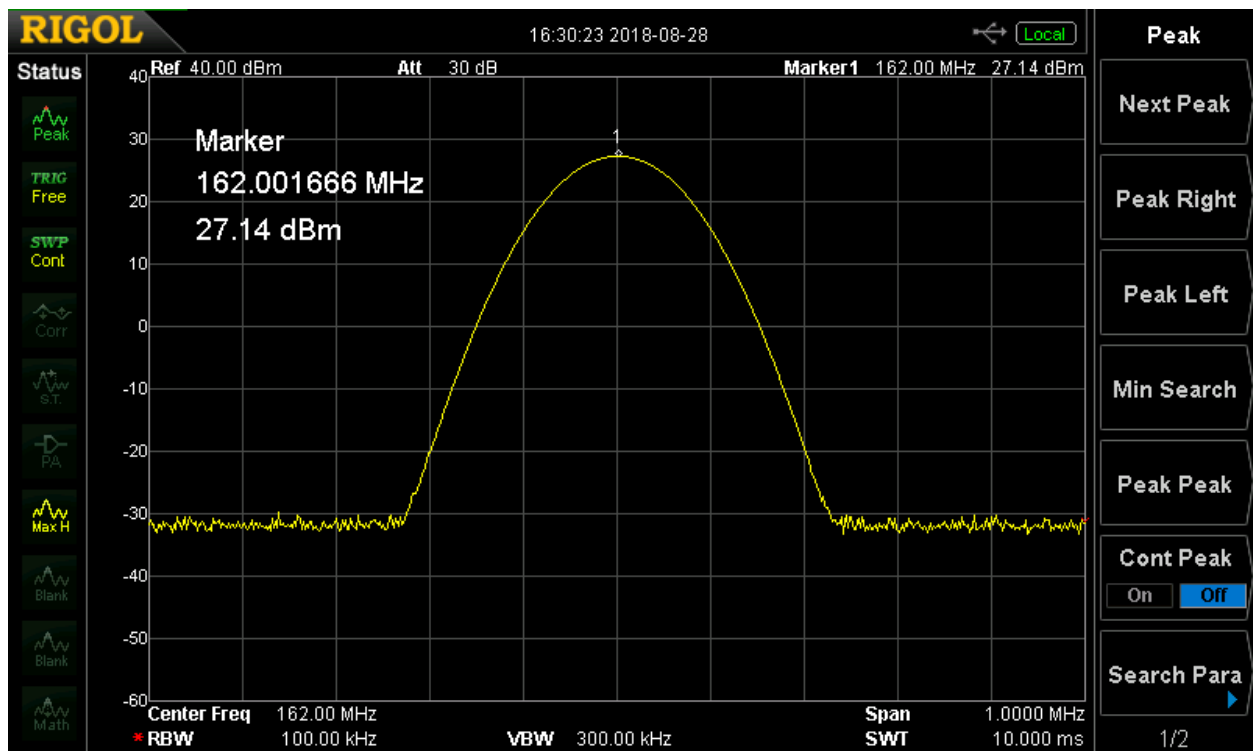


Figure 285. 162 MHz Output Power Plot

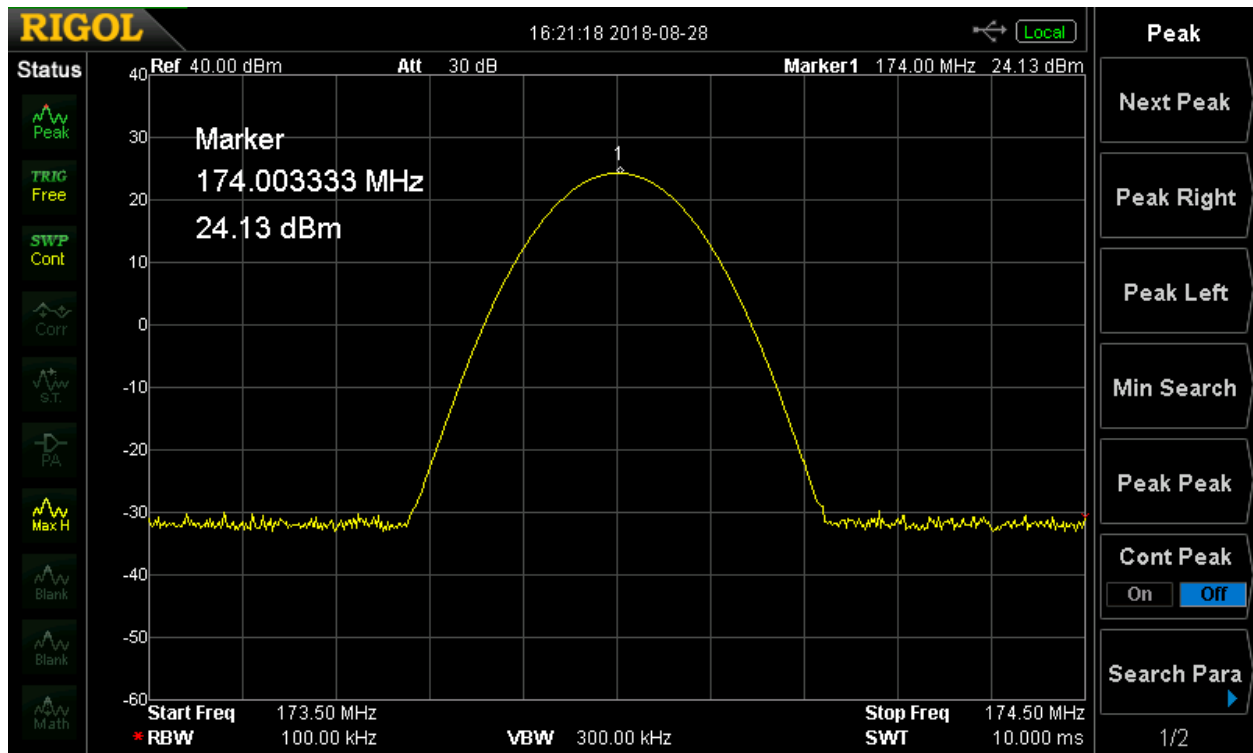


Figure 286. 174 MHz Output Power Plot

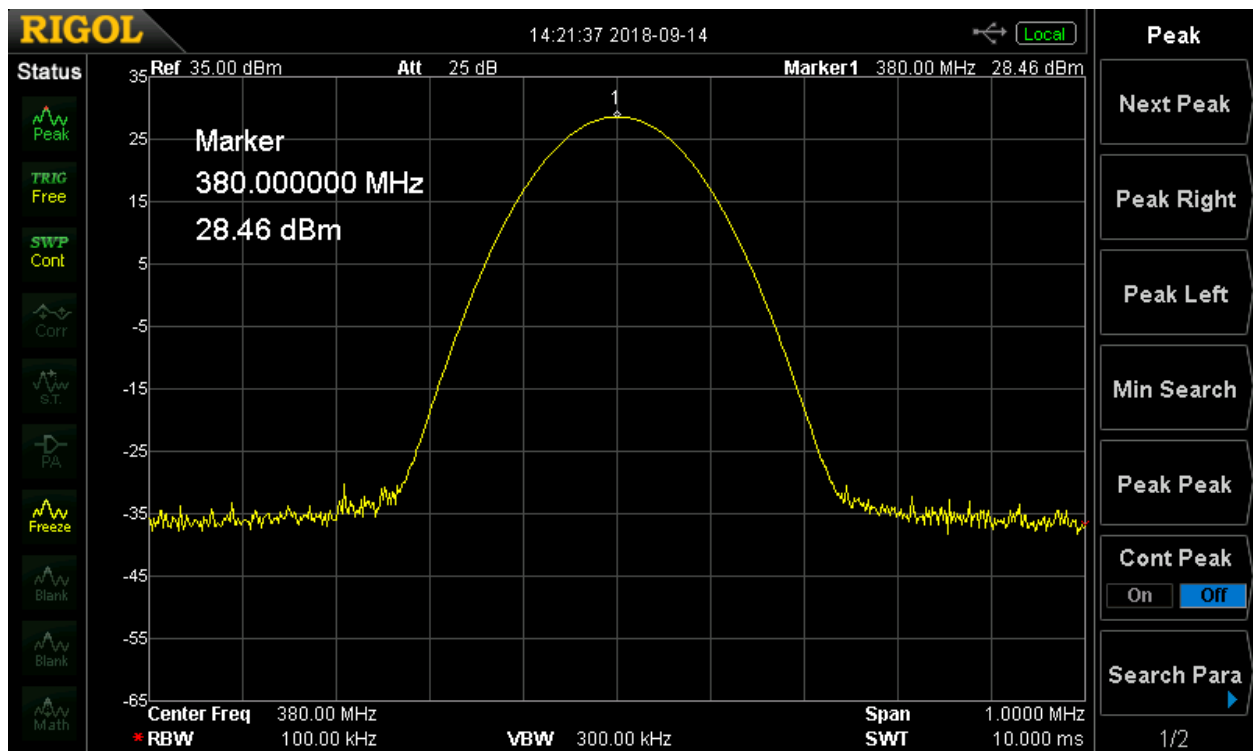


Figure 287. 380 MHz Output Power Plot

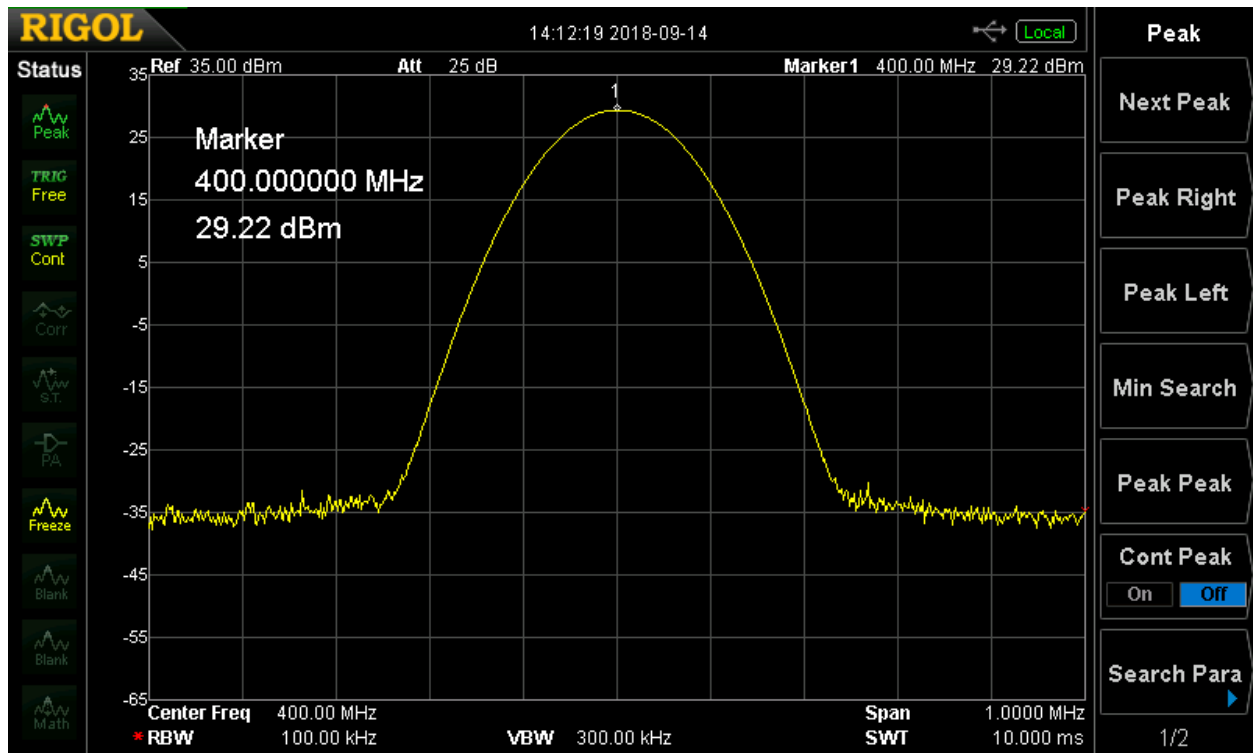


Figure 288. 400 MHz Output Power Plot

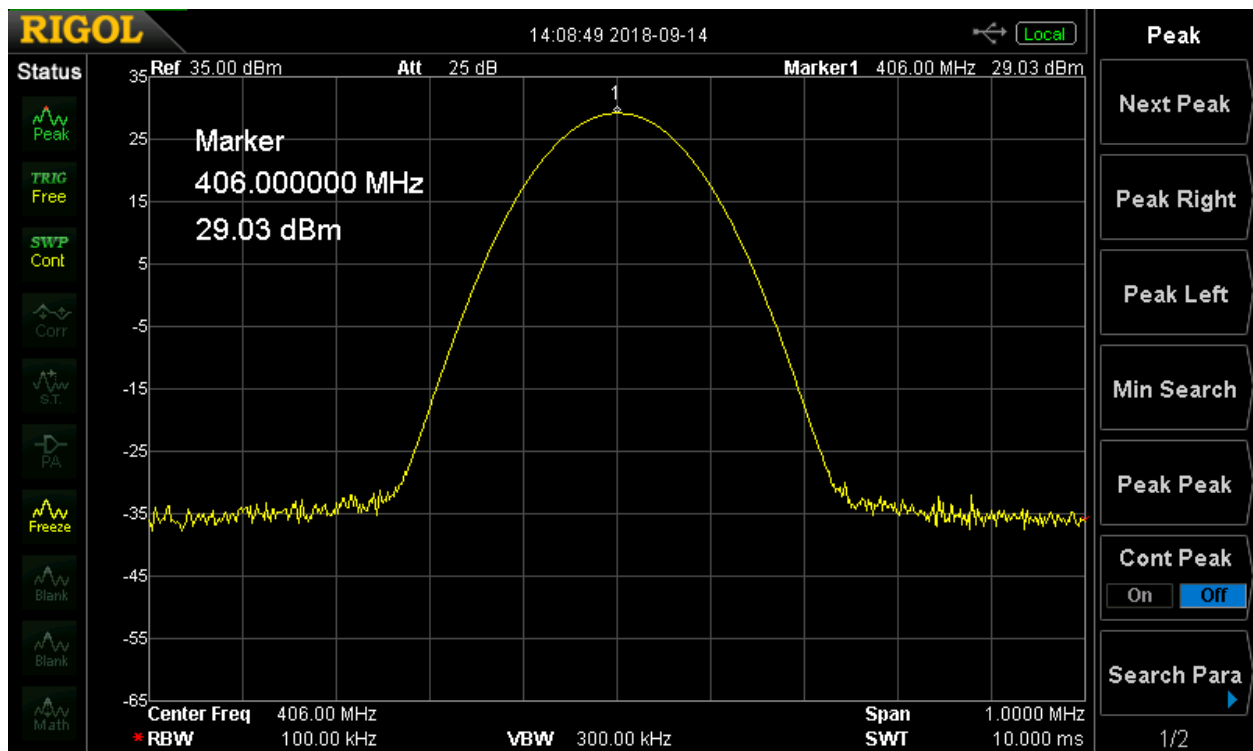


Figure 289. 406 MHz Output Power Plot



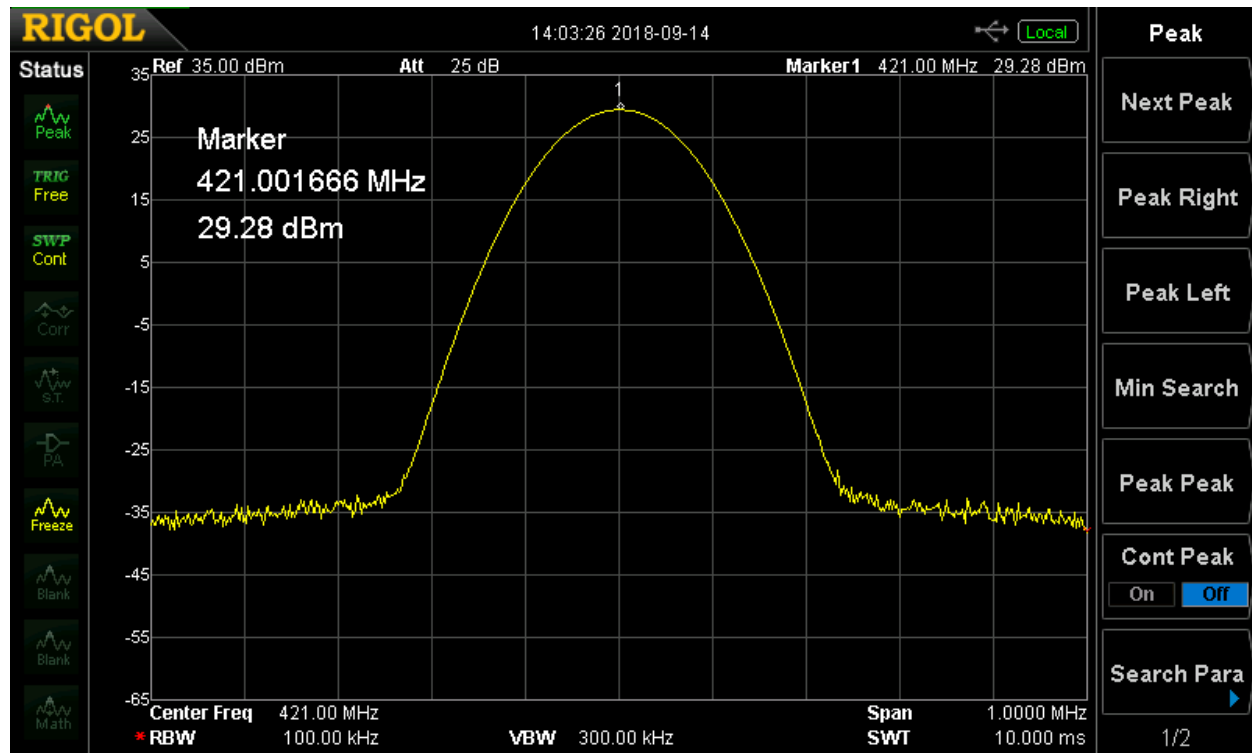


Figure 290. 421 MHz Output Power Plot

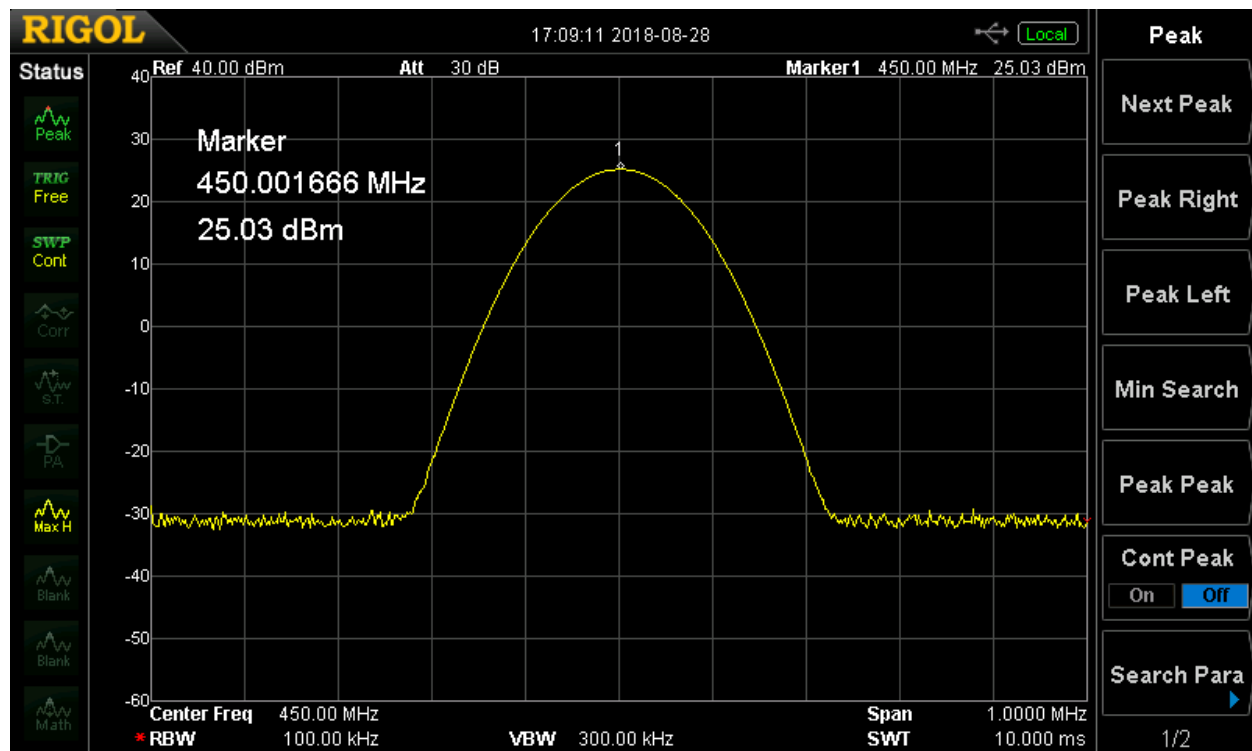


Figure 291. 450 MHz Output Power Plot

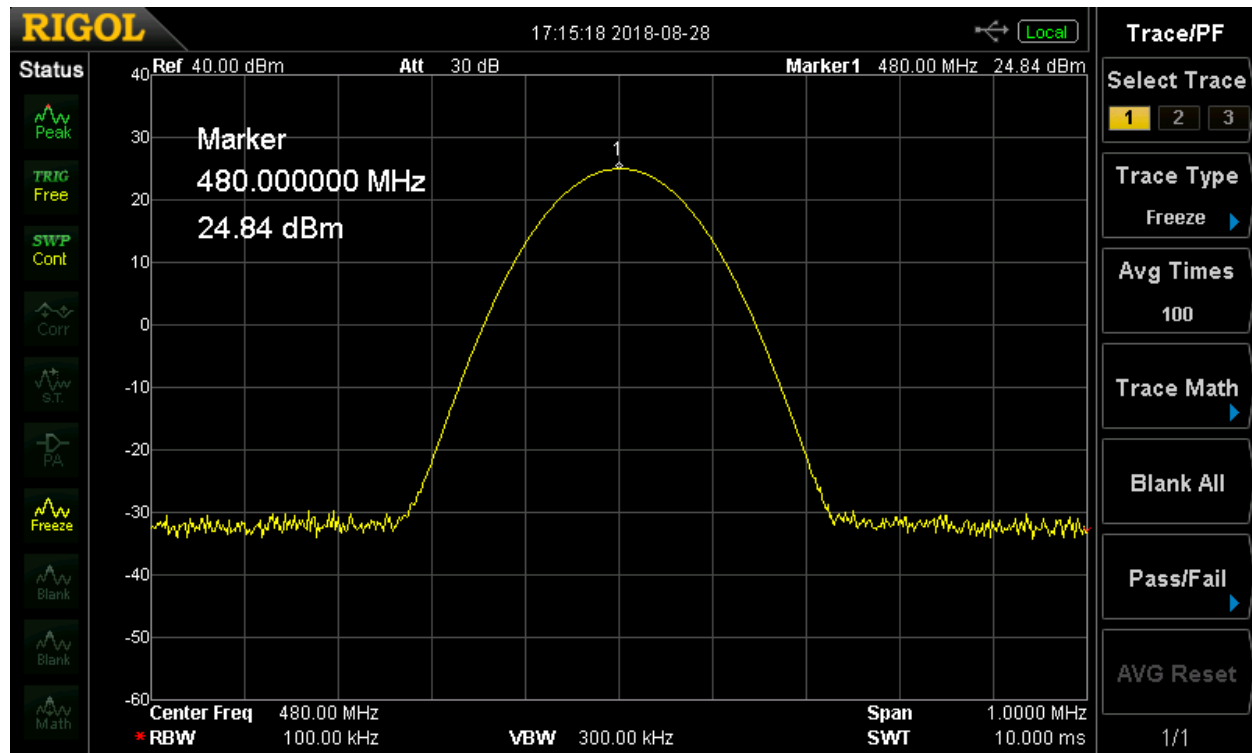


Figure 292. 480 MHz Output Power Plot

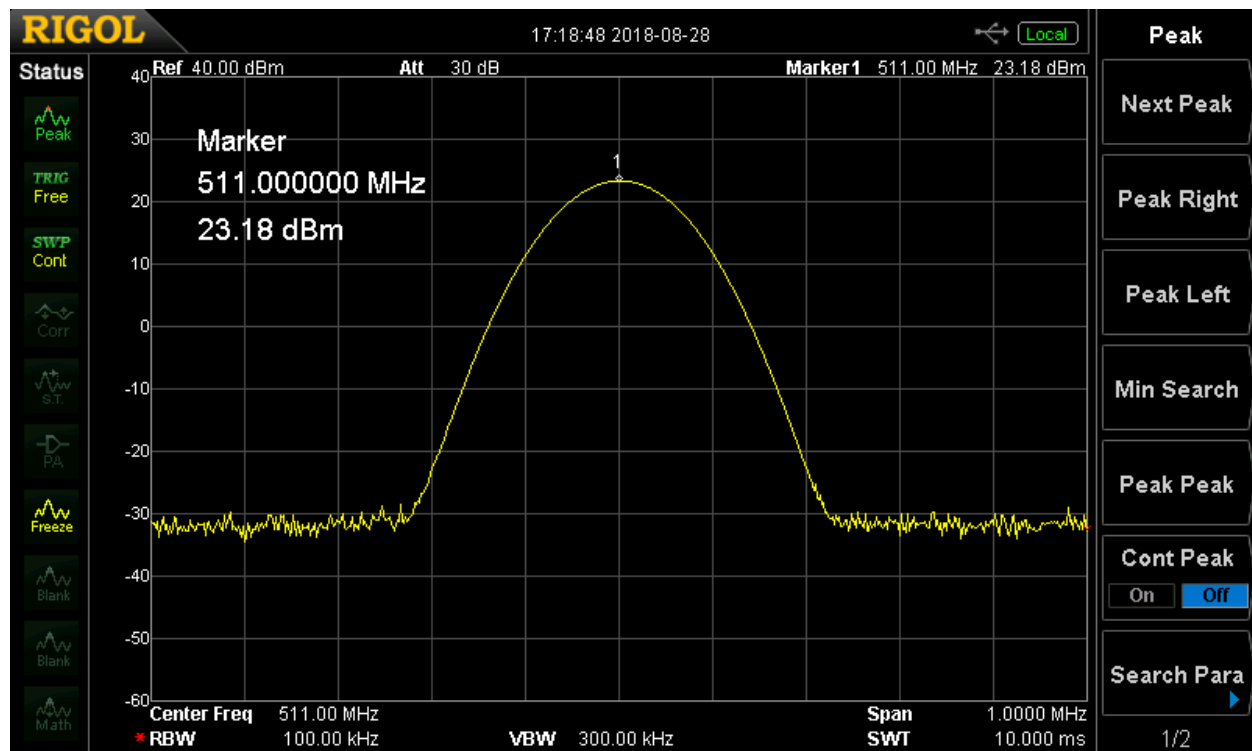


Figure 293. 511 MHz Output Power Plot

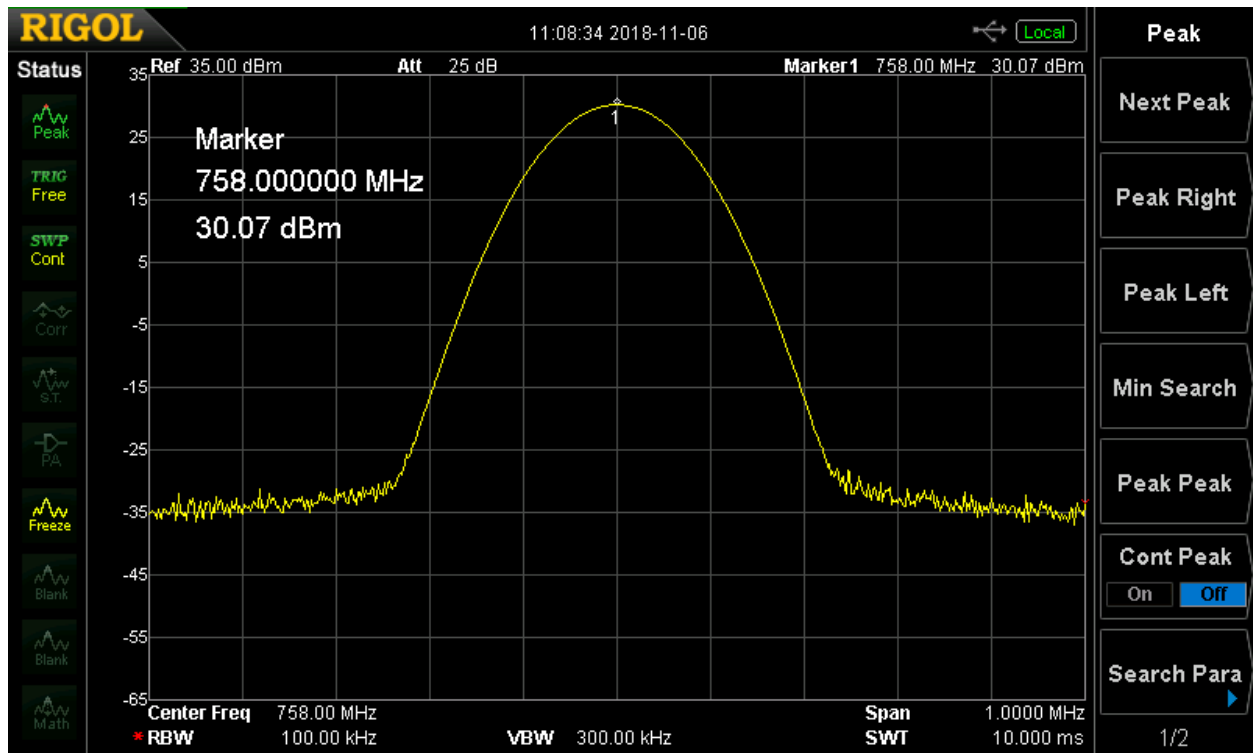


Figure 294. 758 MHz Output Power Plot

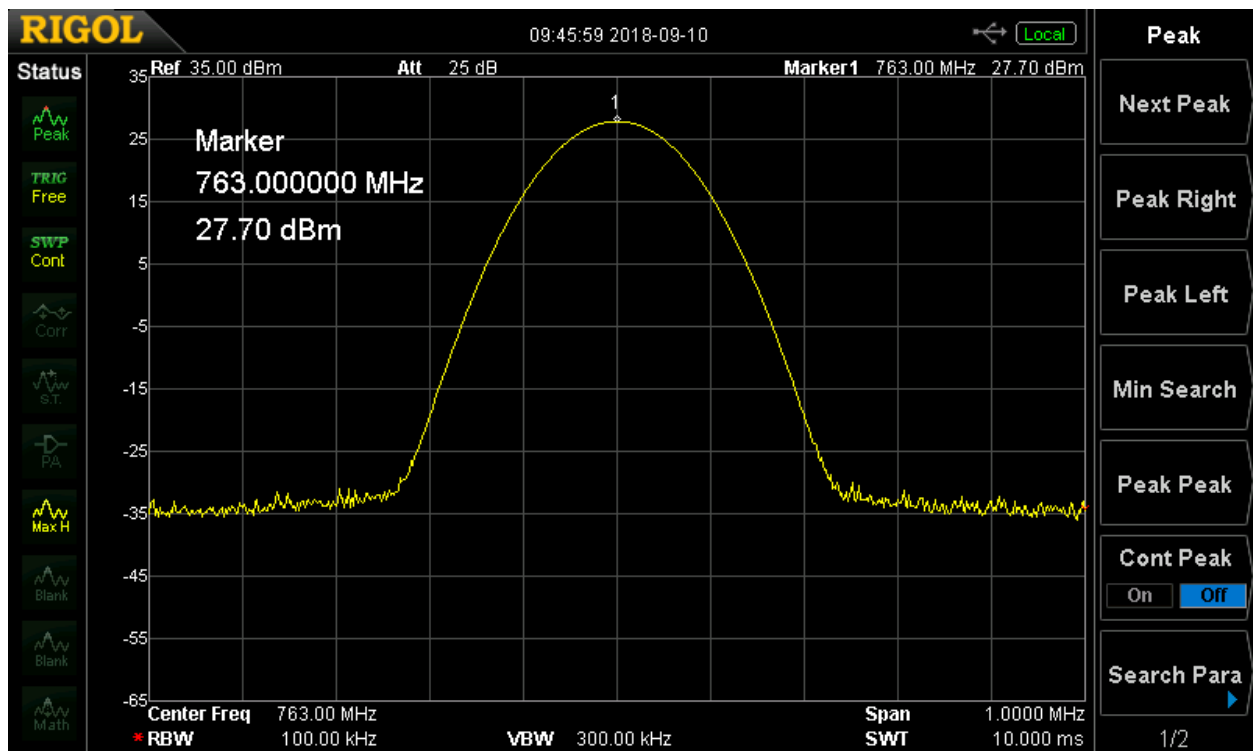


Figure 295. 763 MHz Output Power Plot

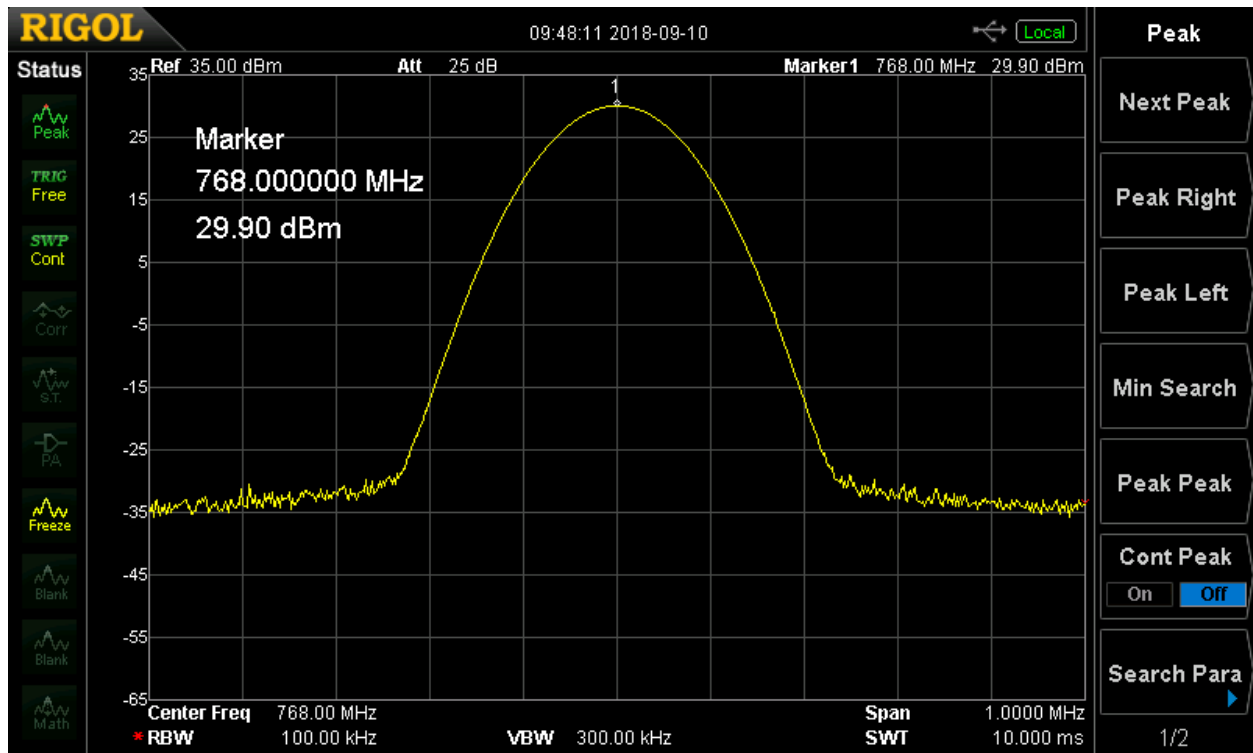


Figure 296. 768 MHz Output Power Plot

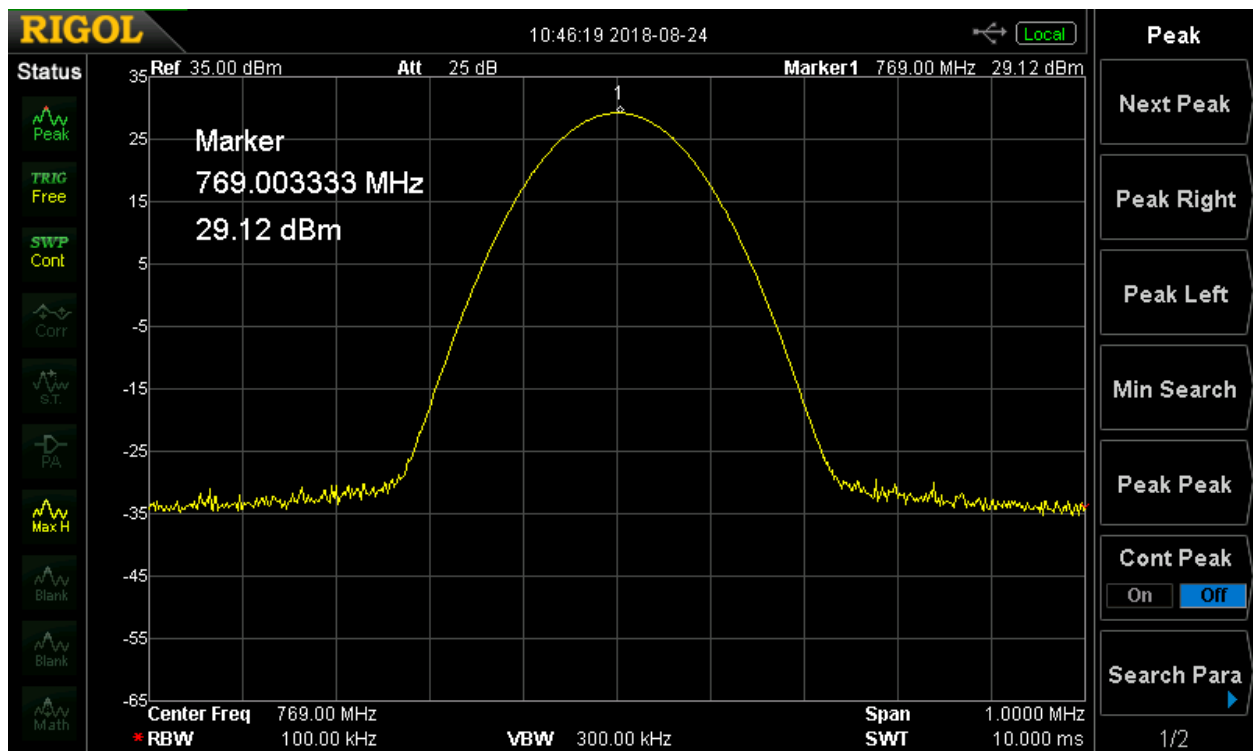


Figure 297. 769 MHz Output Power Plot

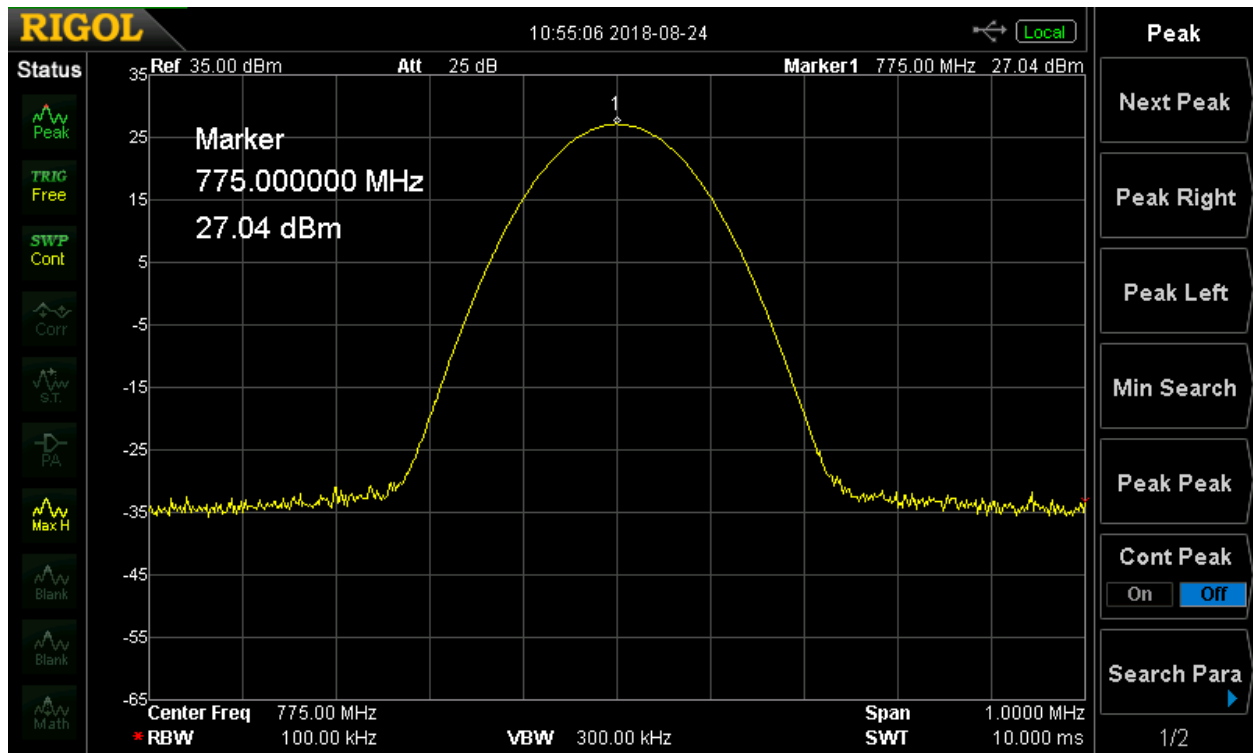


Figure 298. 775 MHz Output Power Plot

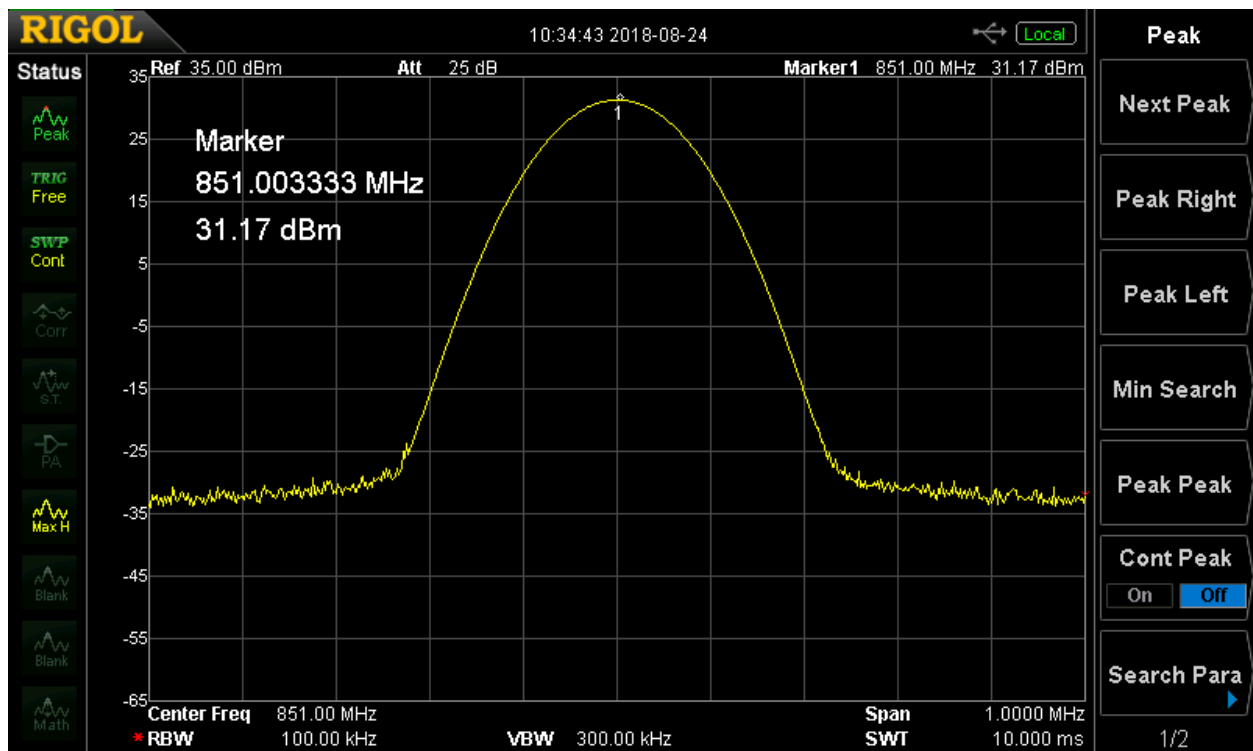


Figure 299. 851 MHz Output Power Plot

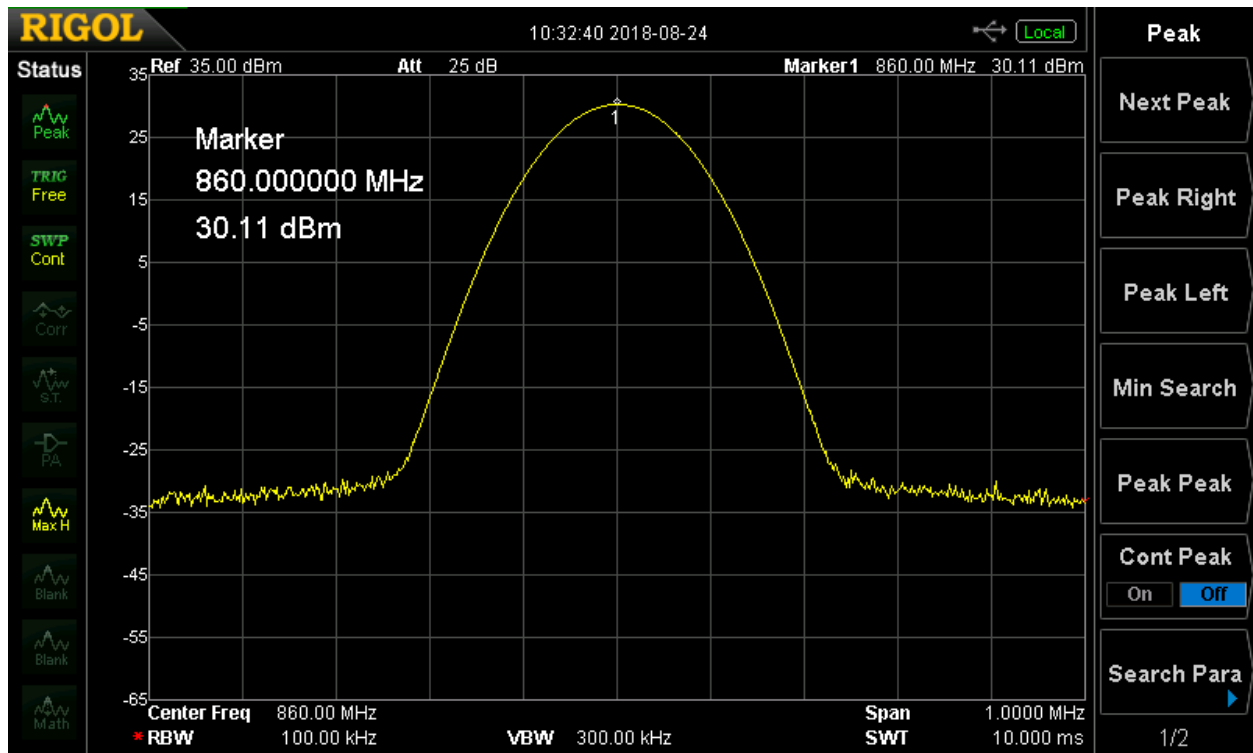


Figure 300. 860 MHz Output Power Plot

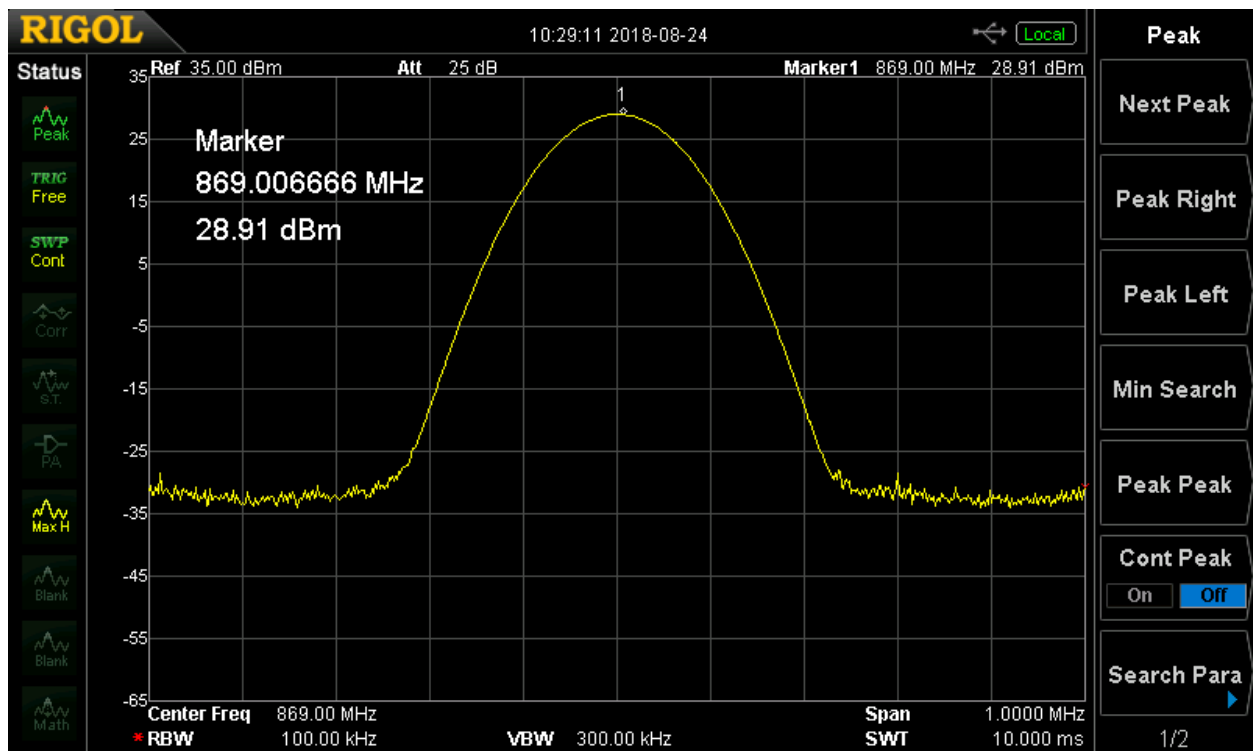


Figure 301. 869 MHz Output Power Plot

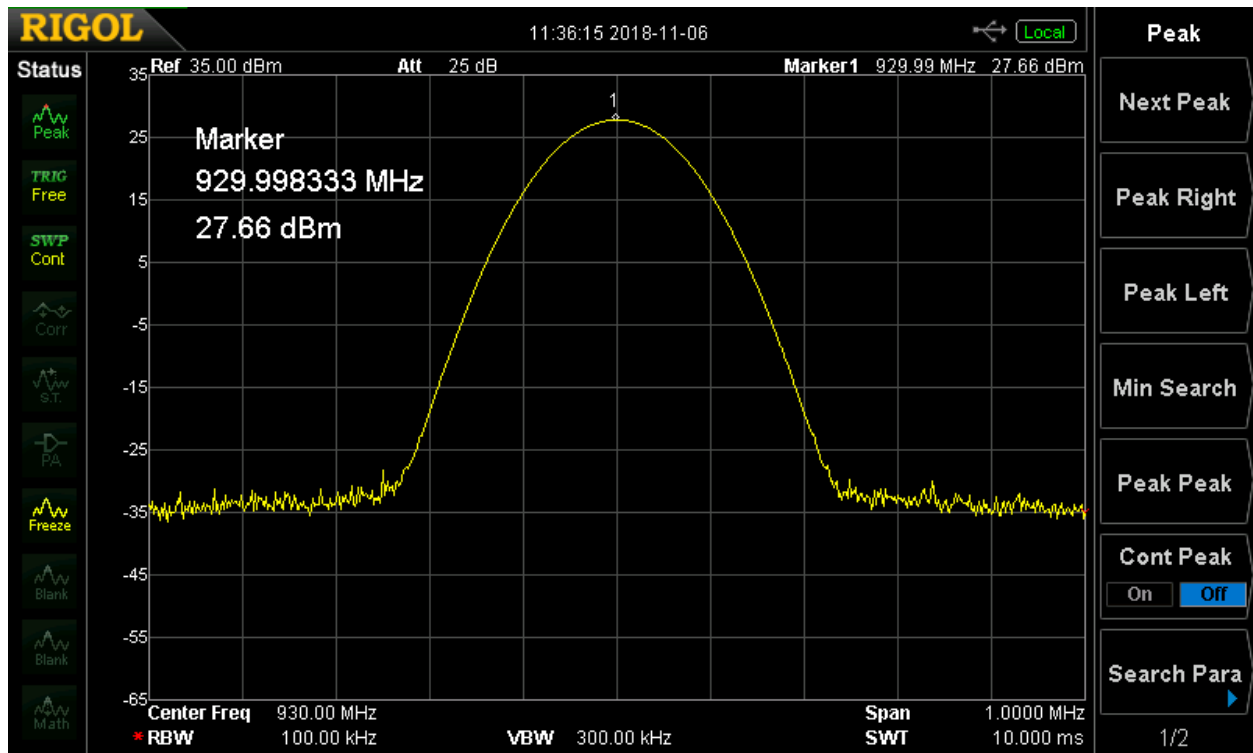


Figure 302. 930 MHz Output Power Plot

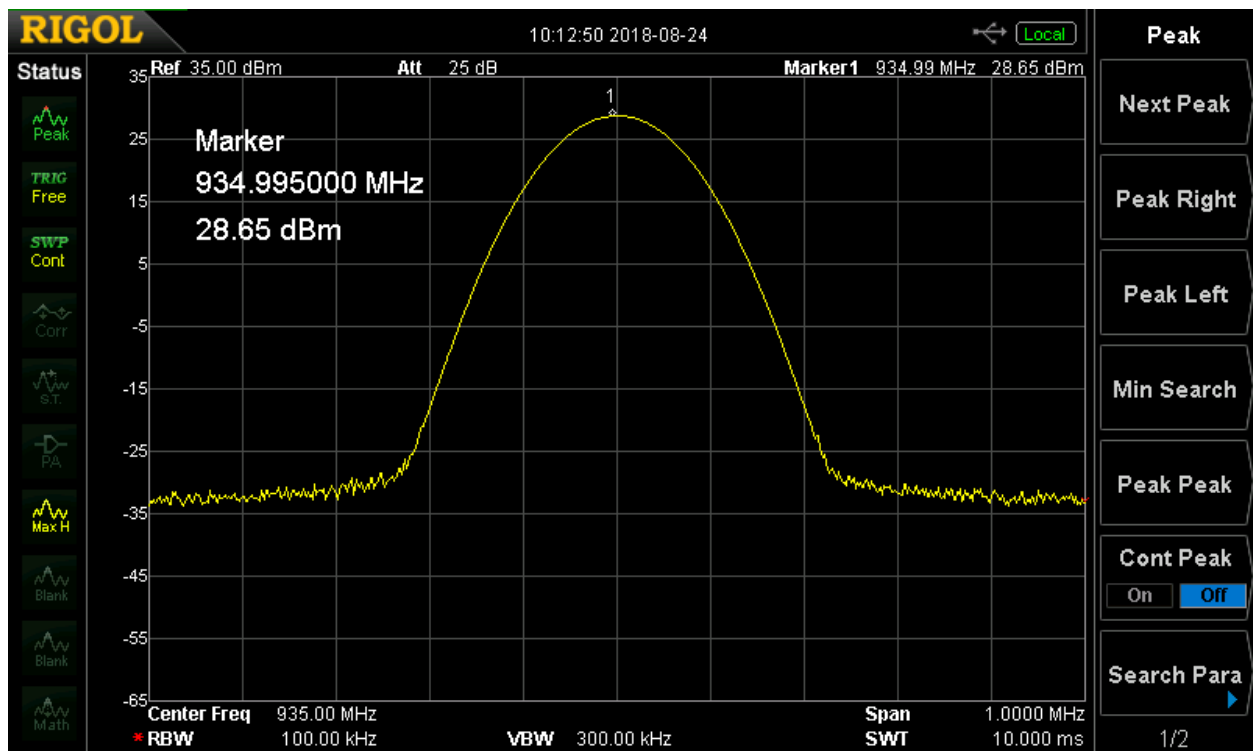


Figure 303. 935 MHz Output Power Plot

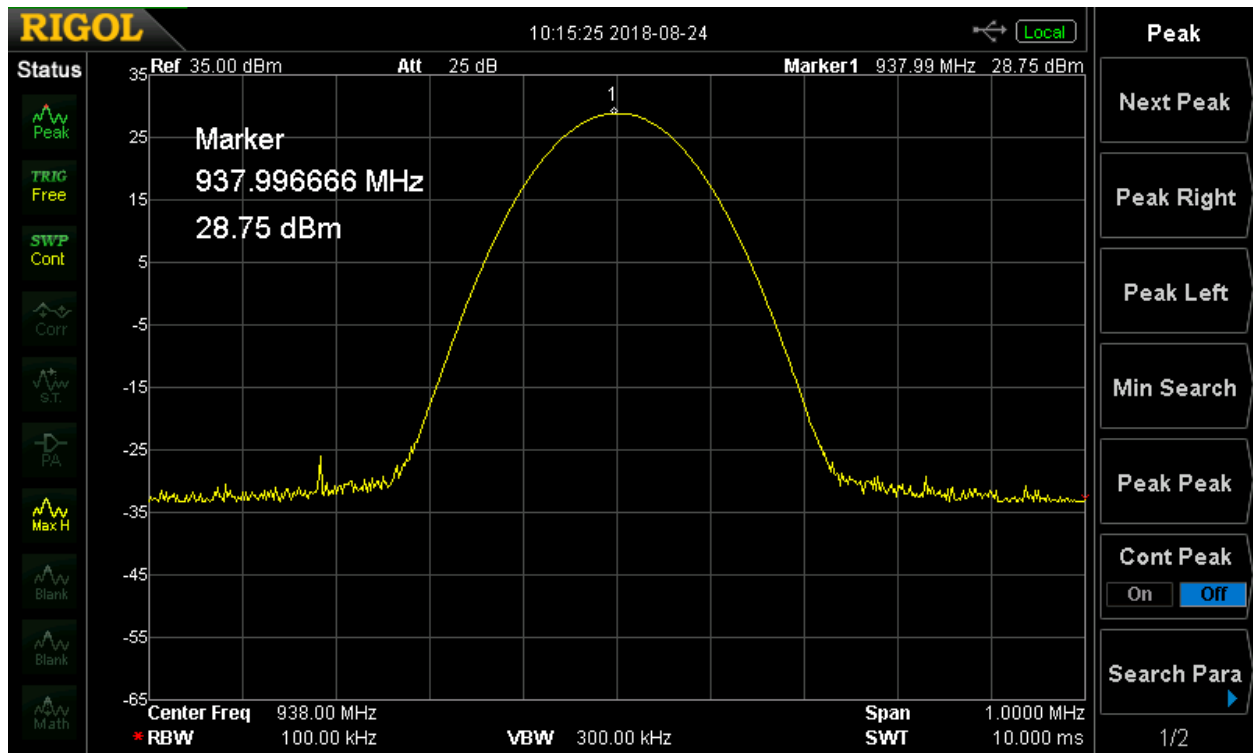


Figure 304. 938 MHz Output Power Plot

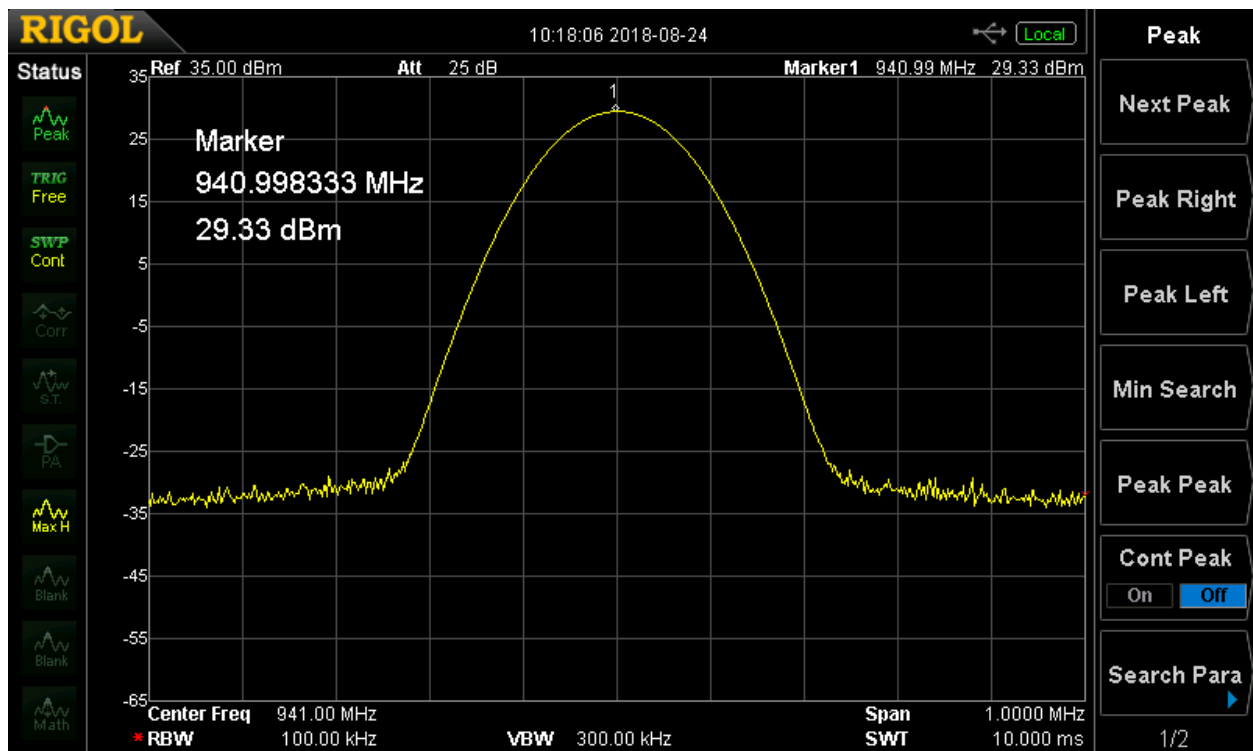


Figure 305. 941 MHz Output Power Plot

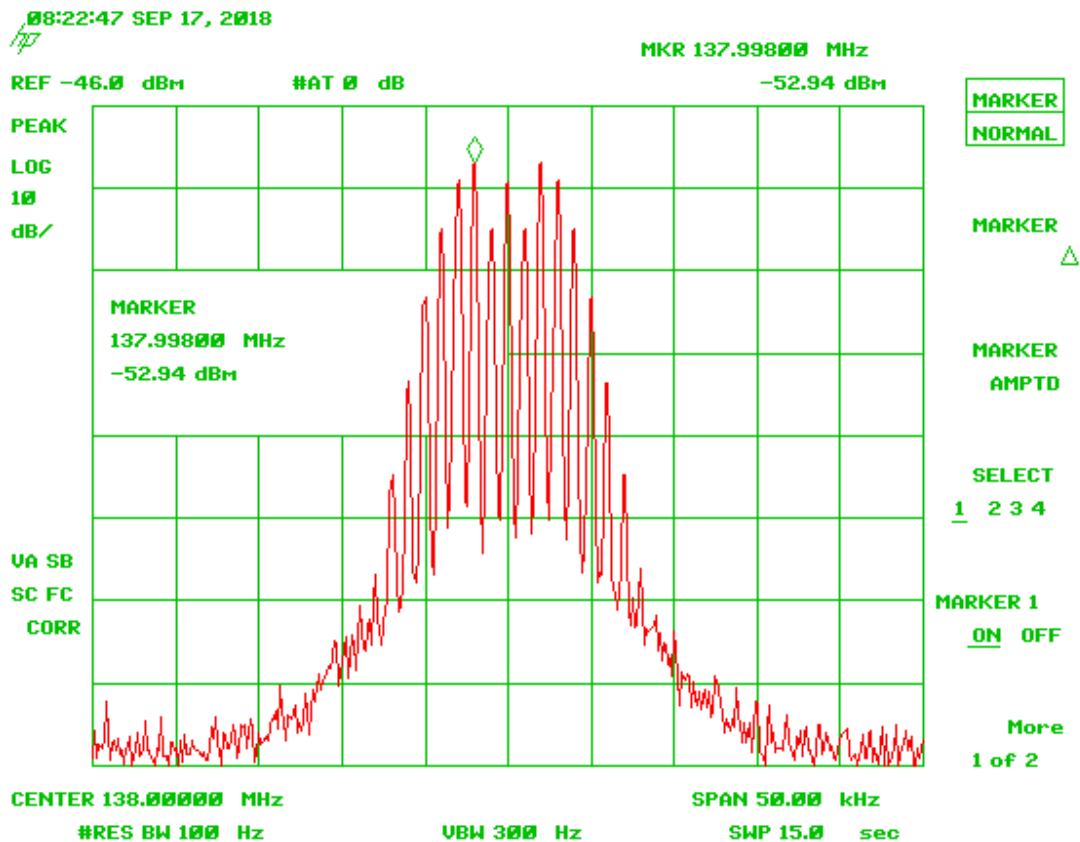


## 2.18 Emission Mask and Retransmitted Signal Measurements - Downlink

The EUT was connected to a spectrum analyzer through a 20 dB attenuator. All cable and attenuator losses were input into the spectrum analyzer as a combination of reference level offset and/or external correction factor offset to ensure accurate readings were obtained. Measurements were collect to verify that the EUT meets the required emissions mask parameters as cited in section 2.10 of this test report. A reference level plot is provided to show that the retransmitted signal meets the parameters as cited in section 2.10 of this test report.

The Emissions Mask were measured with the RF input set to at least 0.2 dB below the AGC level and then at +3.0 dB above the AGC level per KDB 935210 D03 V04.

### 2.18.1 VHF Channels

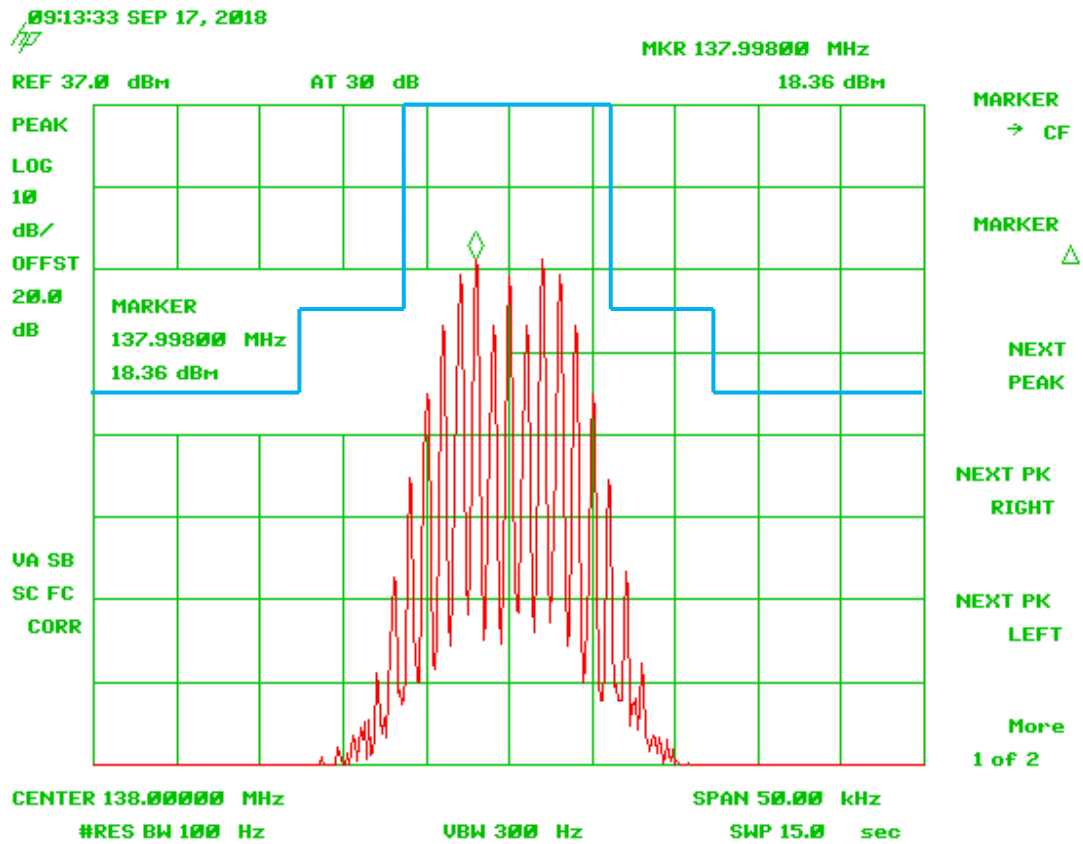


**Figure 306. Input 138 MHz @ 12.5 kHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

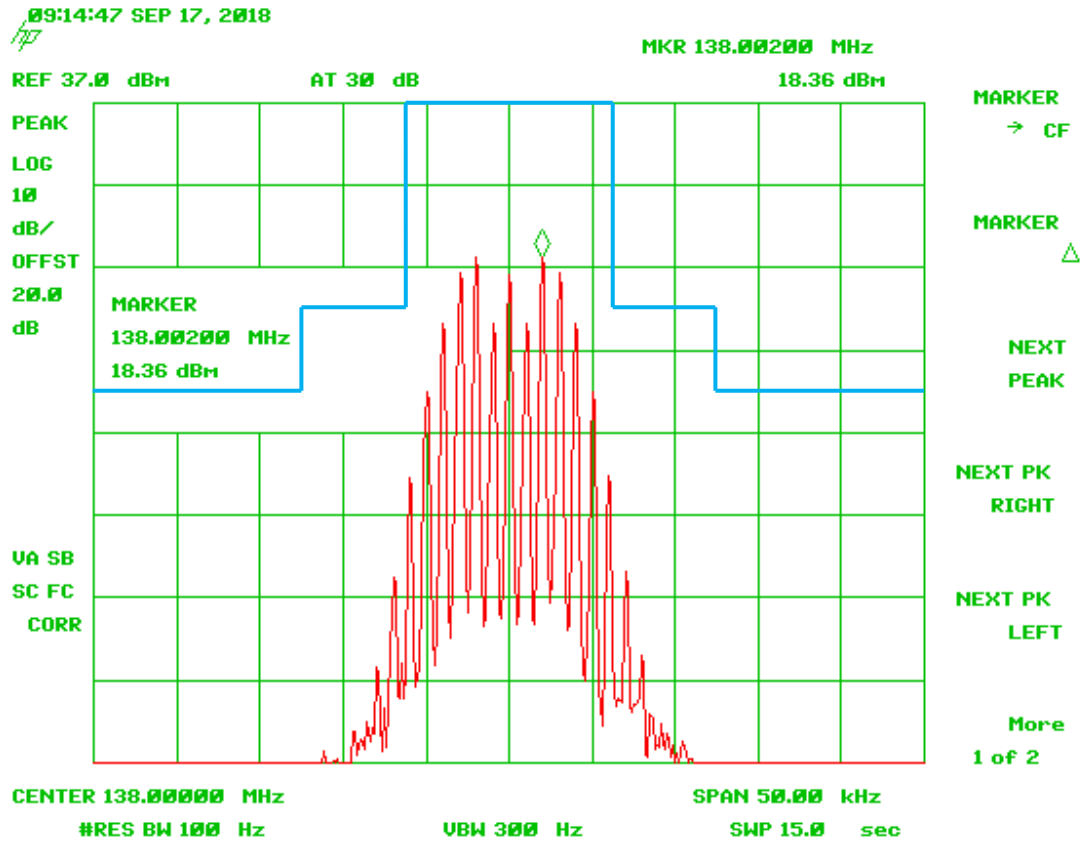
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FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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**Figure 307. 138 MHz @ 12.5 kHz, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

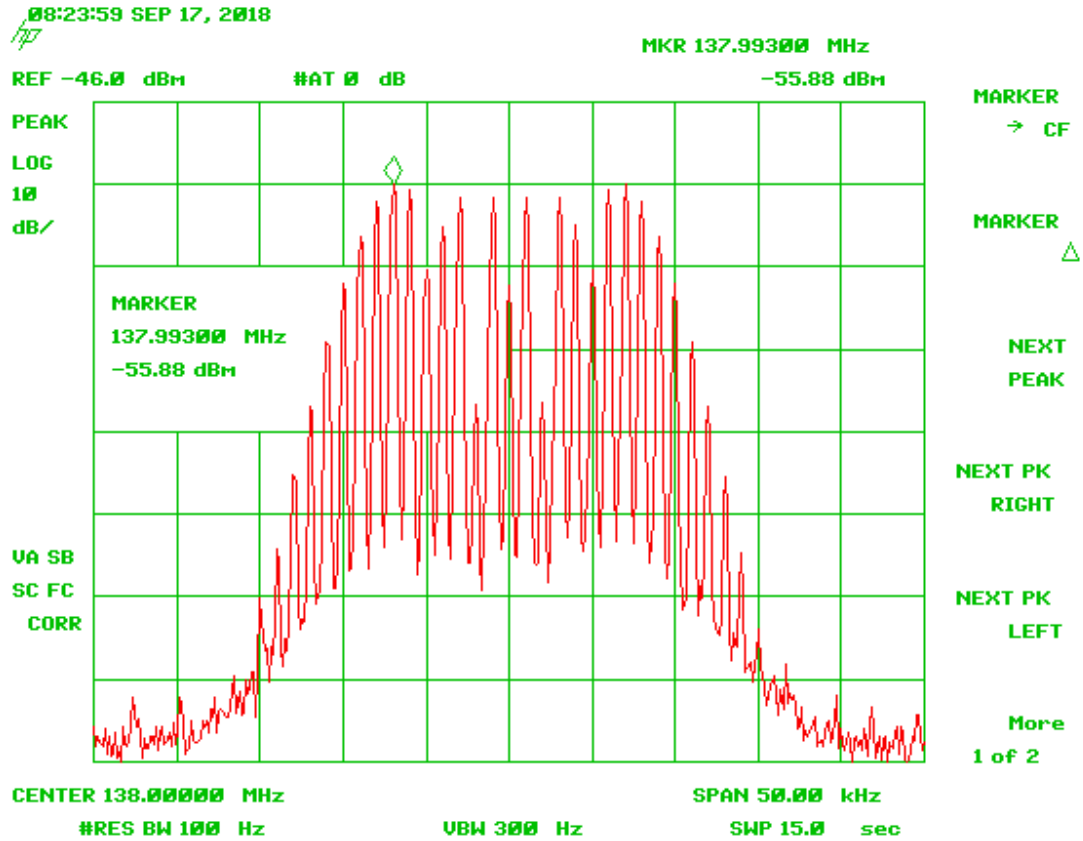


**Figure 308. 138 MHz @ 12.5 kHz + 3.0 dB, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

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FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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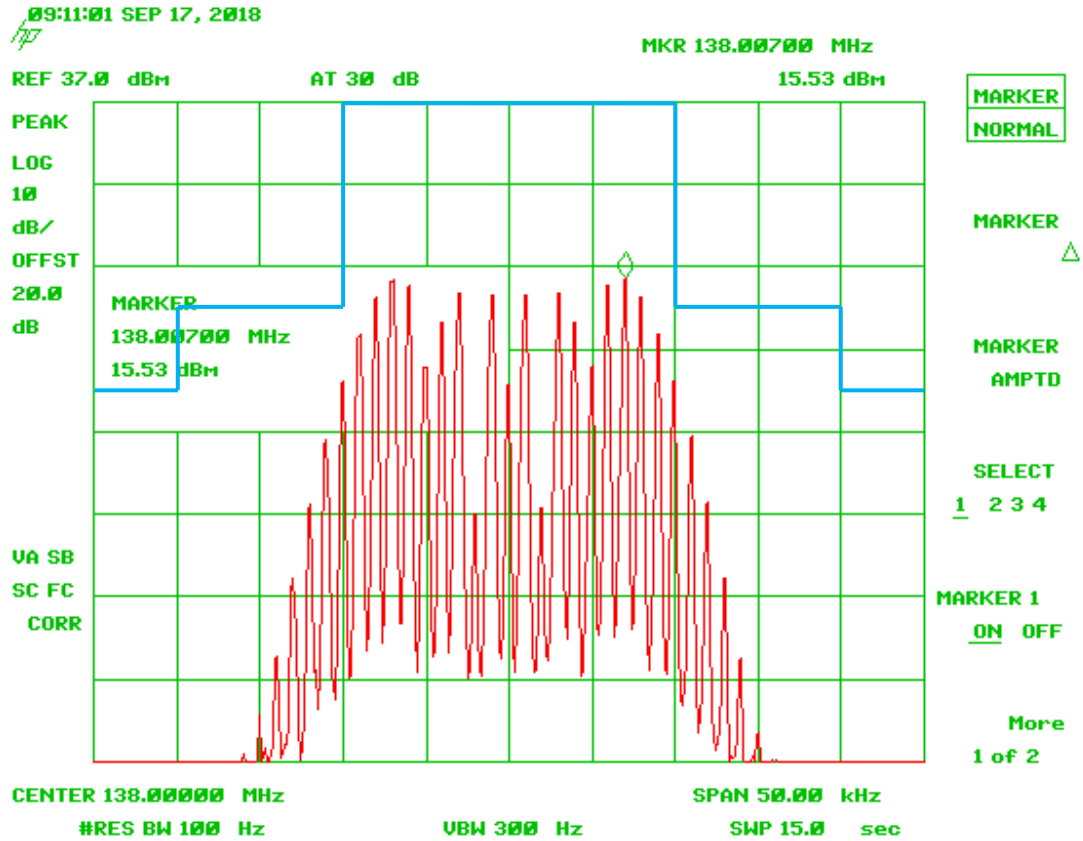


**Figure 309. Input 138 MHz @ 25 kHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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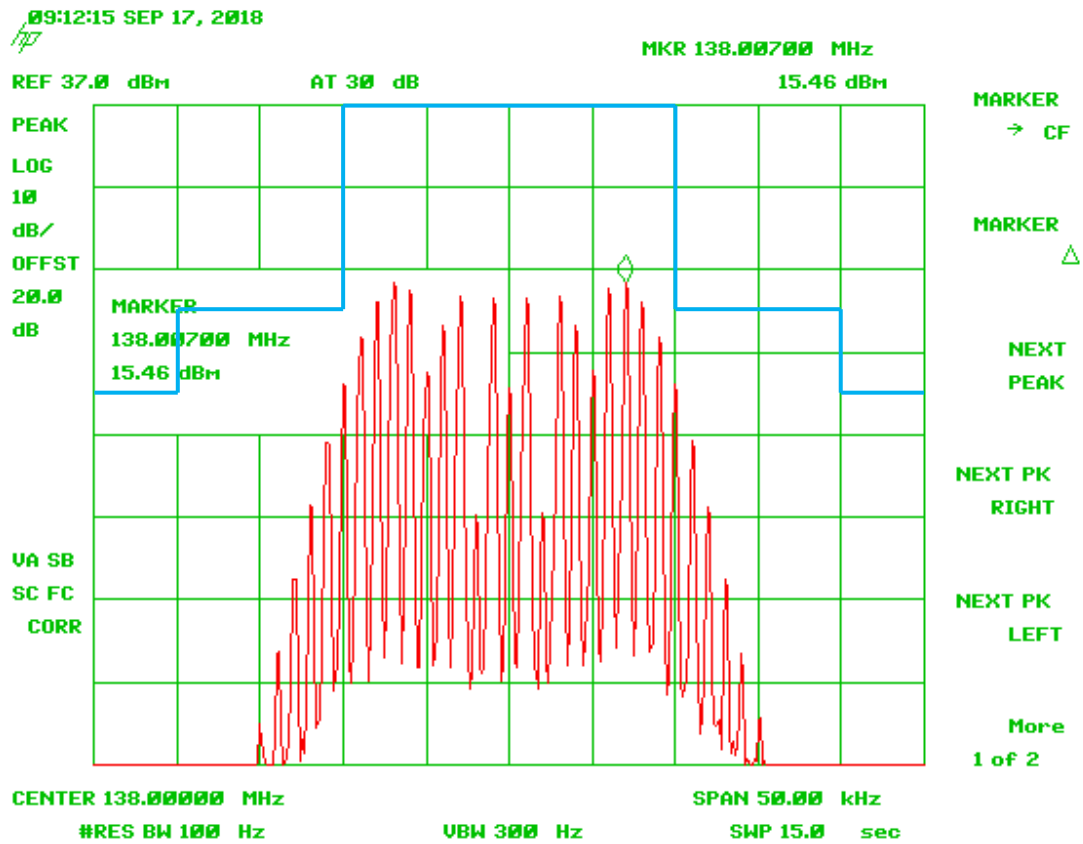


**Figure 310. 138 MHz @ 25 kHz, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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Safe-Com Wireless  
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**Figure 311. 138 MHz @ 25 kHz + 3.0 dB, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

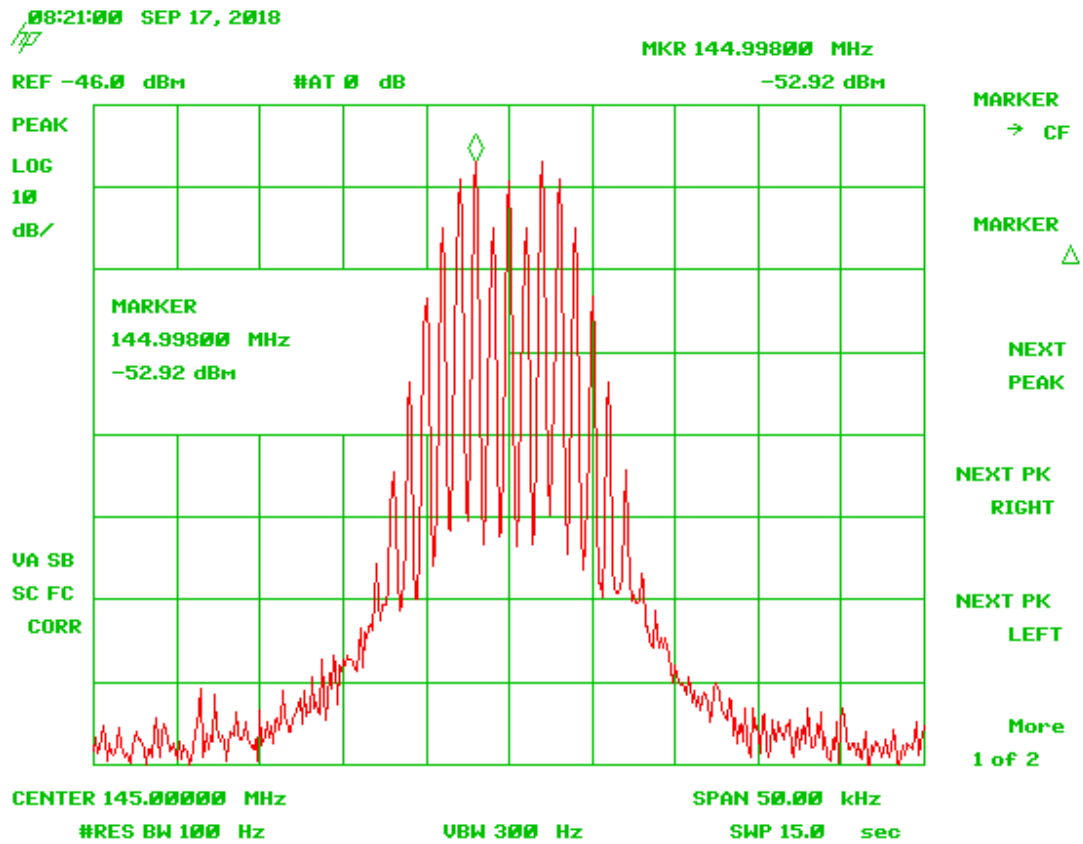


Figure 312. Input 145 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

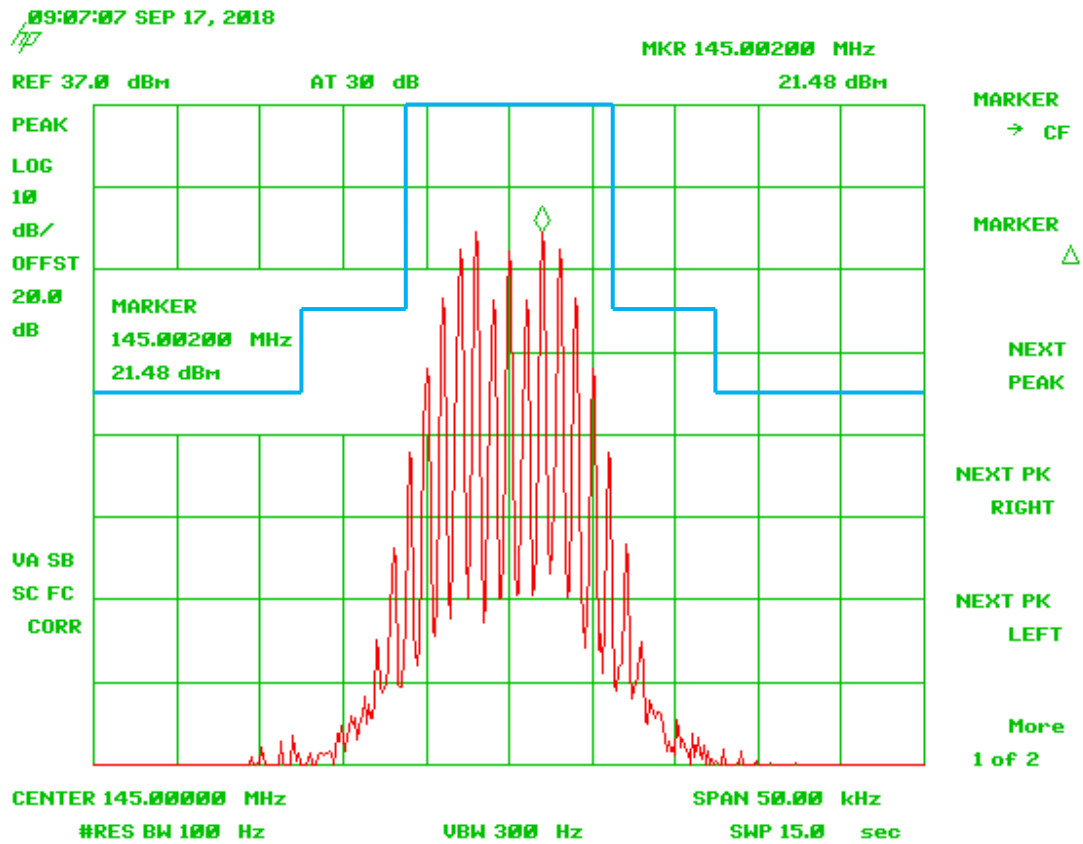


Figure 313. 145 MHz @ 12.5 kHz, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

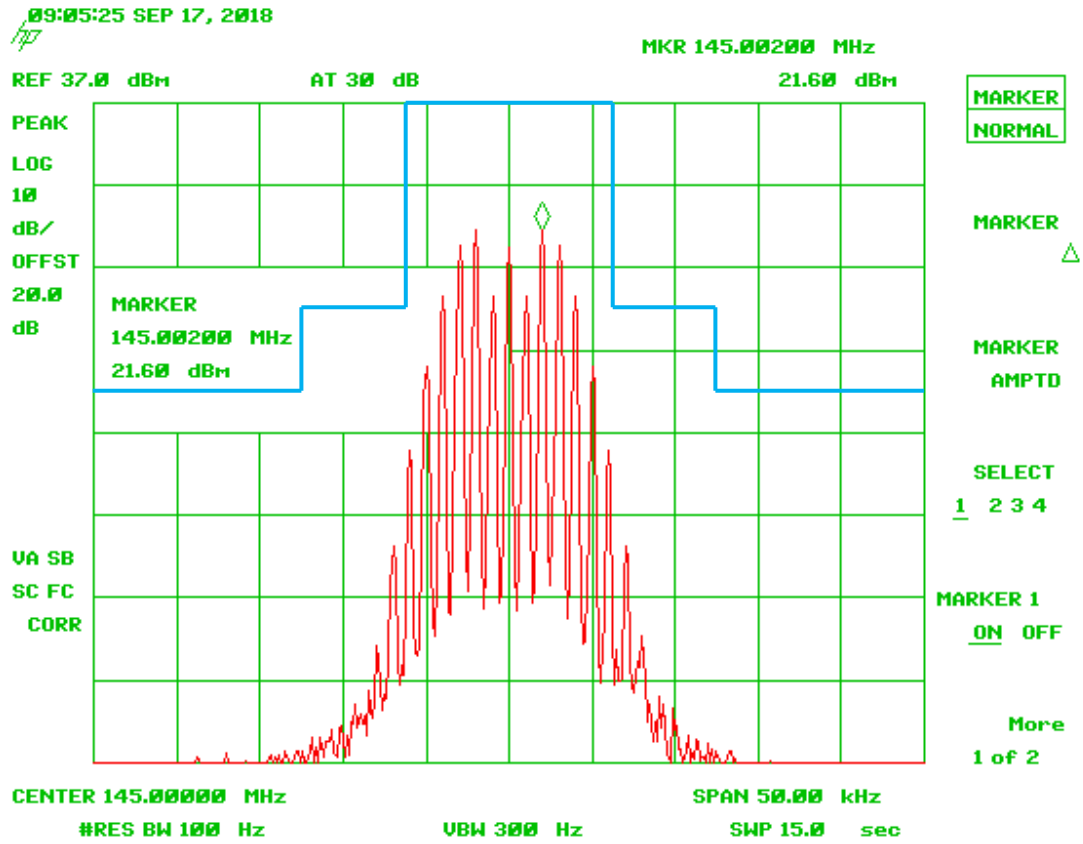


Figure 314. 145 MHz @ 12.5 kHz + 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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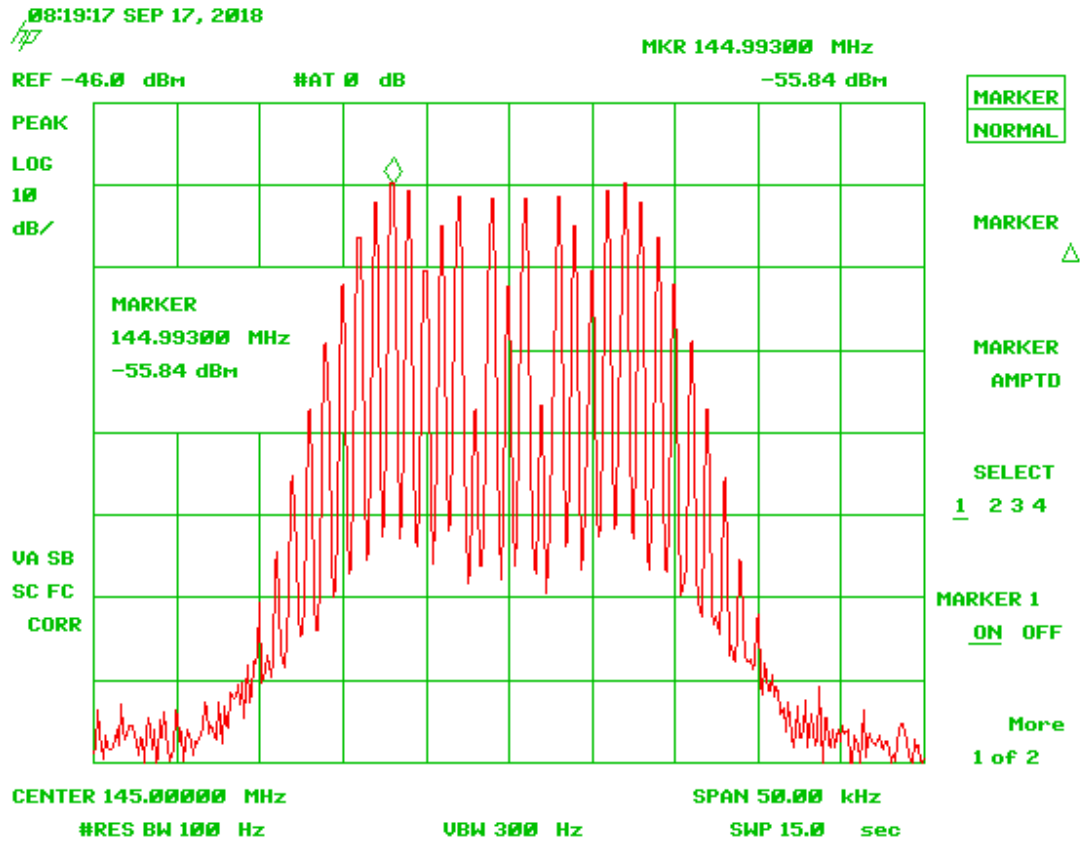


Figure 315. Input 145 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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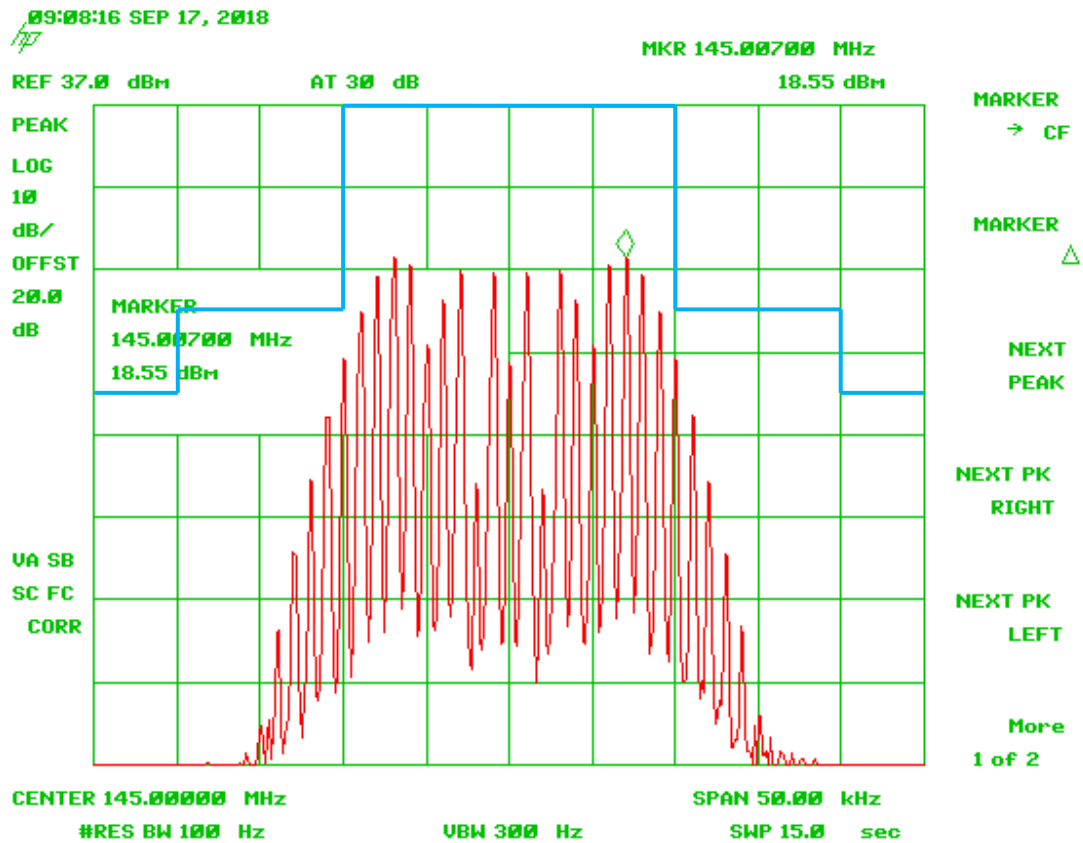


Figure 316. 145 MHz @ 25 kHz, Mask B

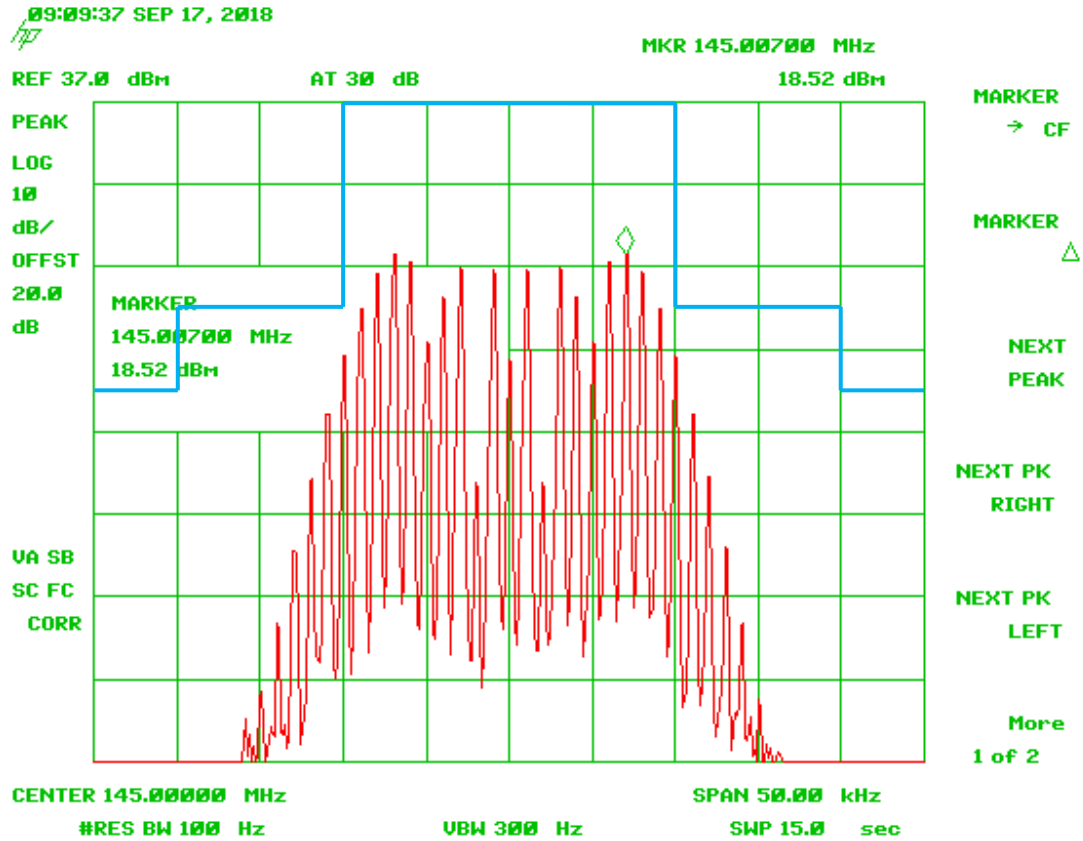


Figure 317. 145 MHz @ 25 kHz + 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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Safe-Com Wireless  
SAFE-1000

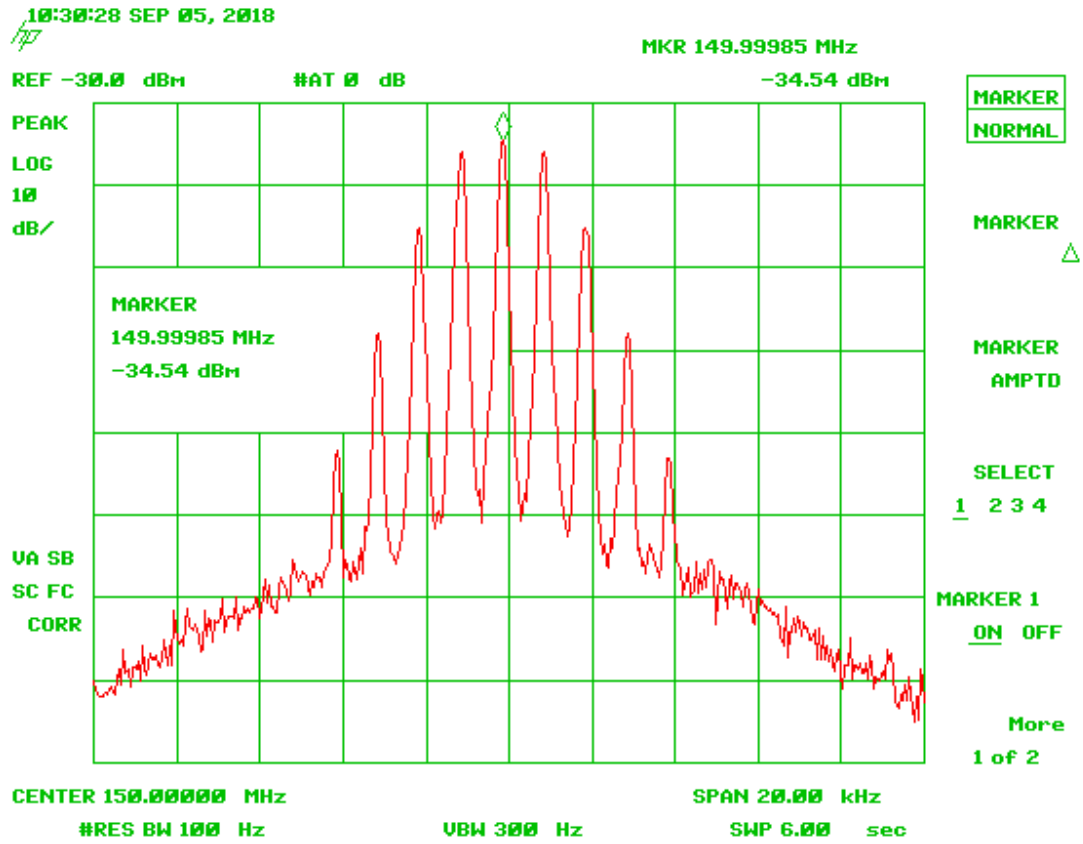


Figure 318. Input 150 MHz @ 6.25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

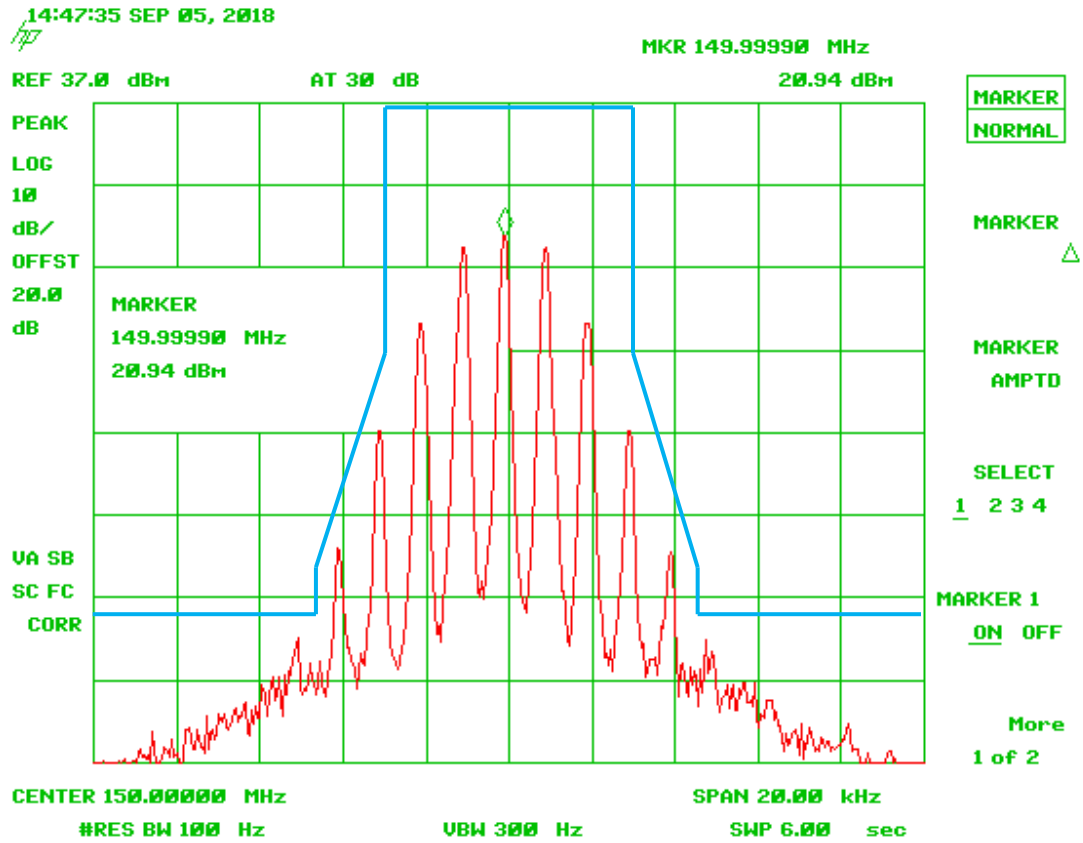


Figure 319. 150 MHz @ 6.25 kHz, Mask E

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

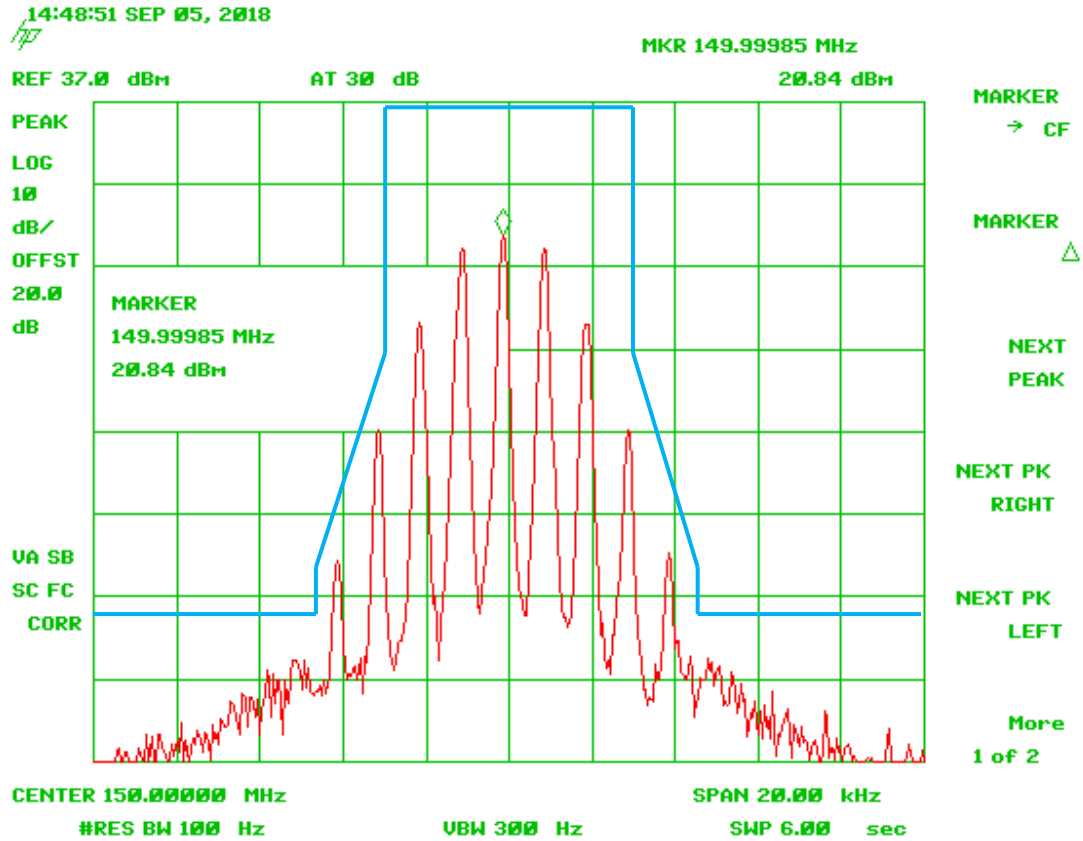


Figure 320. 150 MHz@ 6.25 kHz + 3.0 dB, Mask E

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

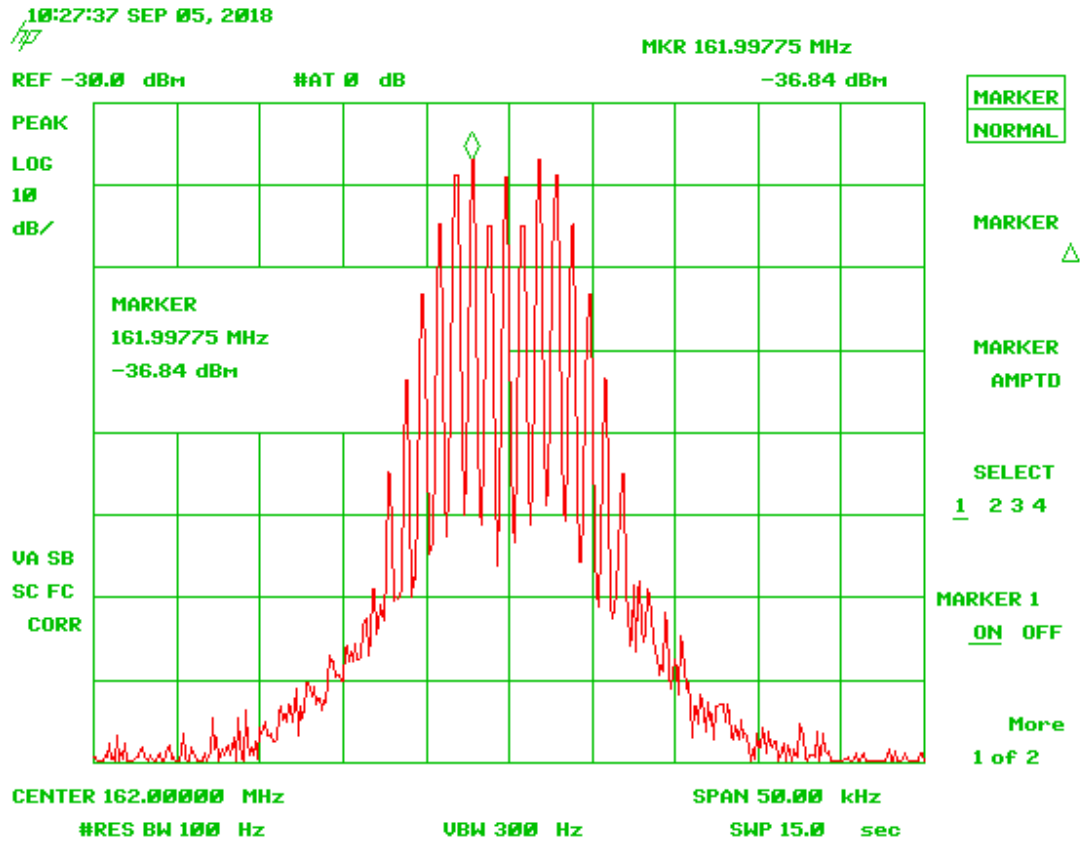


Figure 321. Input 150 MHz @ 12.5 kHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

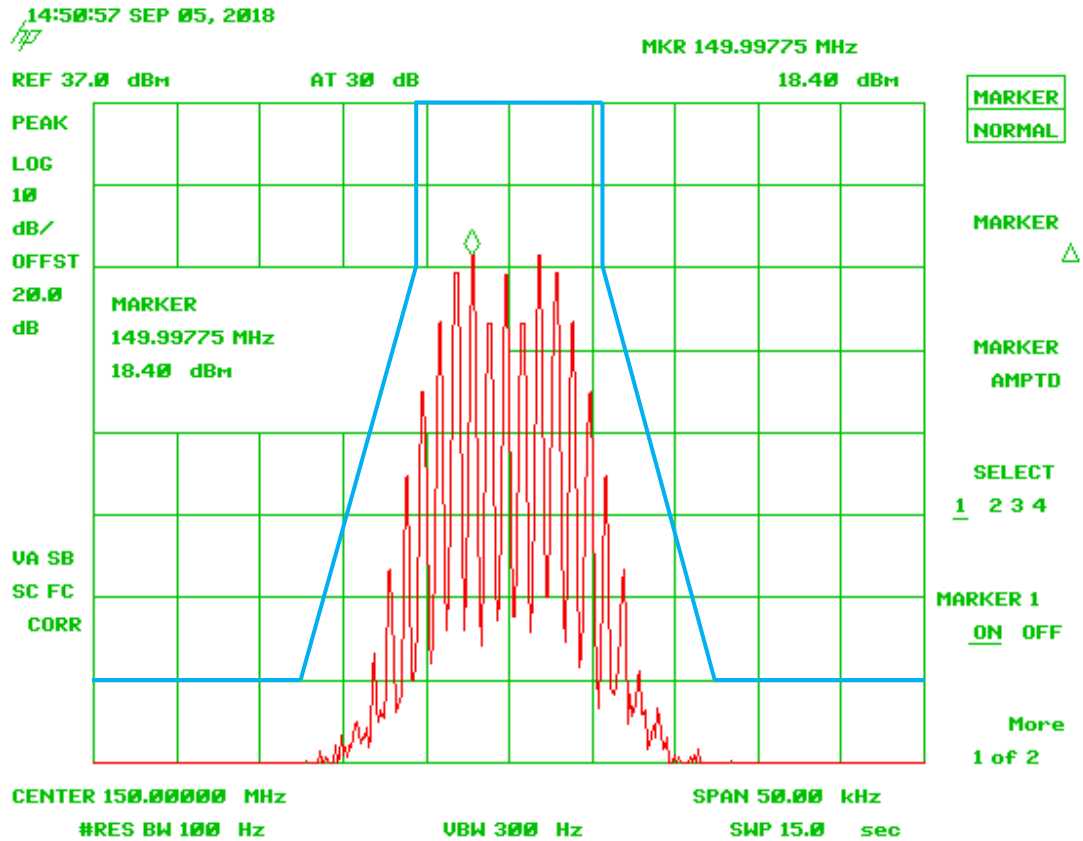


Figure 322. 150 MHz @ 12.5 kHz, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

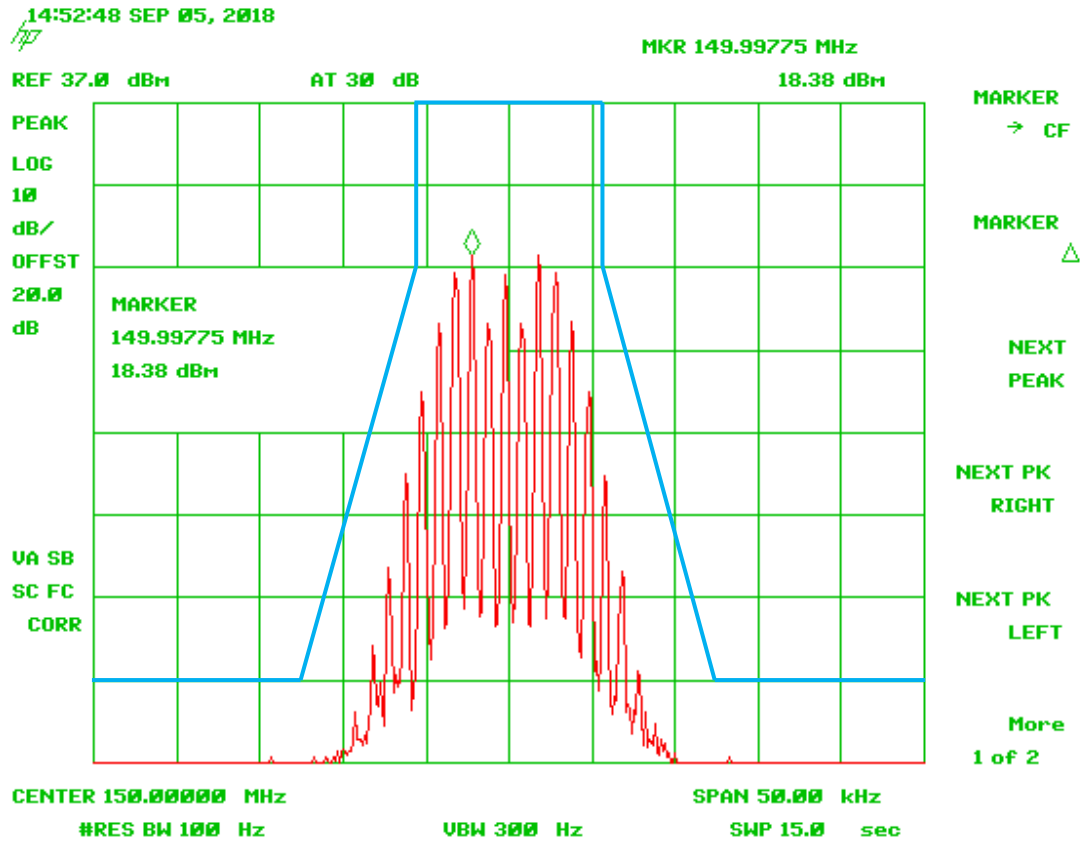


Figure 323. 150 MHz @ 12.5 kHz +3.0 dB, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

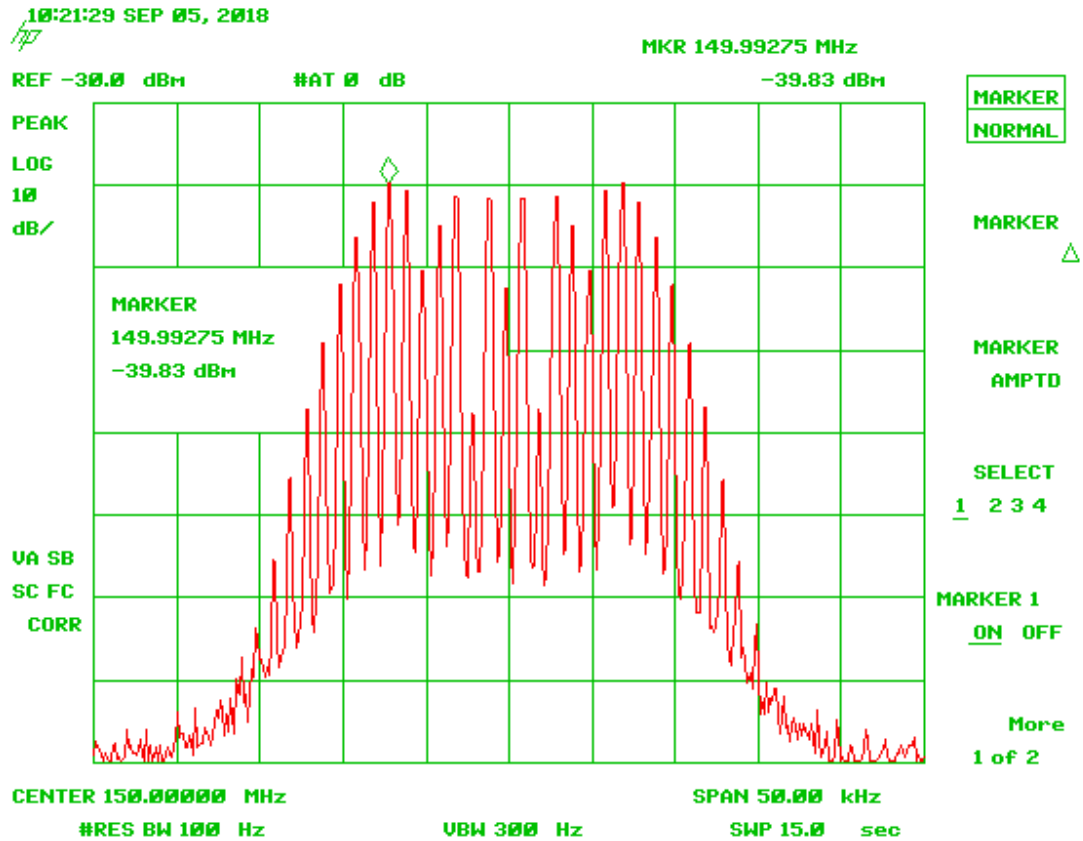


Figure 324. Input 150 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

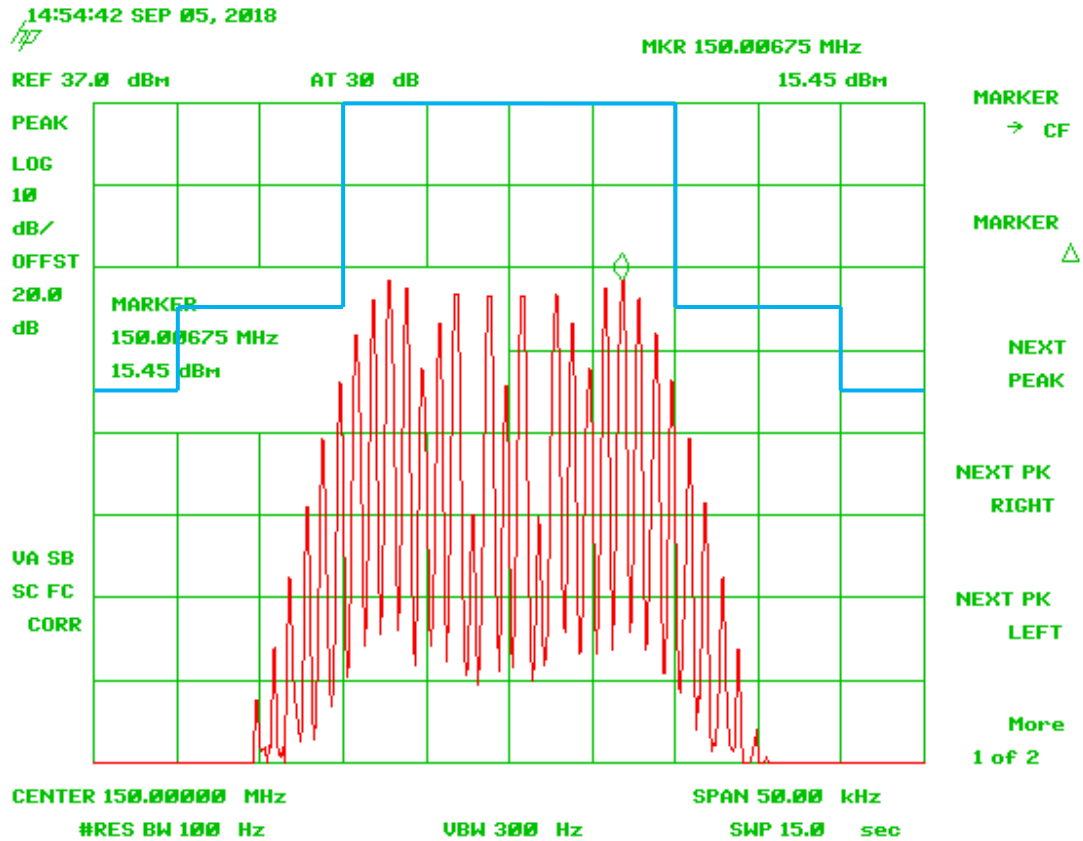


Figure 325. 150 MHz @ 25 kHz, Mask B

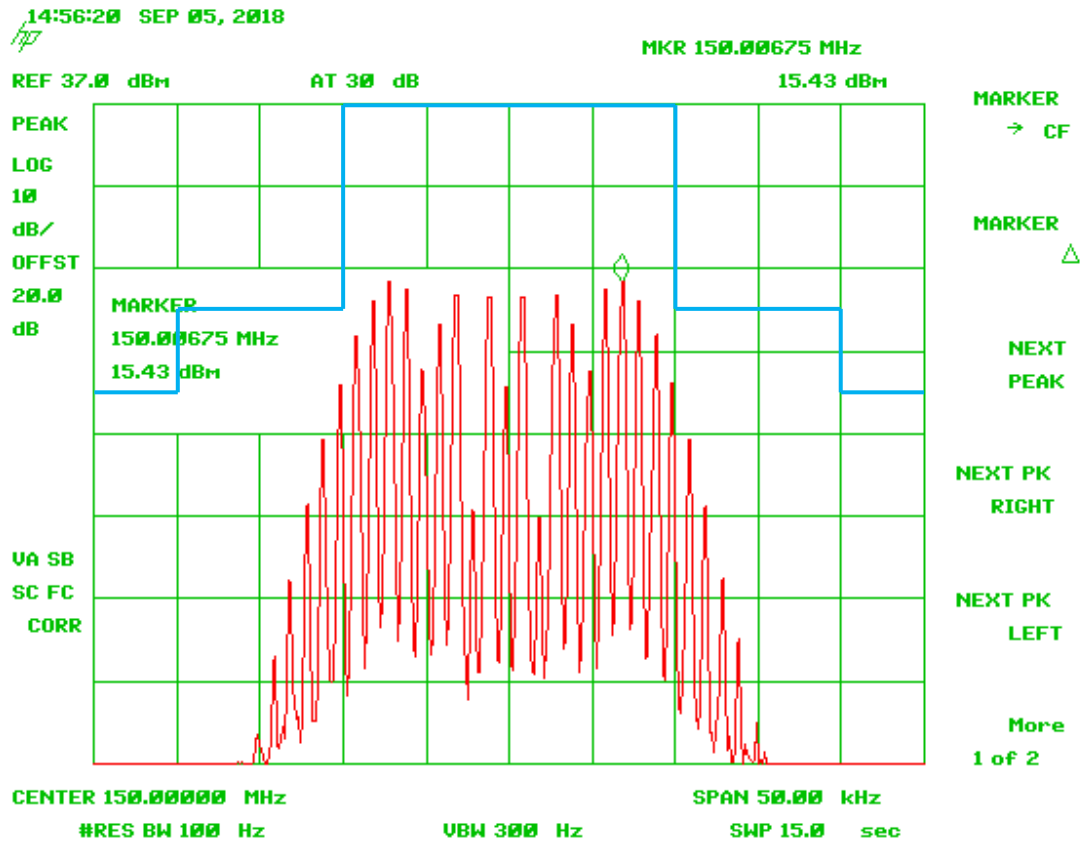


Figure 326. 150 MHz @ 25 kHz,+ 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

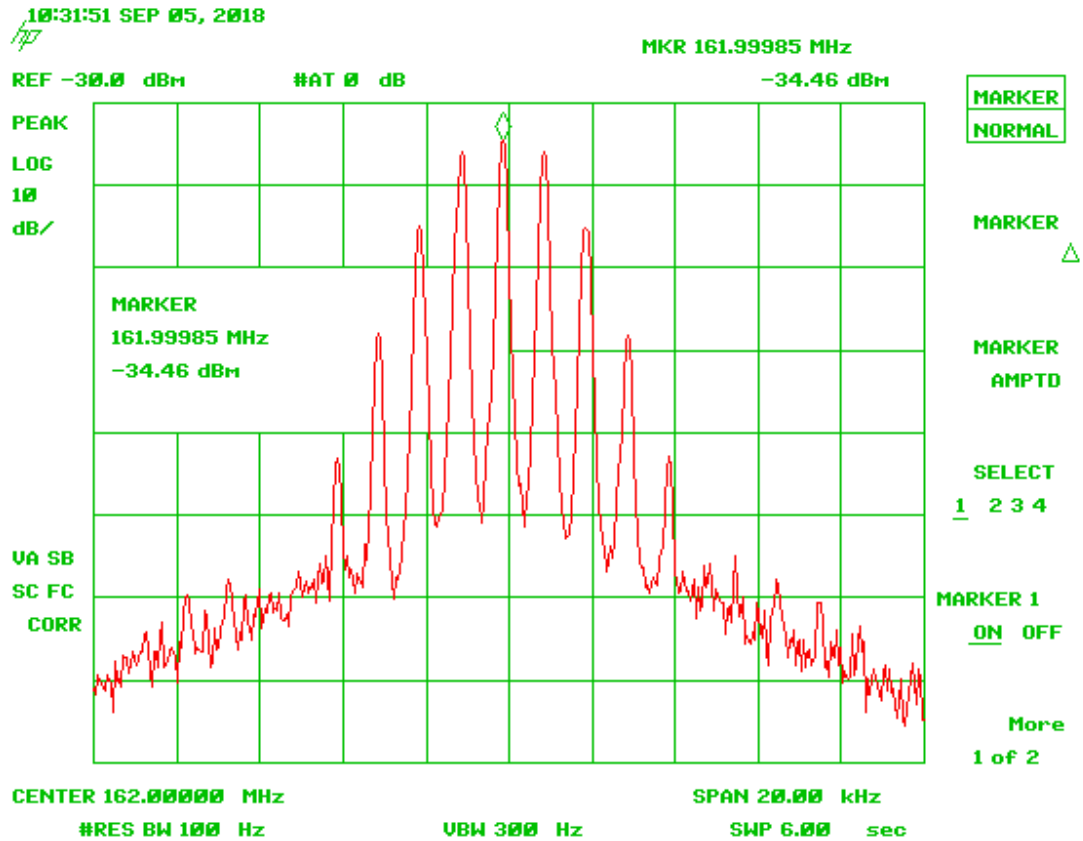


Figure 327. Input 162 MHz @ 6.25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

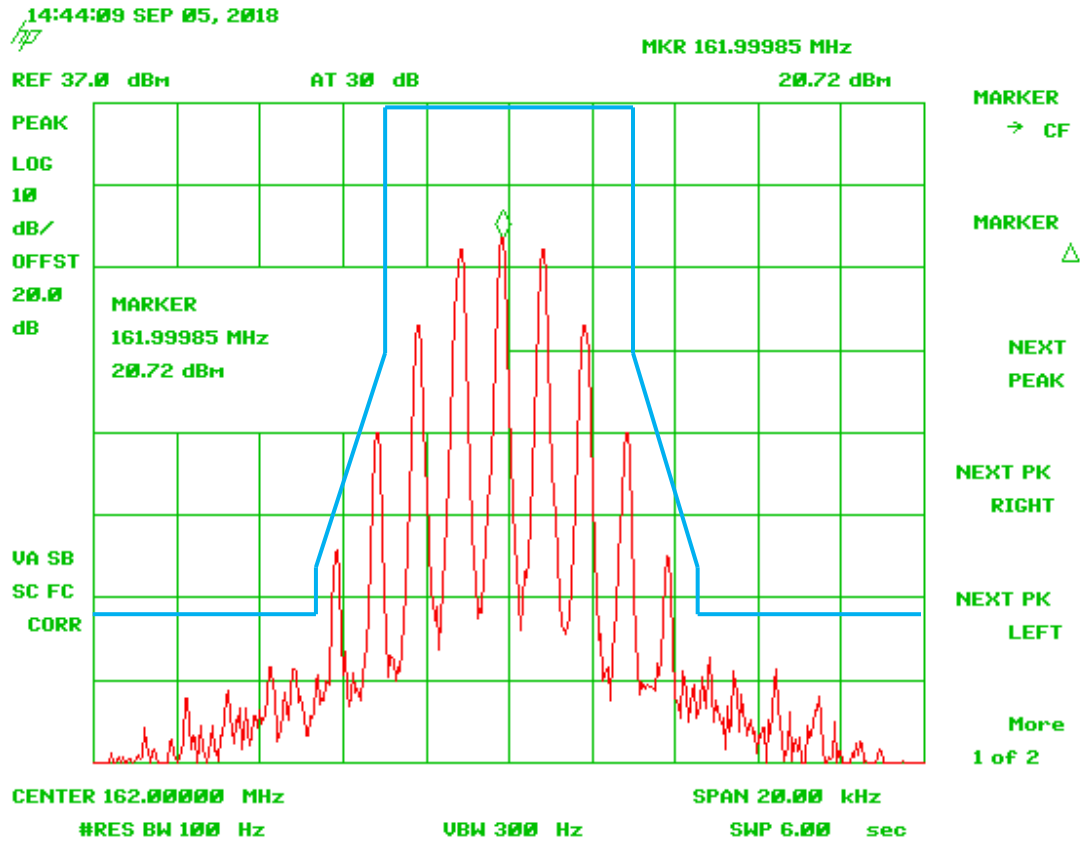


Figure 328. 162 MHz @ 6.25 kHz, Mask E

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

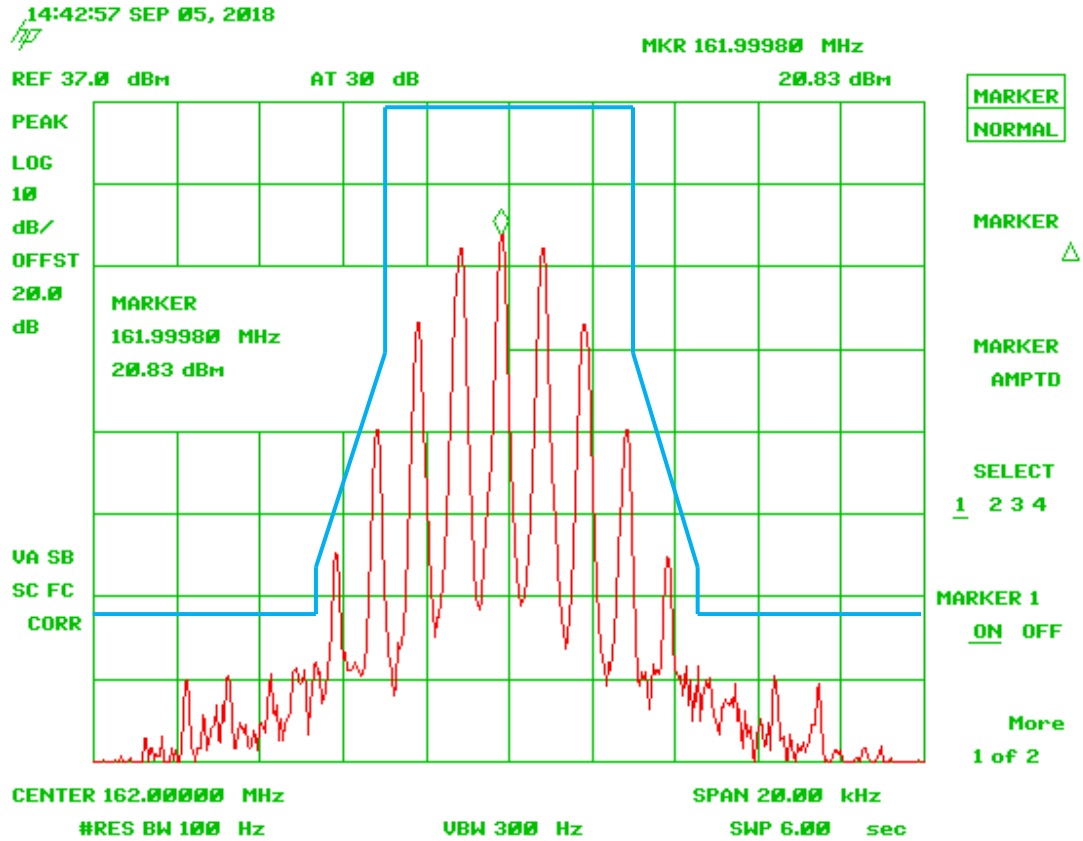


Figure 329. 162 MHz @ 6.25 kHz +3.0 dB, Mask E



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

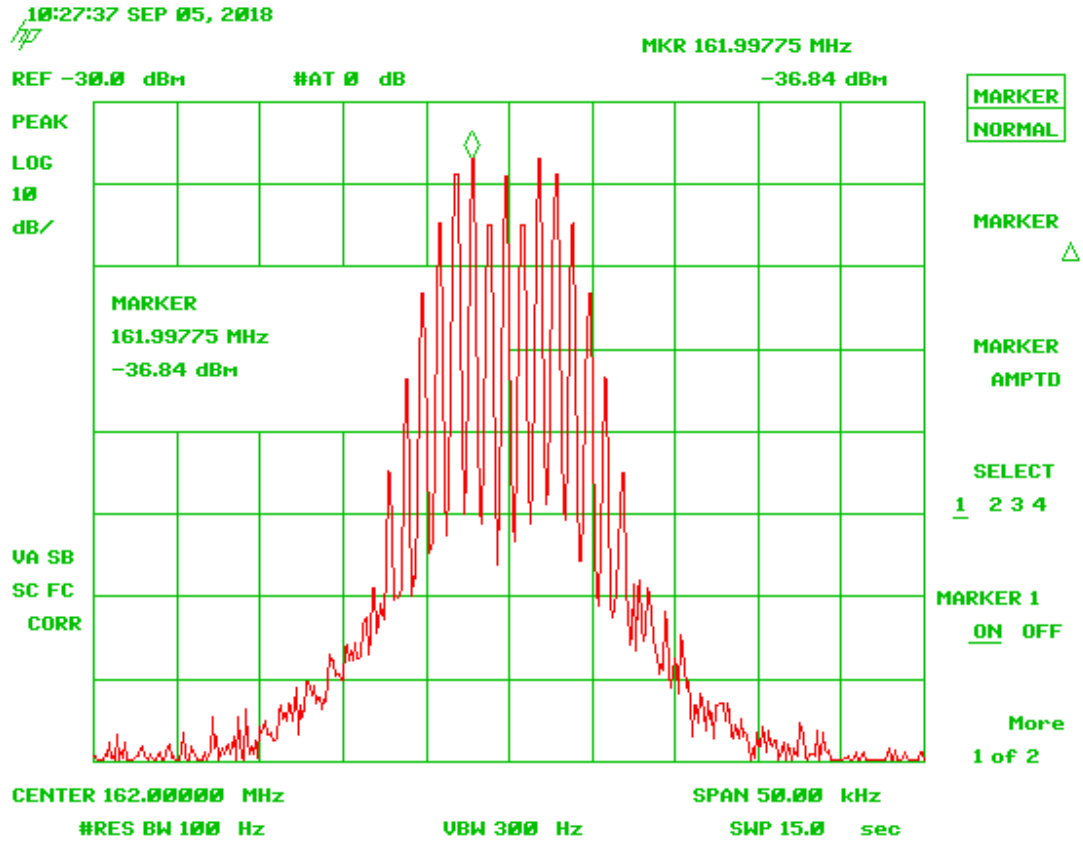


Figure 330. Input 162 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

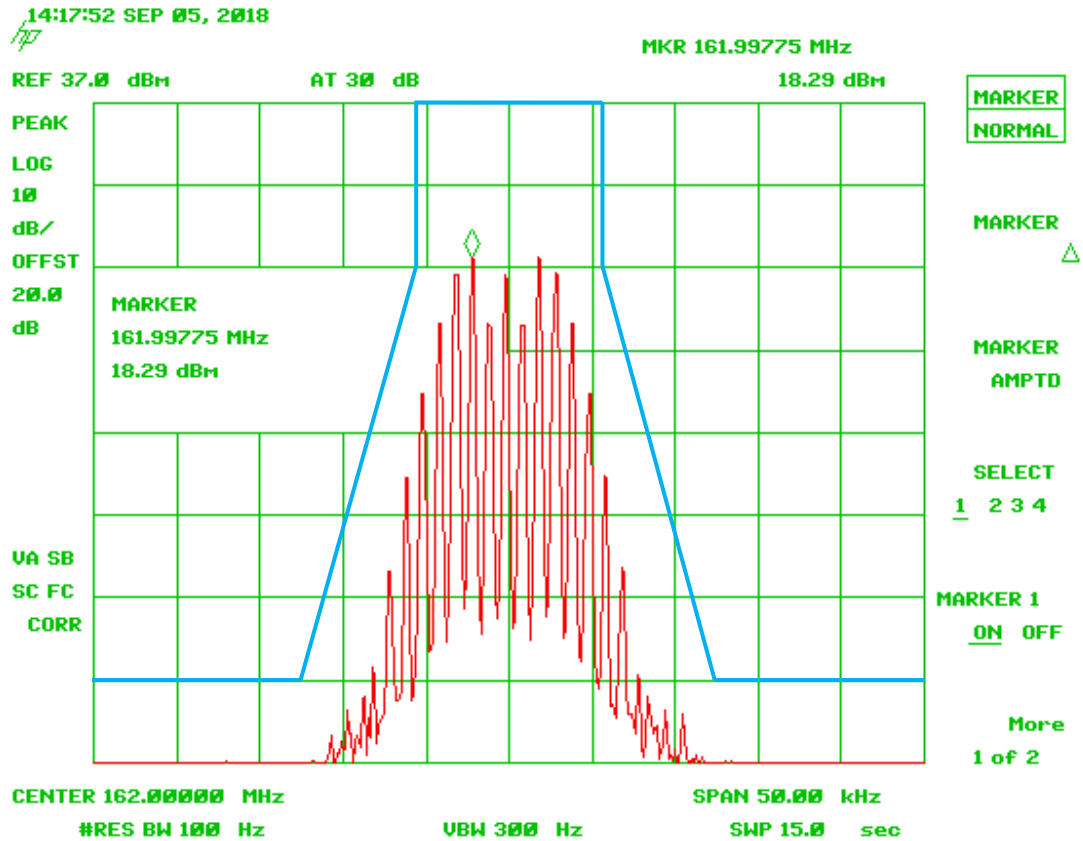


Figure 331. 162 MHz @ 12.5 kHz, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

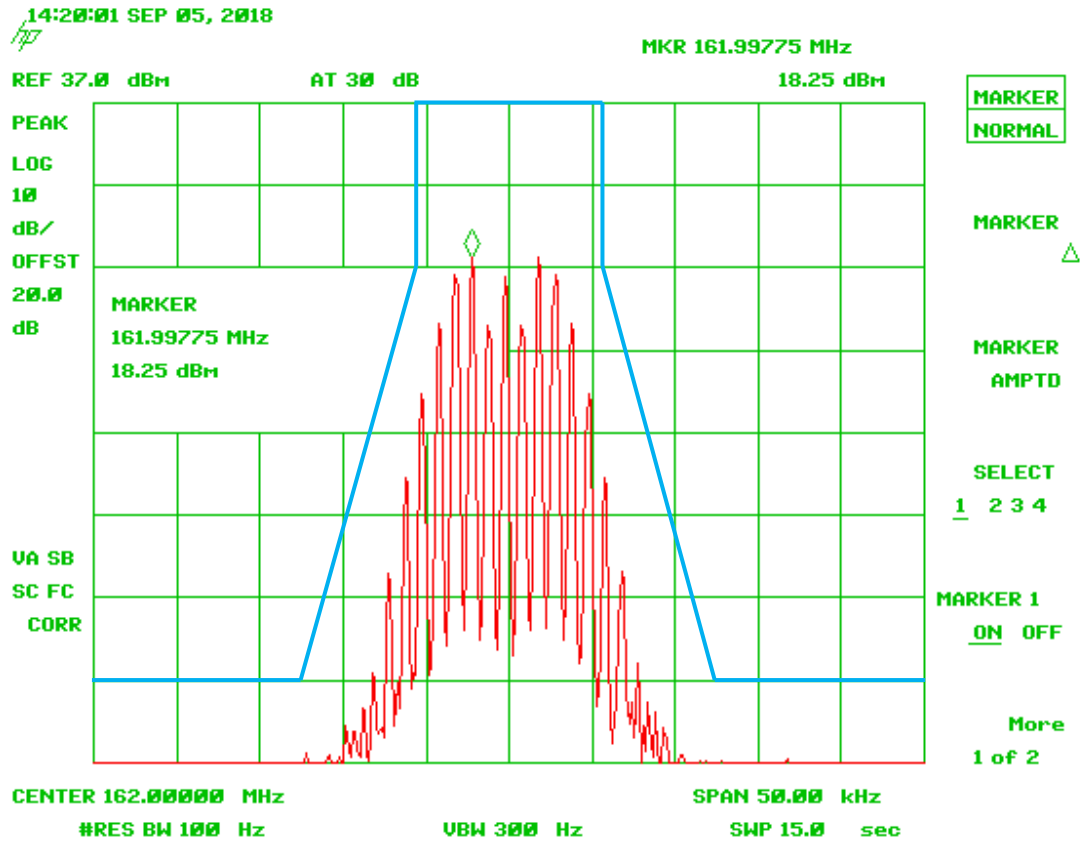


Figure 332. 162 MHz @ 12.5 kHz + 3.0 dB, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

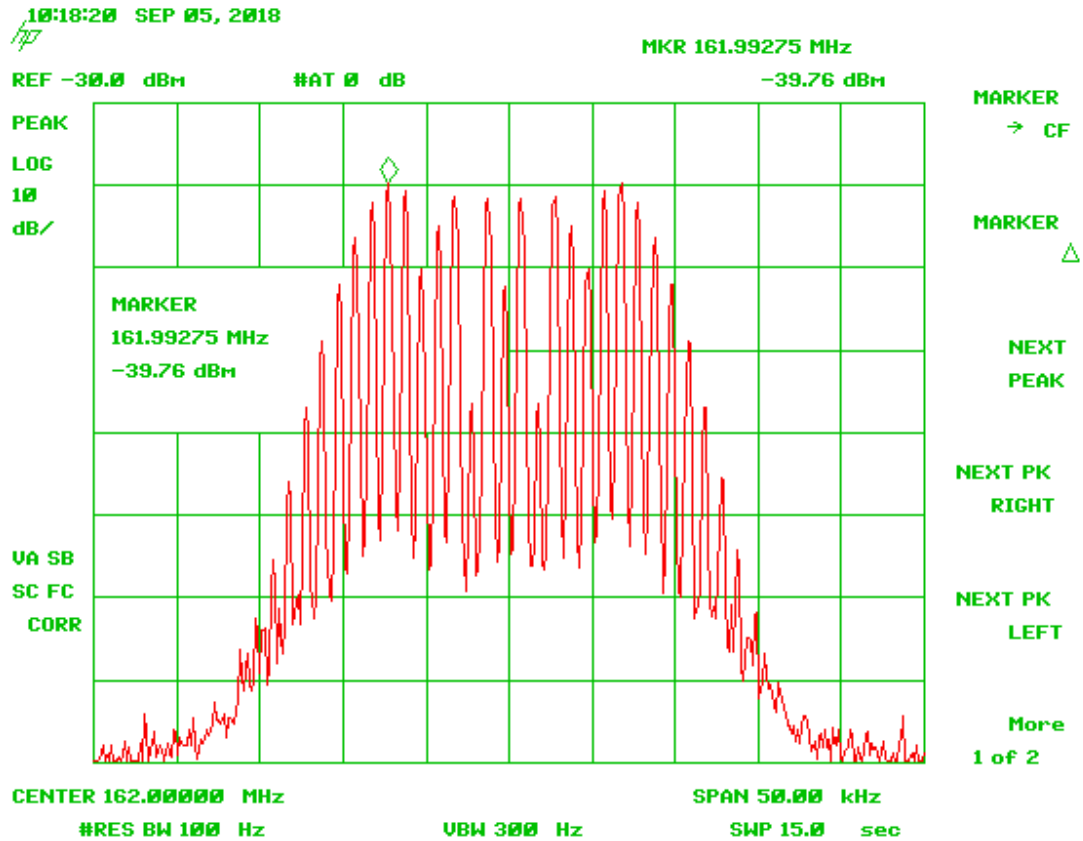
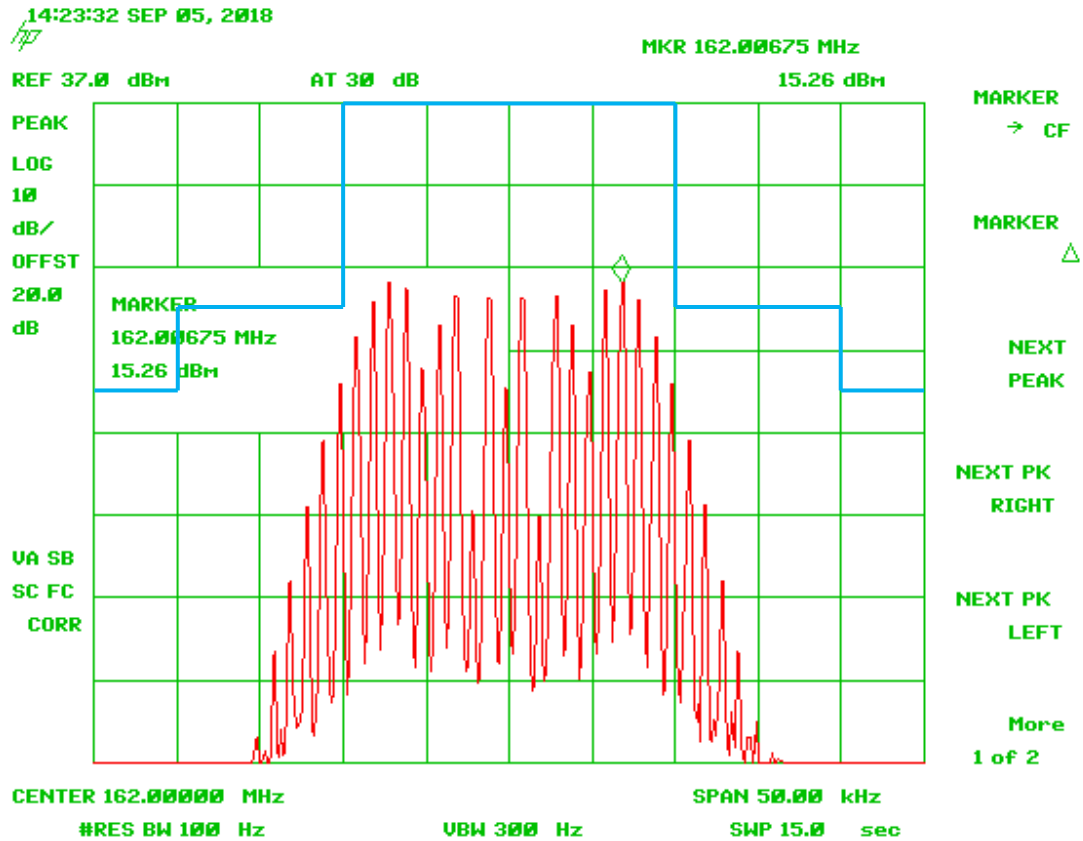


Figure 333. Input 162 MHz @ 25 kHz

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



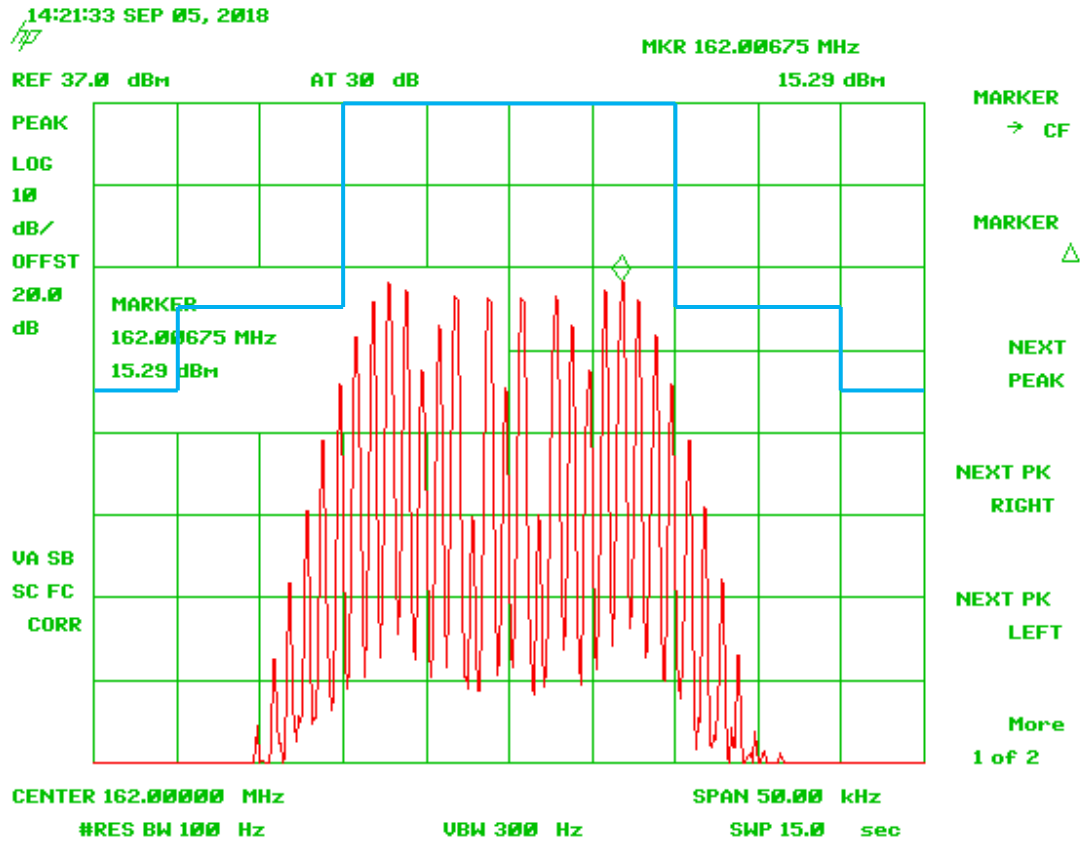


Figure 335. 162 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

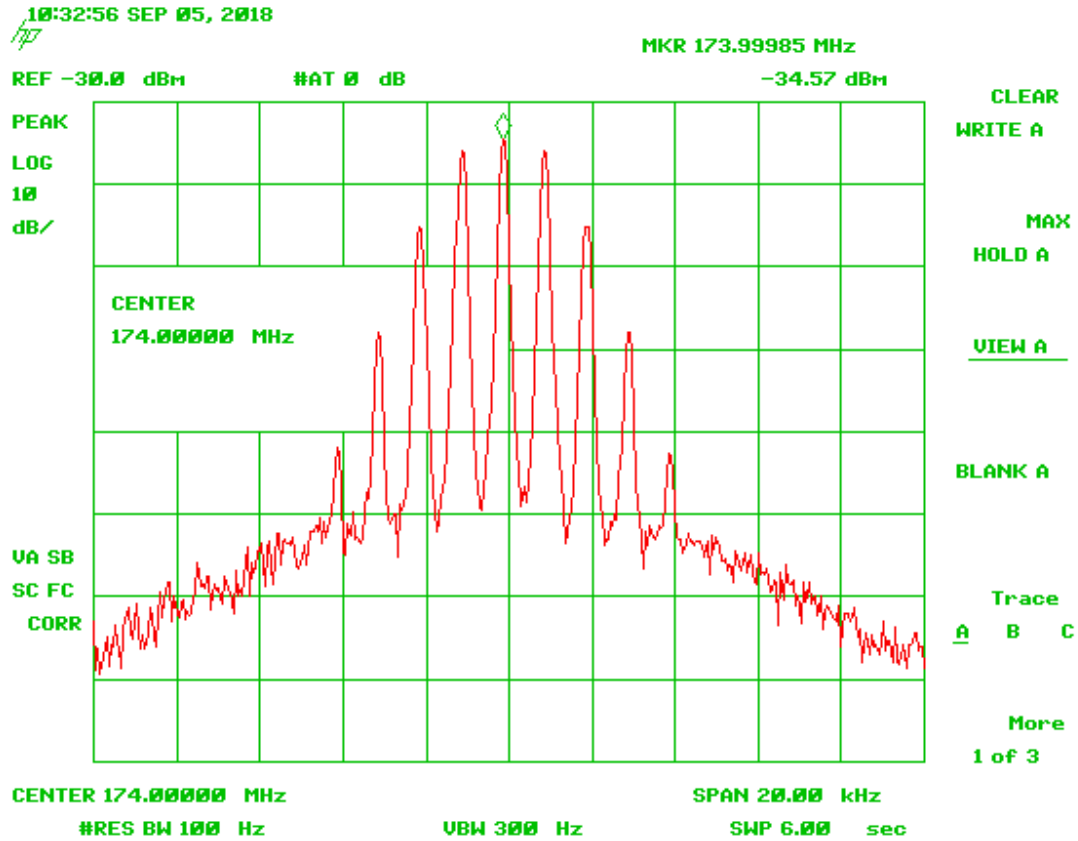


Figure 336. Input 174 MHz @ 6.25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

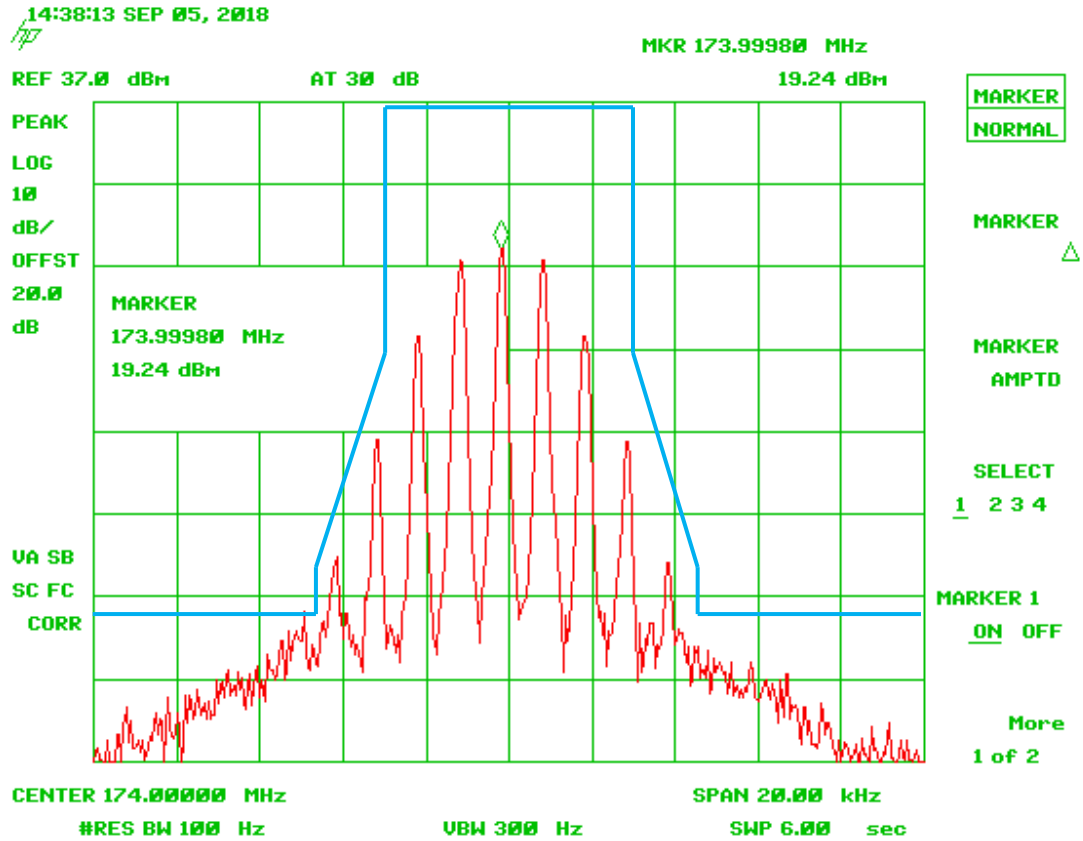


Figure 337. 174 MHz @ 6.25 kHz, Mask E



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

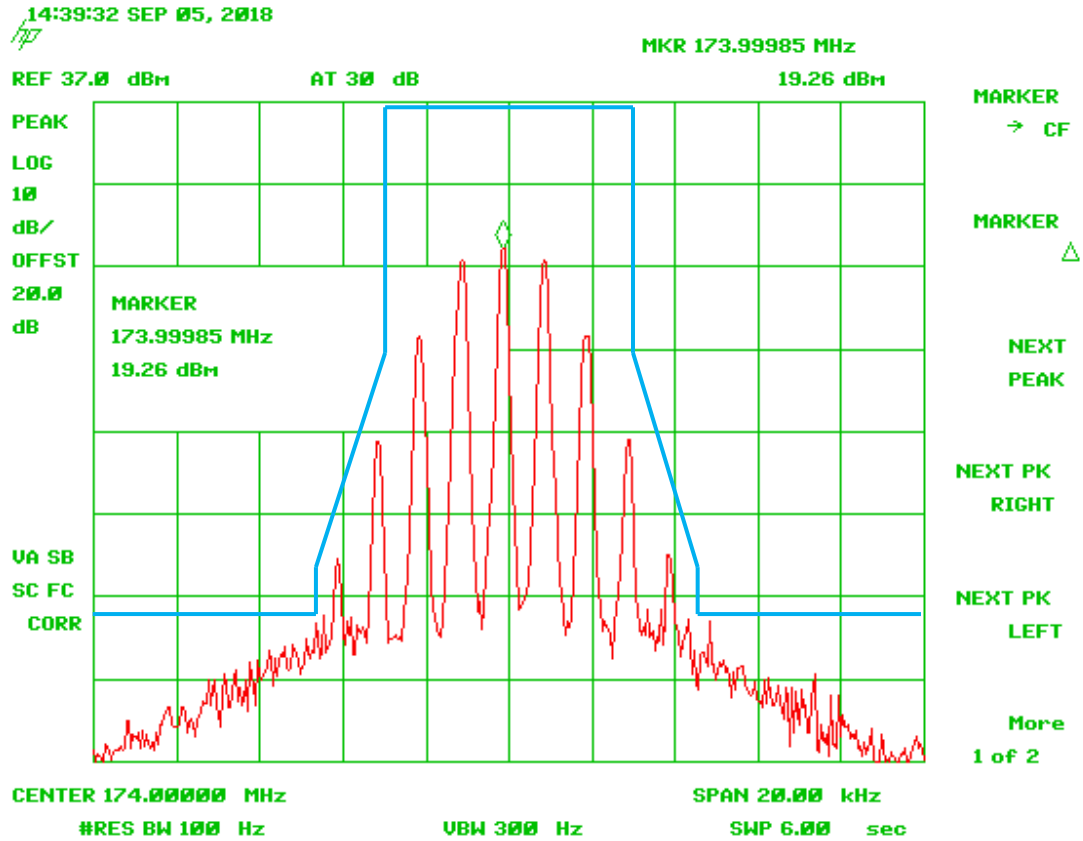


Figure 338. 174 MHz @ 6.25 kHz +3.0 dB, Mask E

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

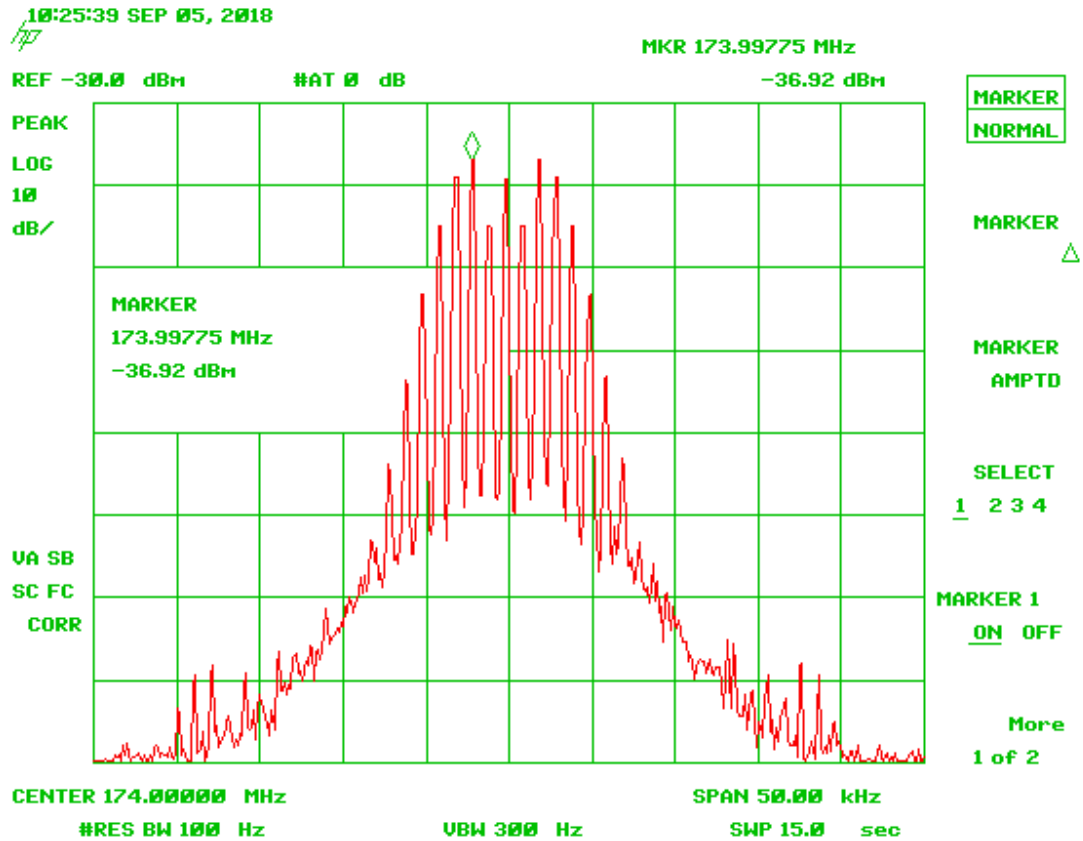


Figure 339. Input 174 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

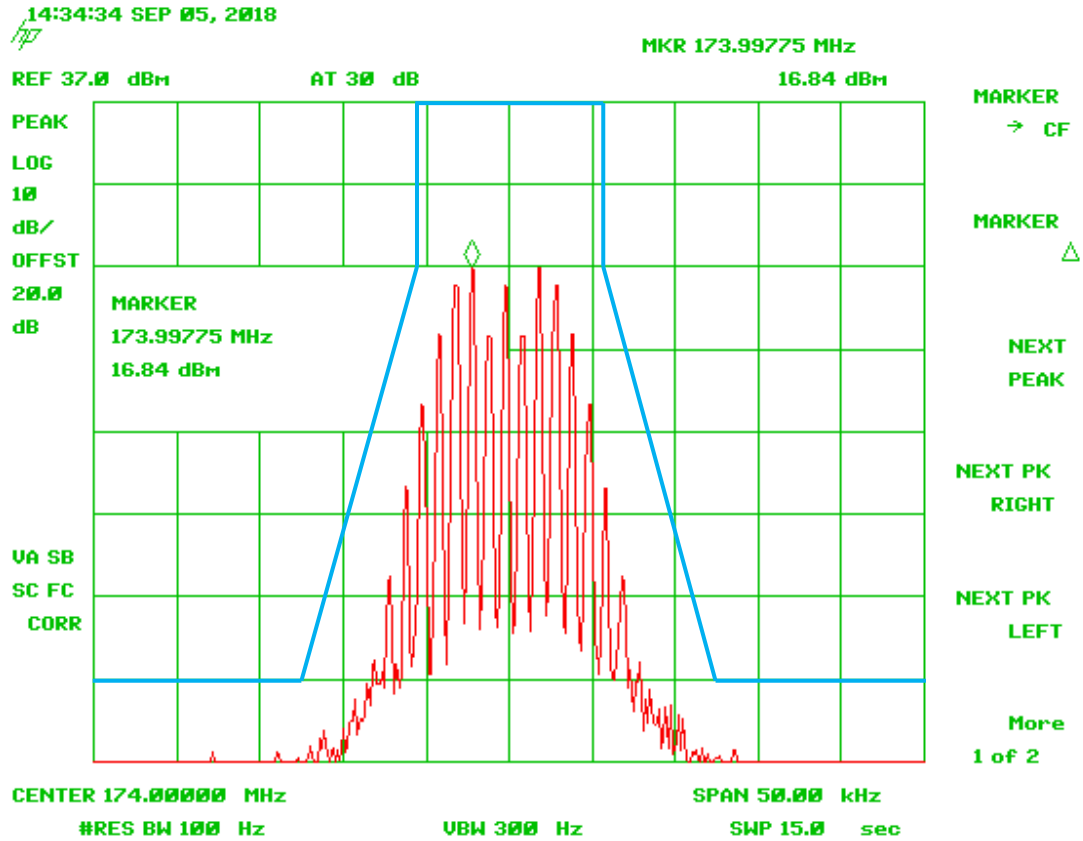


Figure 340. 174 MHz @ 12.5 kHz, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

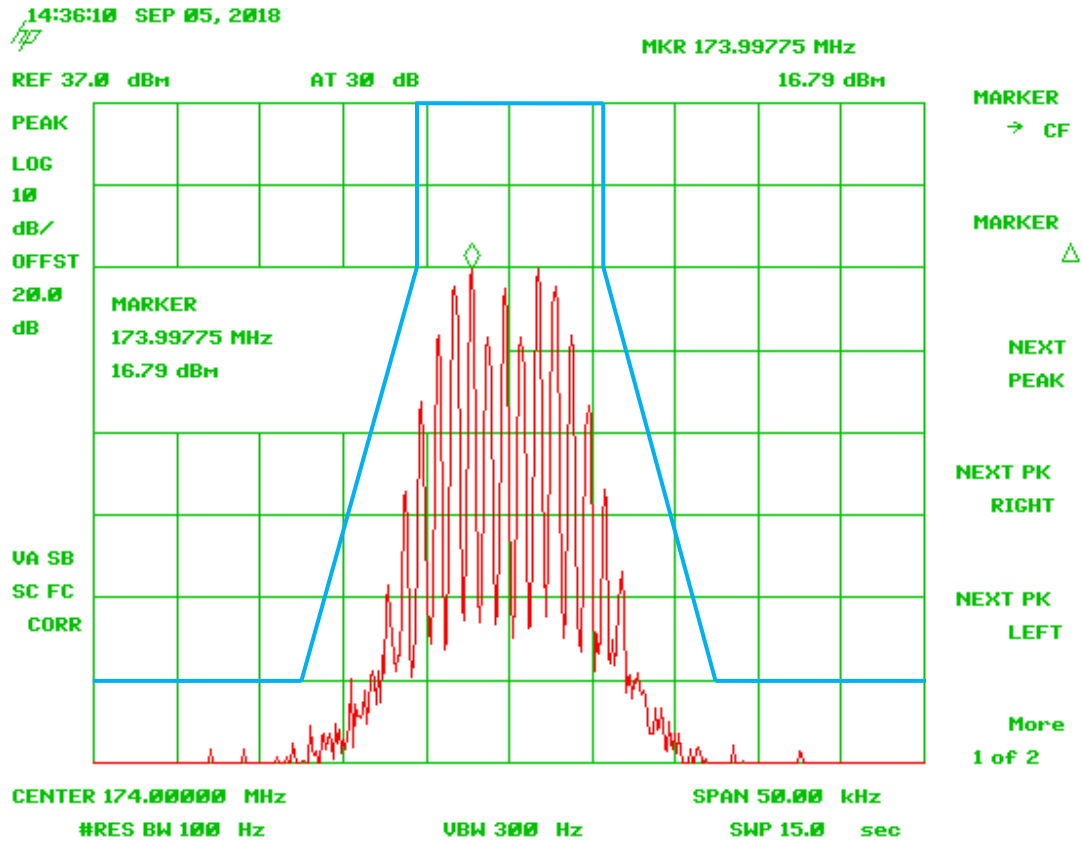


Figure 341. 174 MHz @ 12.5 kHz + 3.0 dB, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

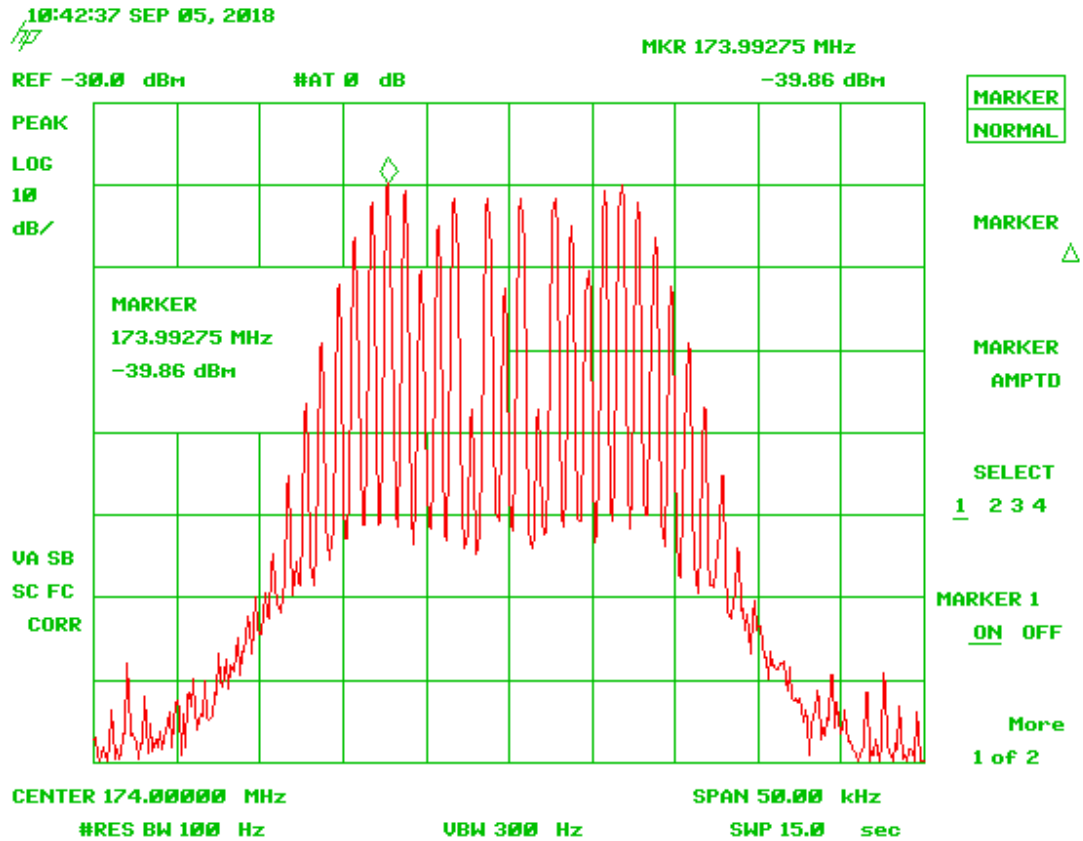


Figure 342. Input 174 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

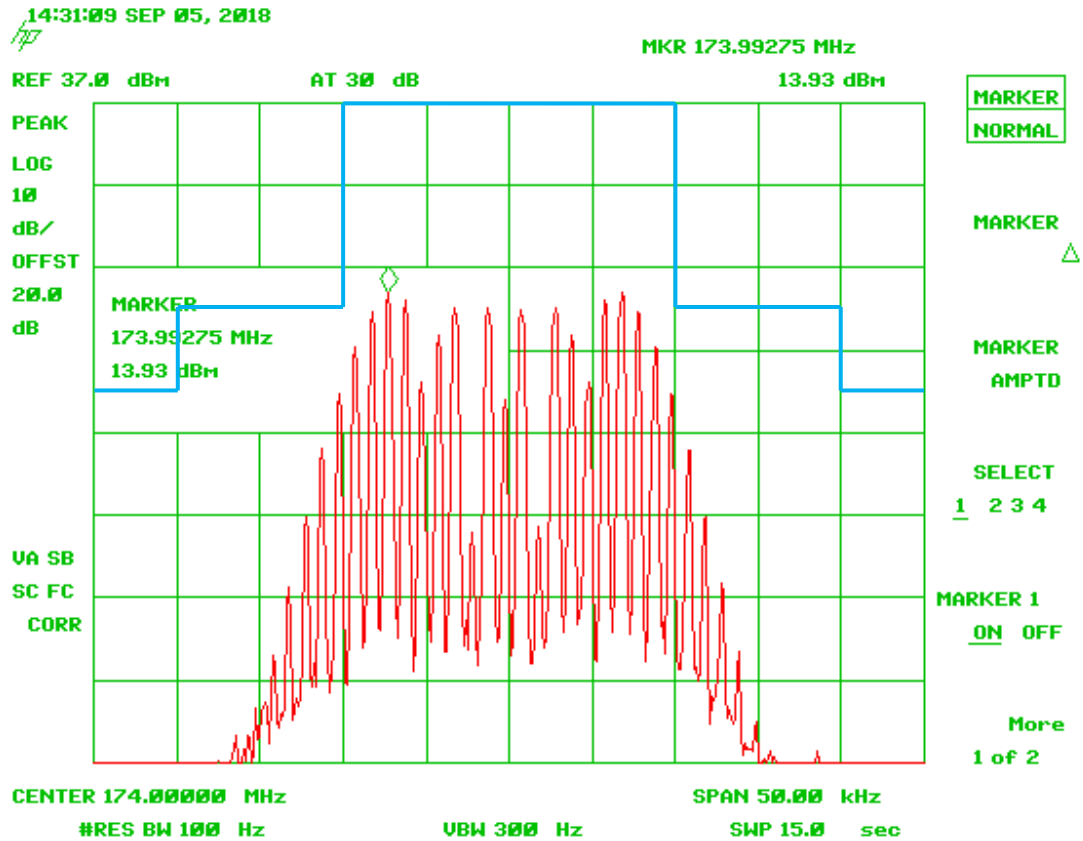


Figure 343. 174 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

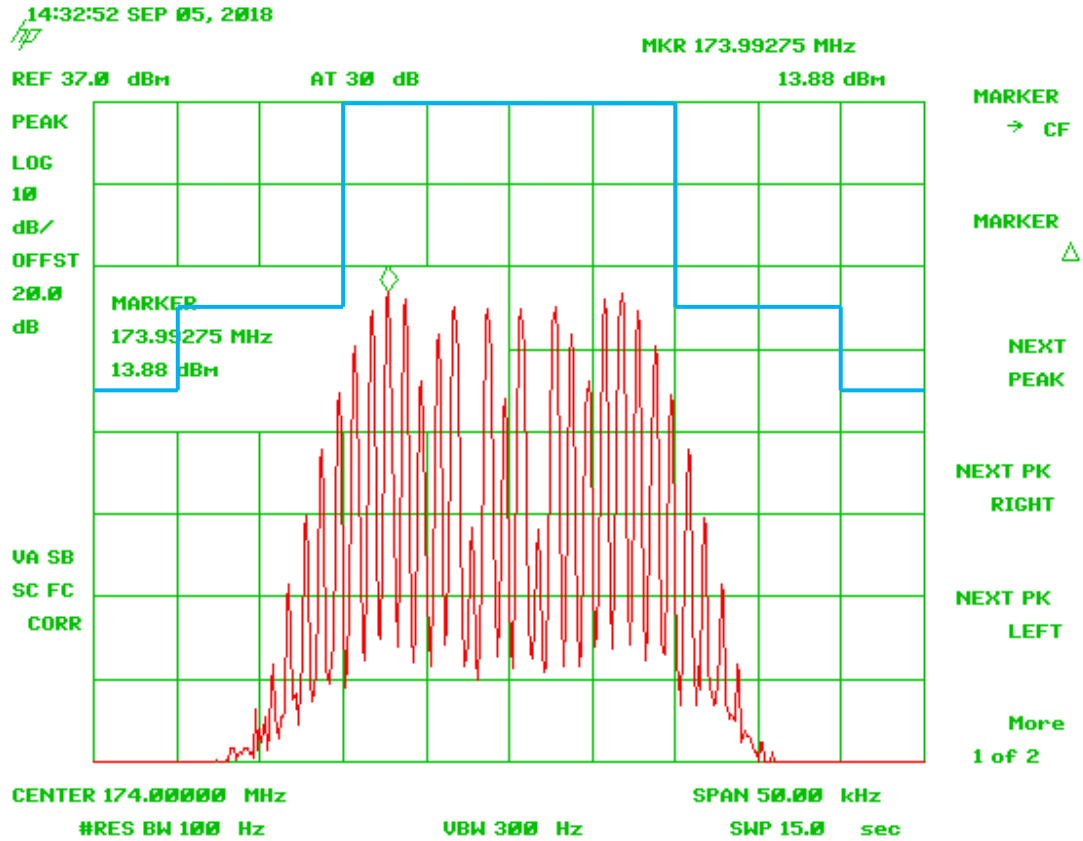
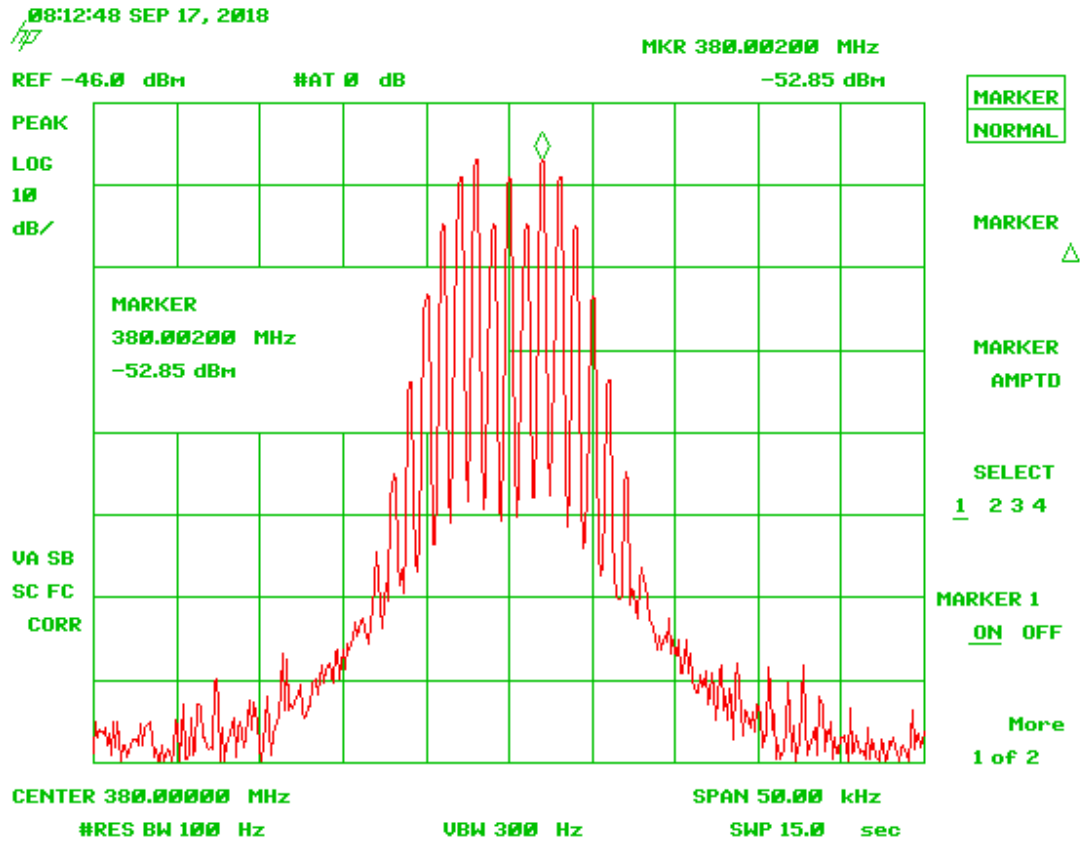


Figure 344. 174 MHz @ 25 kHz + 3.0 dB, Mask B

## 2.18.2 UHF Channels



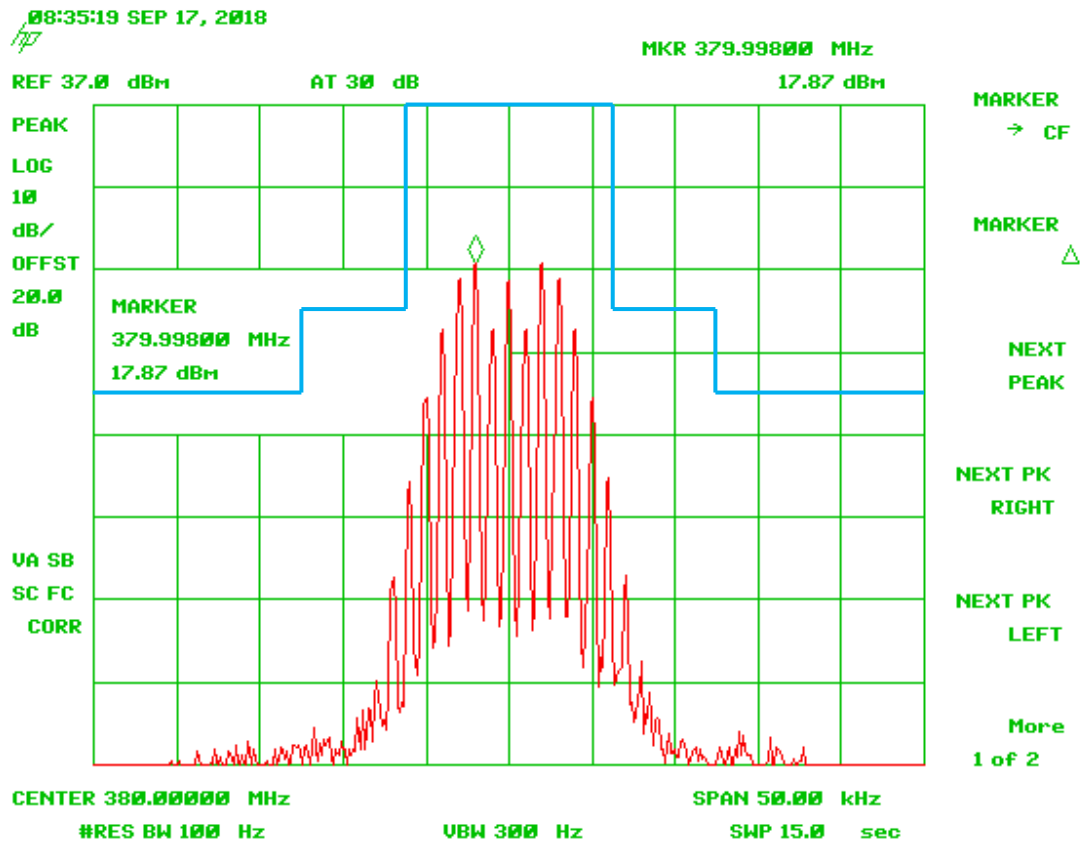
**Figure 345. Input 380 MHz @ 12.5 kHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

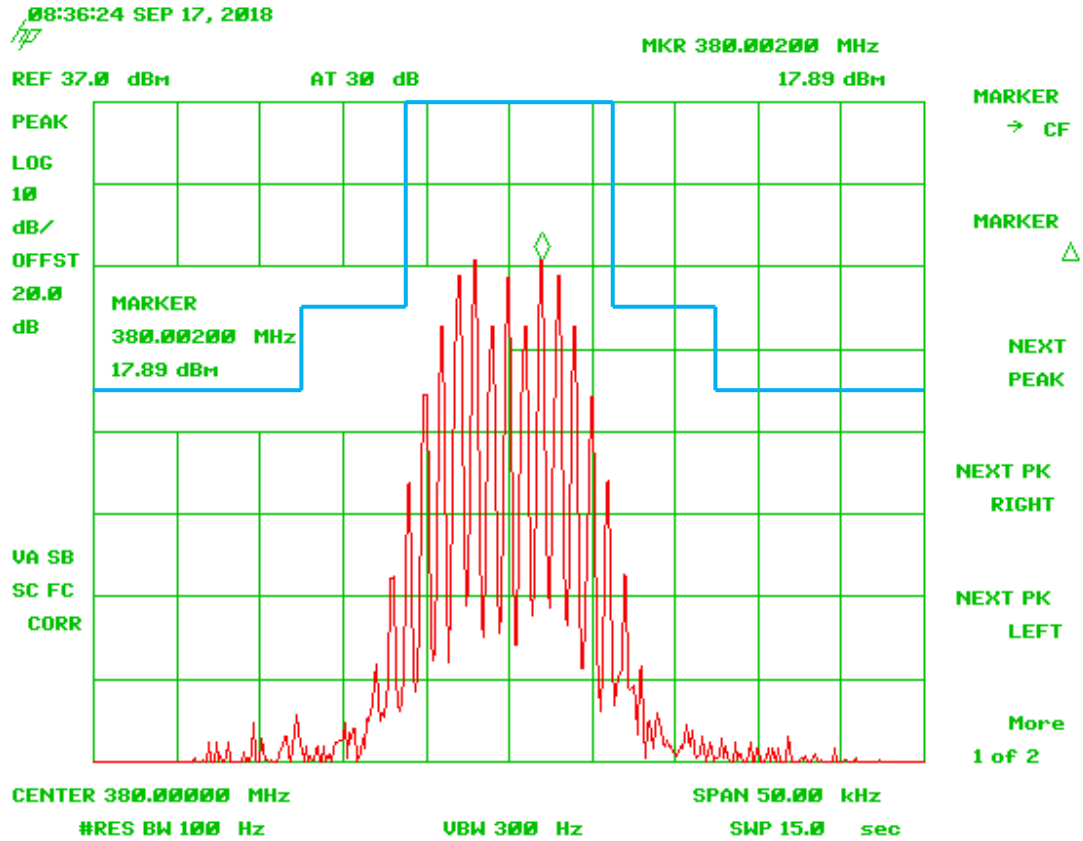


**Figure 346. 380 MHz @ 12.5 kHz, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

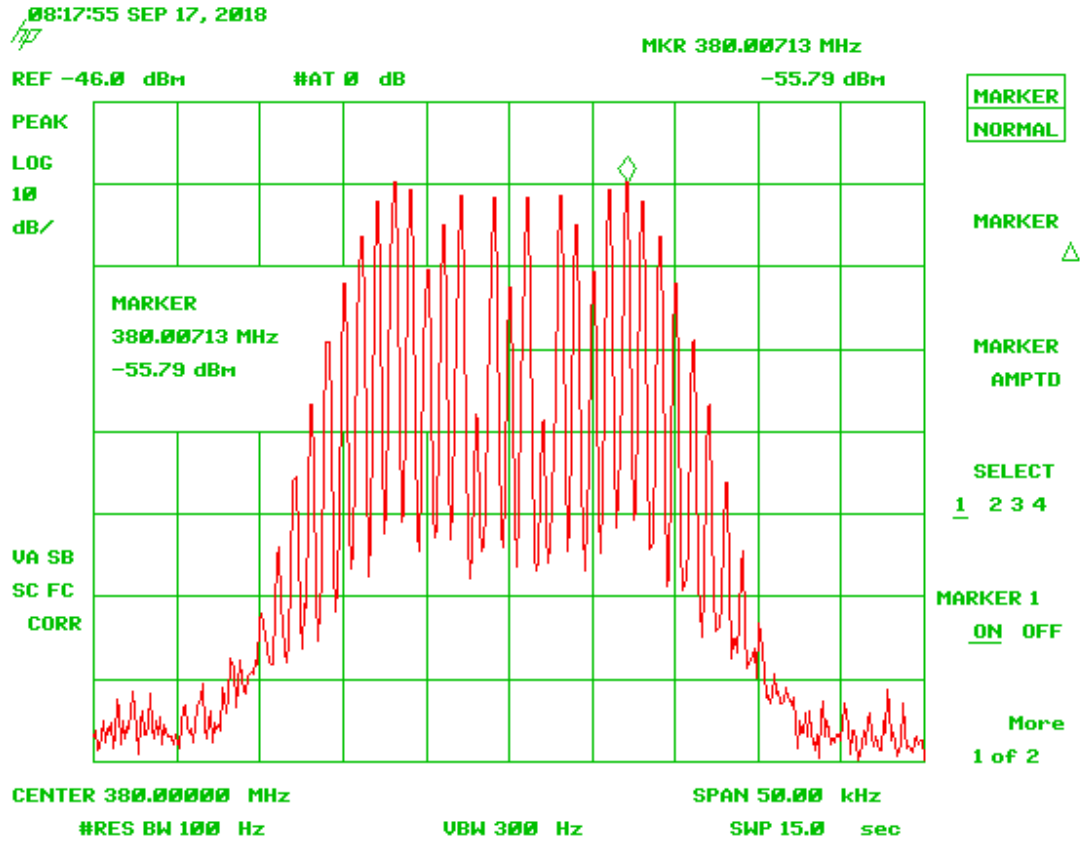


**Figure 347. 380 MHz @ 12.5 kHz + 3.0 dB, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

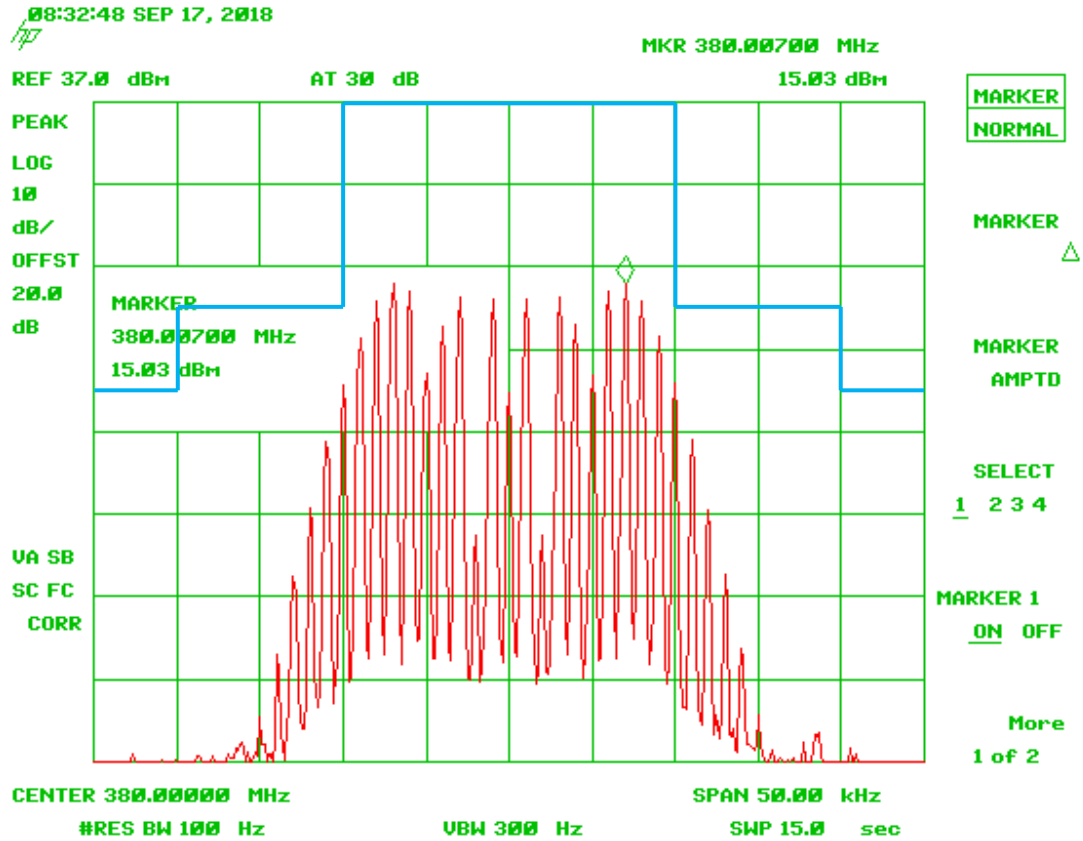


**Figure 348. Input 380 MHz @ 25 kHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

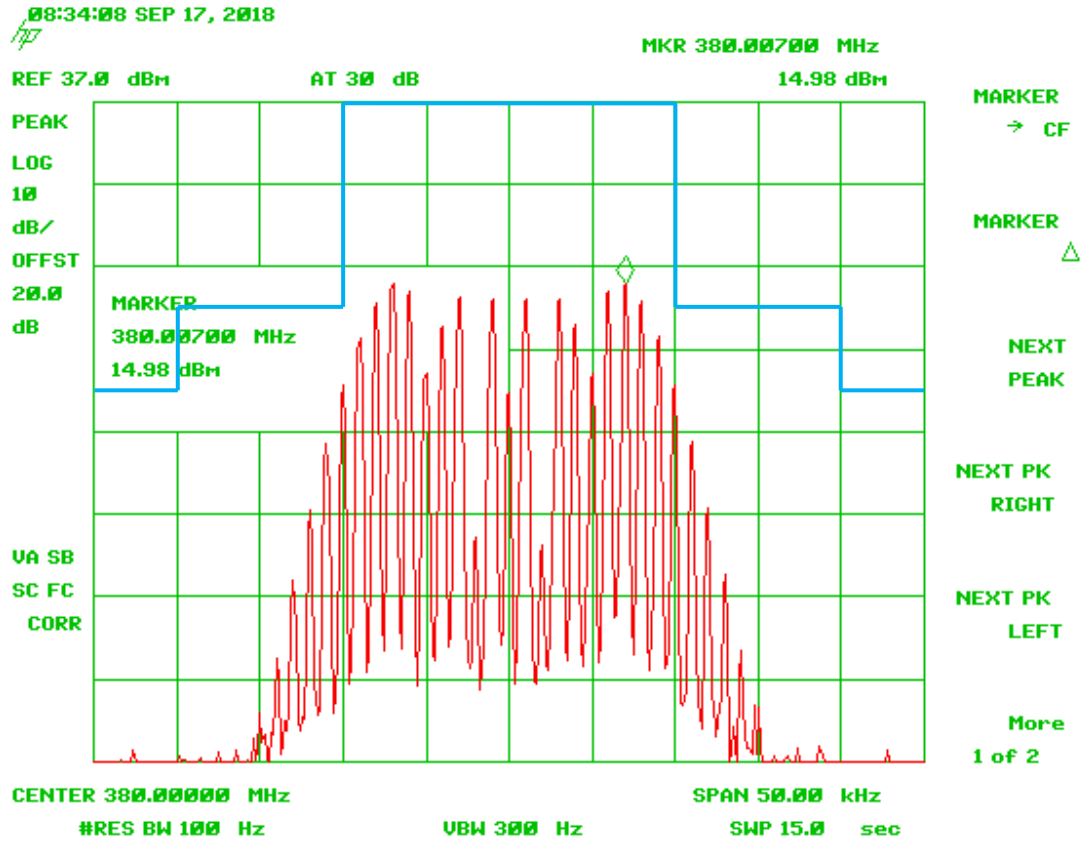


**Figure 349. 380 MHz @ 25 kHz, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 350. 380 MHz @ 25 kHz + 3.0 dB, Mask B**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

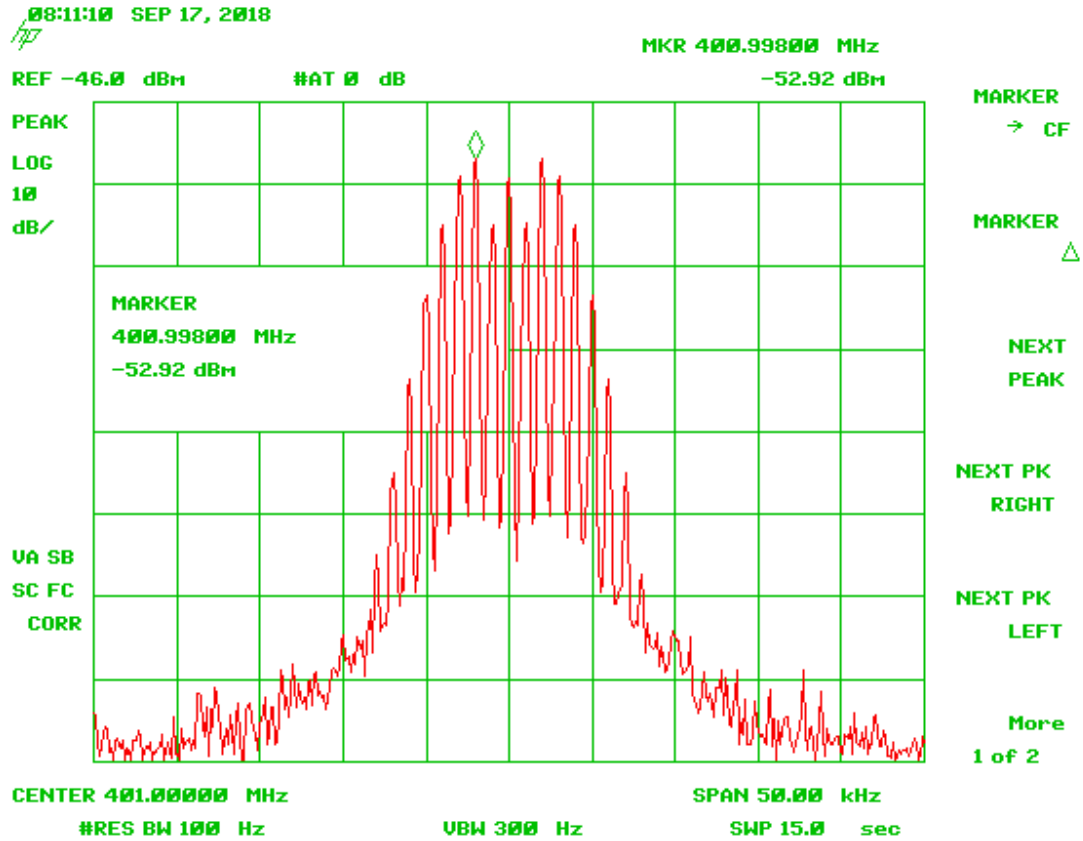


Figure 351. Input 401 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

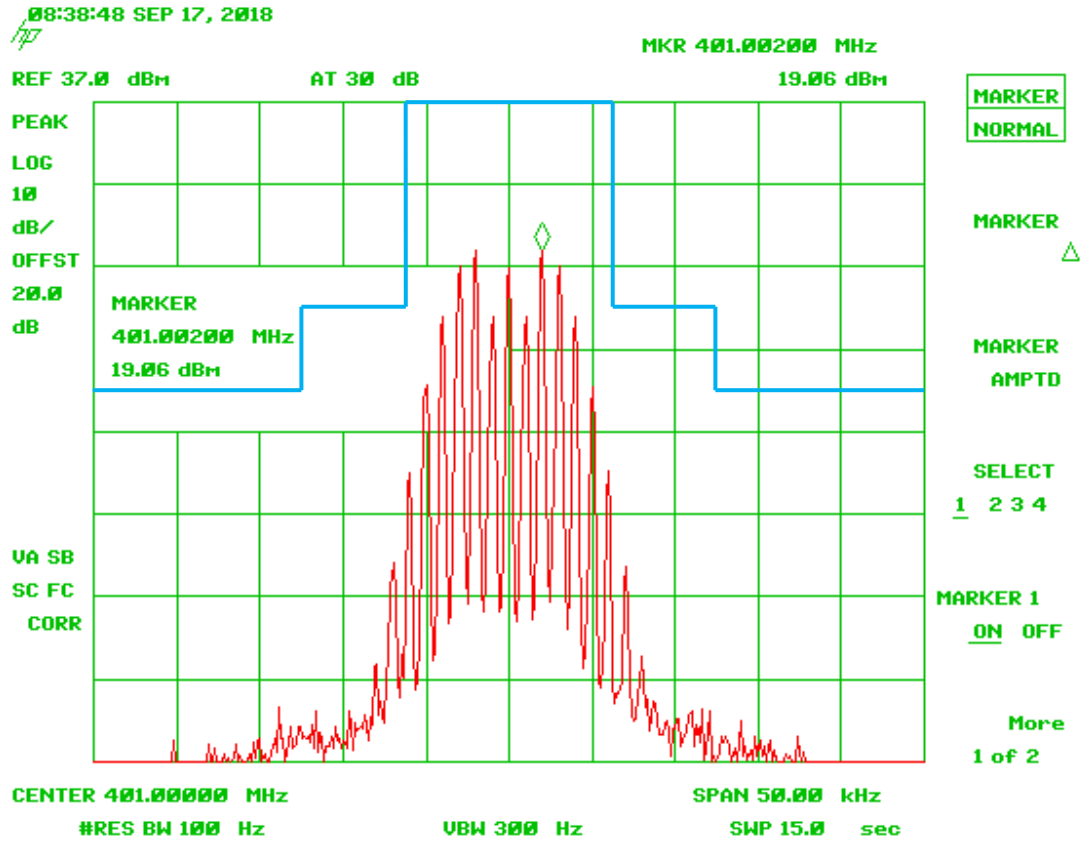


Figure 352. 401 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

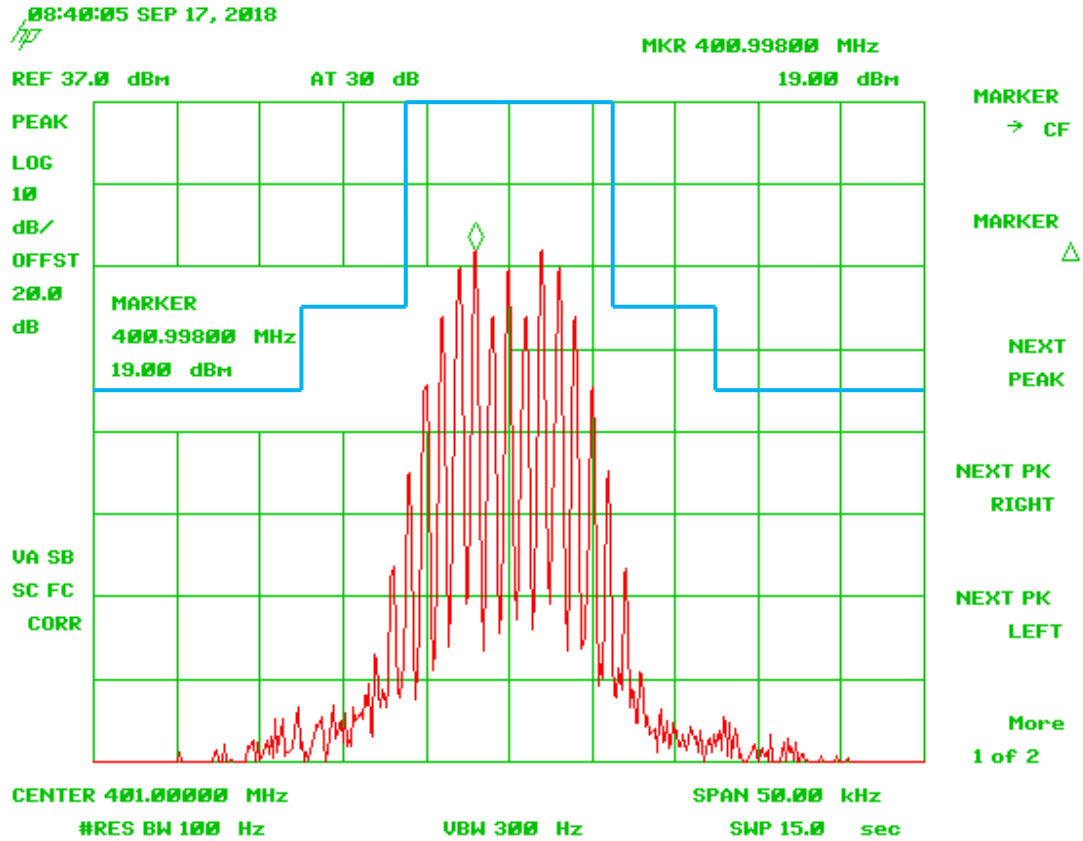


Figure 353. 401 MHz @ 12.5 kHz + 3.0 dB, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

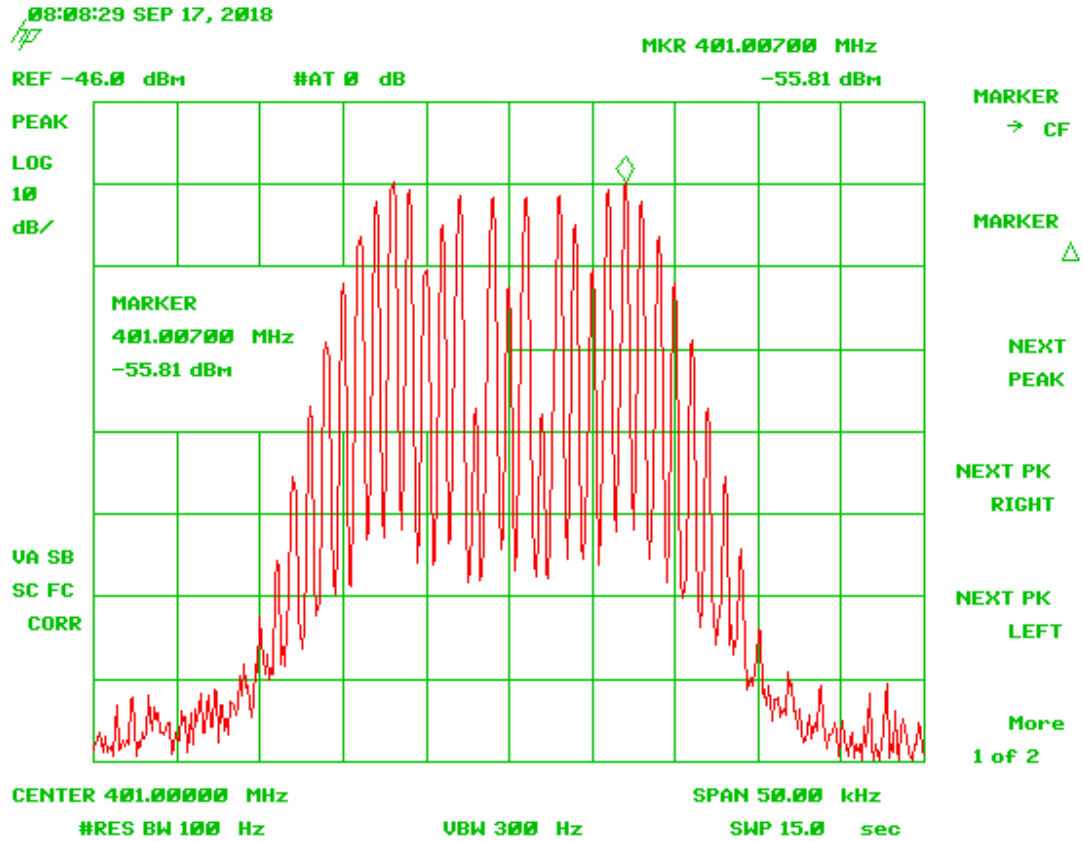


Figure 354. Input 401 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

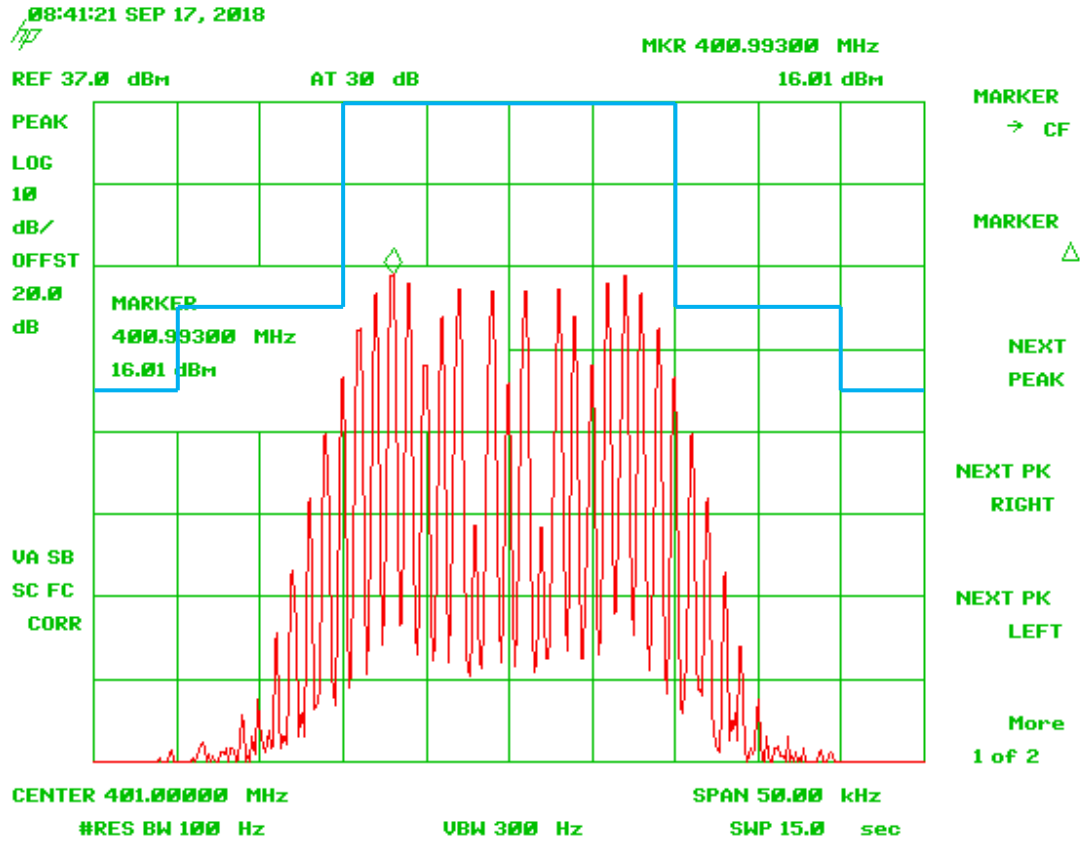


Figure 355. 401 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

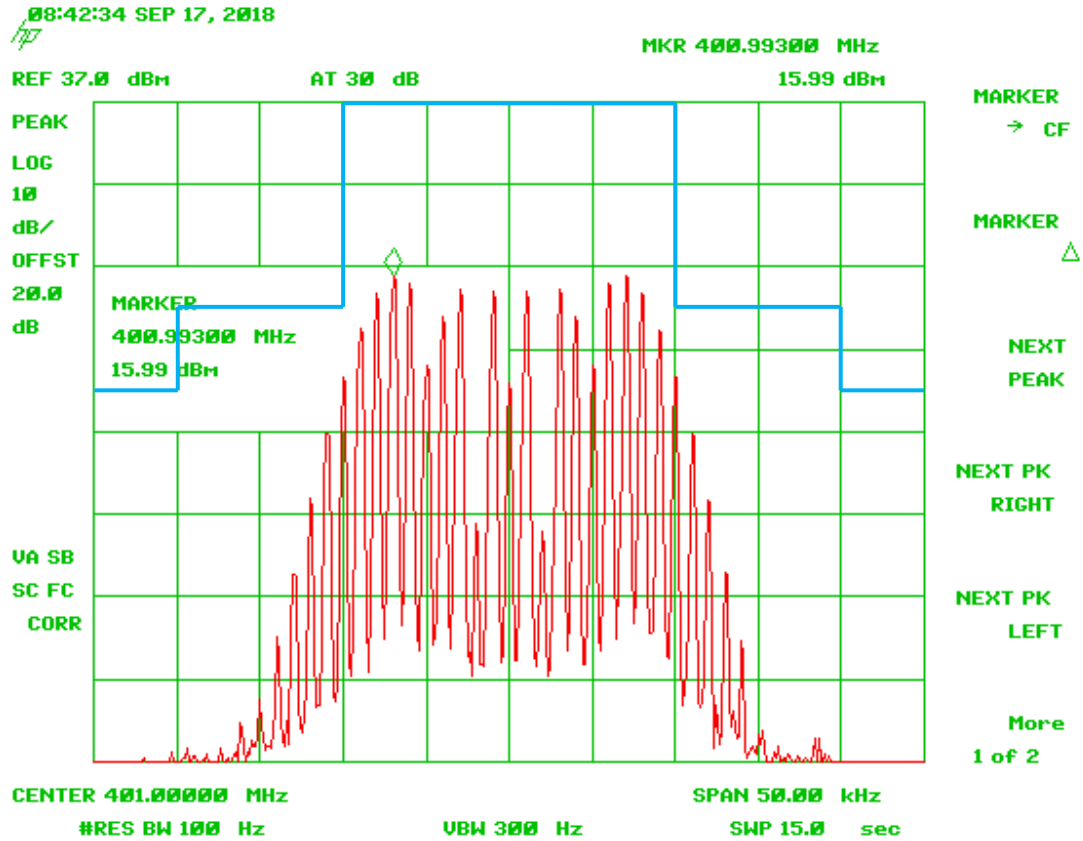


Figure 356. 401 MHz @ 25 kHz + 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

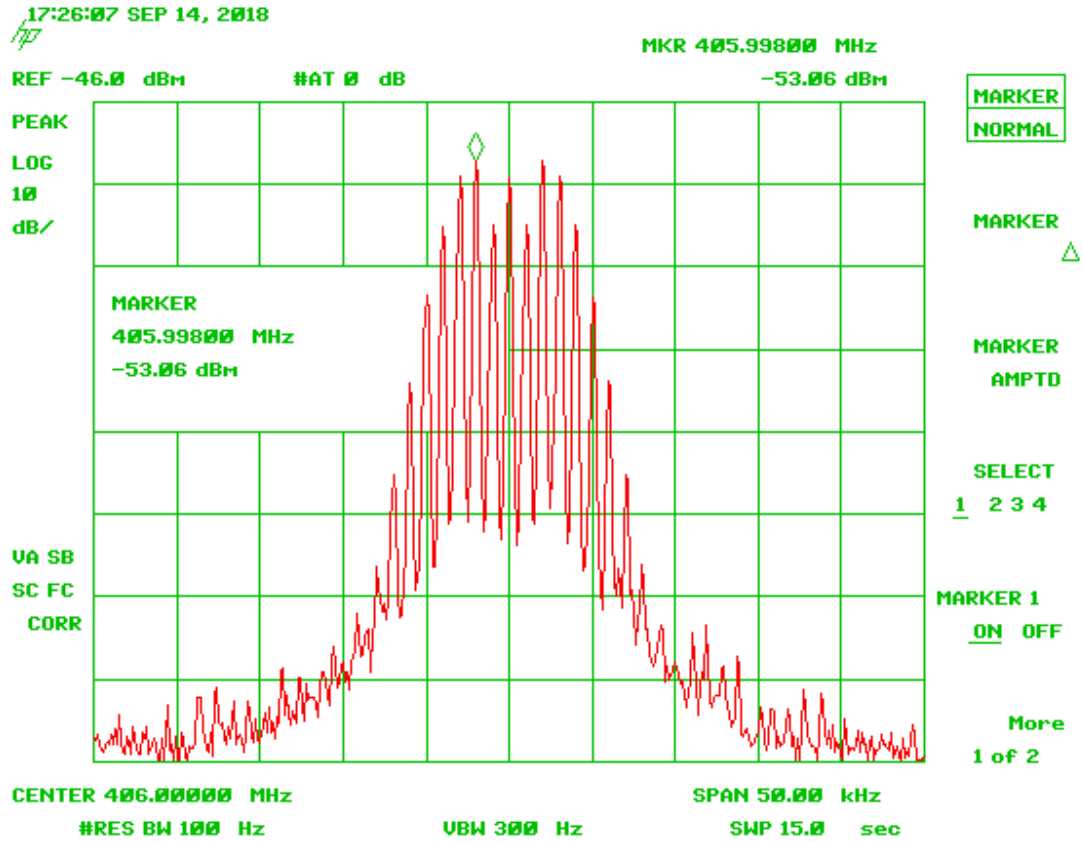


Figure 357. Input 406 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

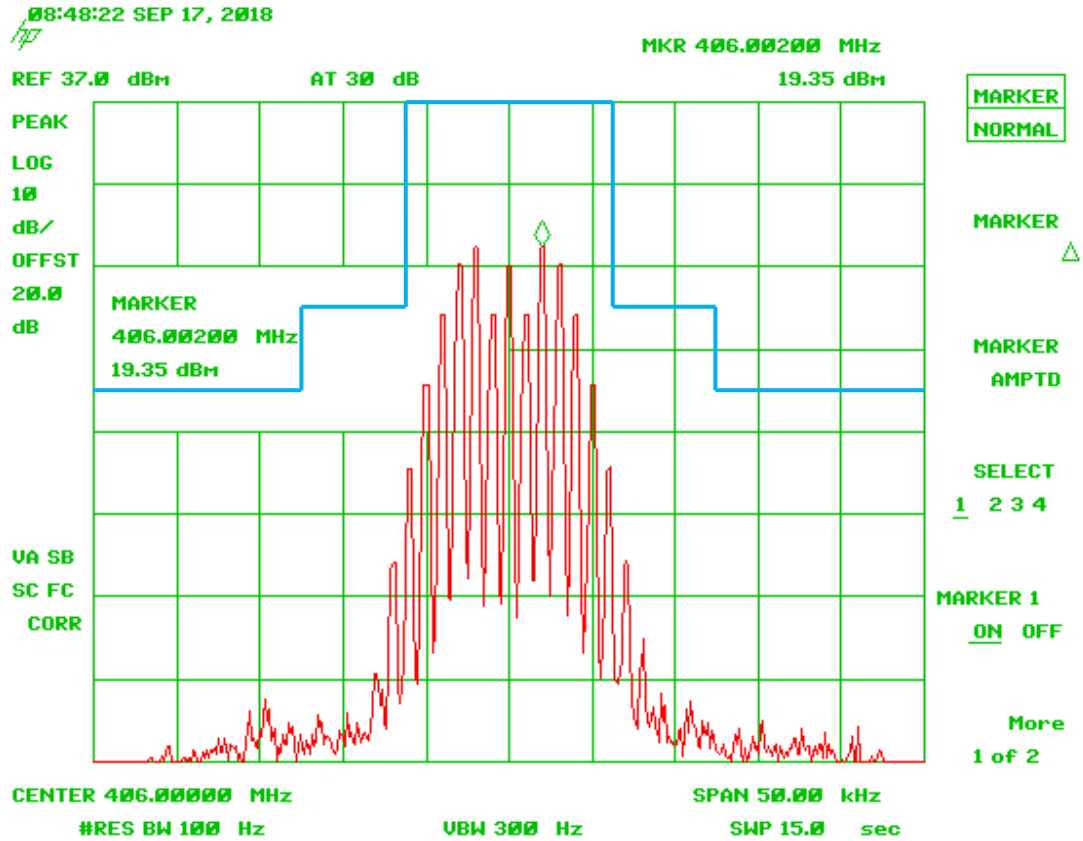


Figure 358. 406 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

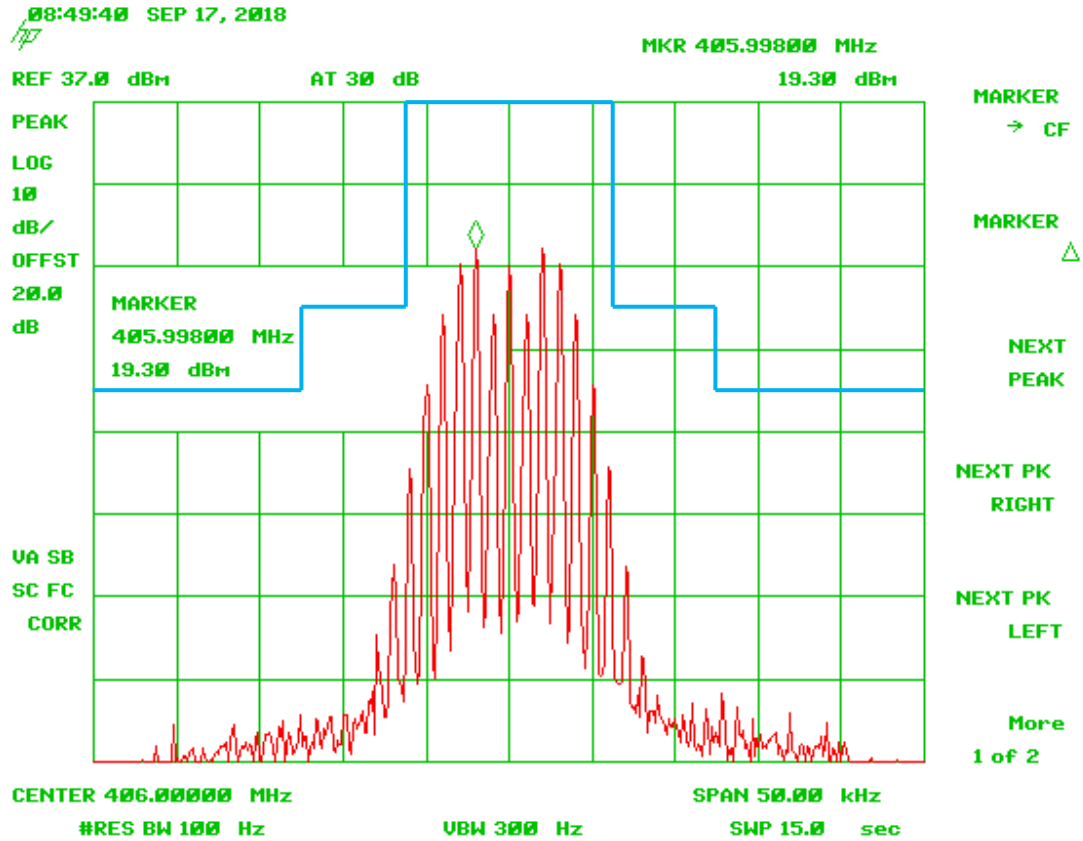


Figure 359. 406 MHz @ 12.5 kHz + 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

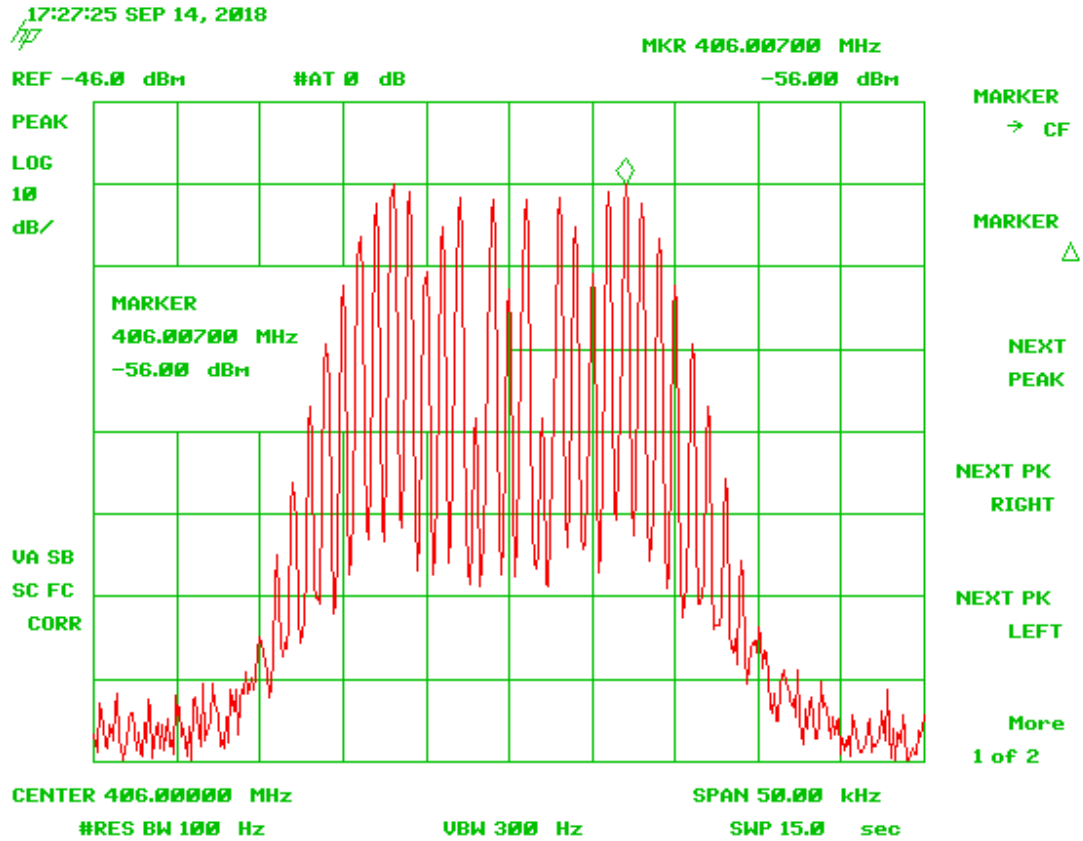


Figure 360. Input 406 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

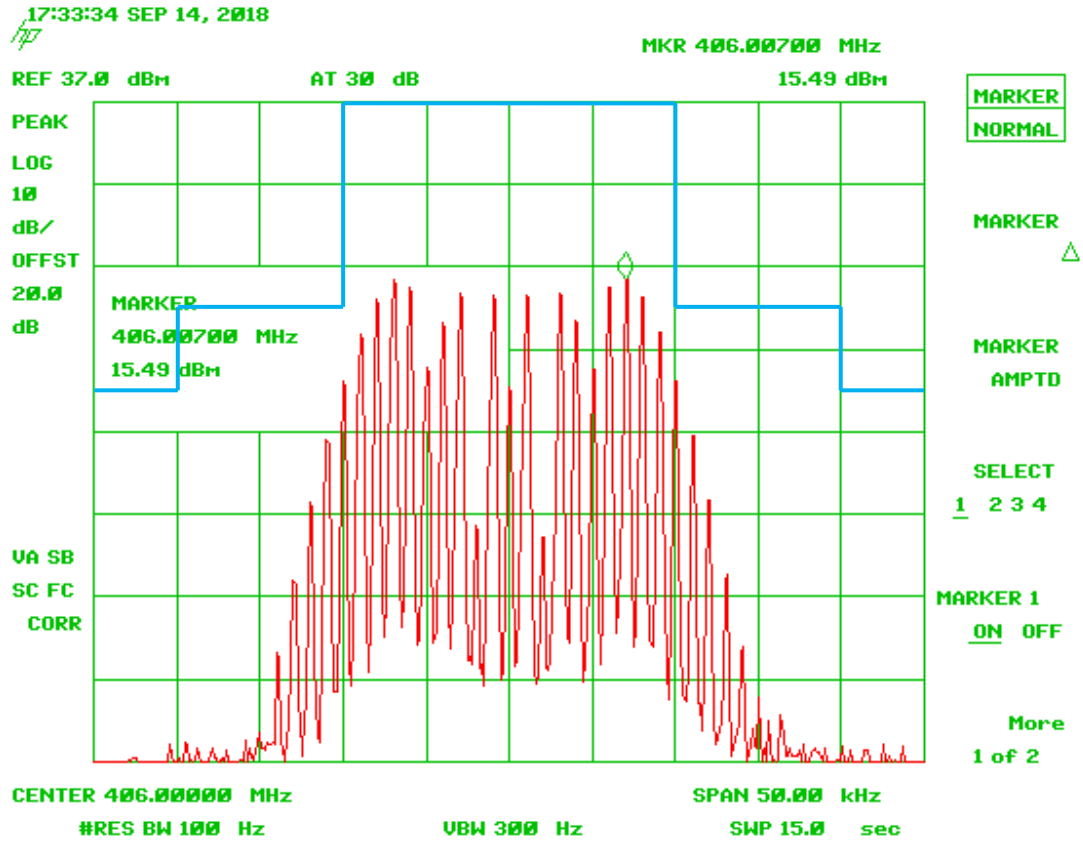


Figure 361. 406 MHz @ 25 kHz, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

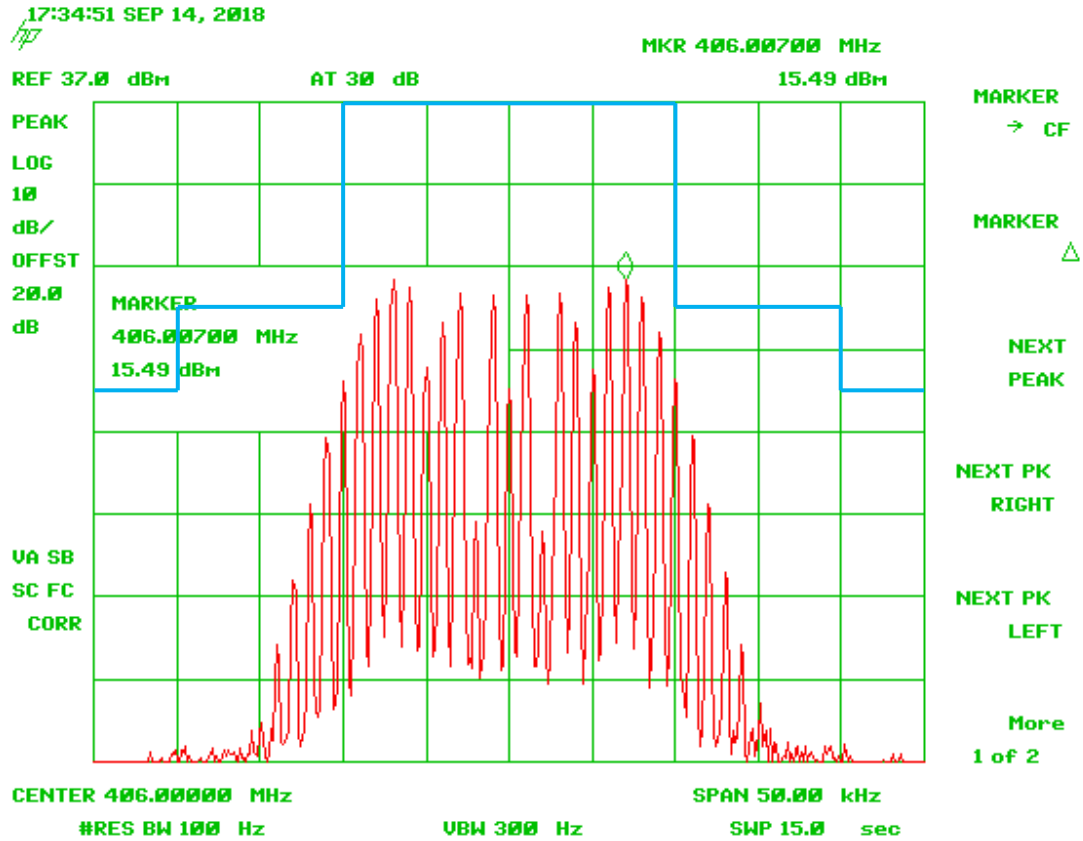


Figure 362. 406 MHz @ 25 kHz + 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

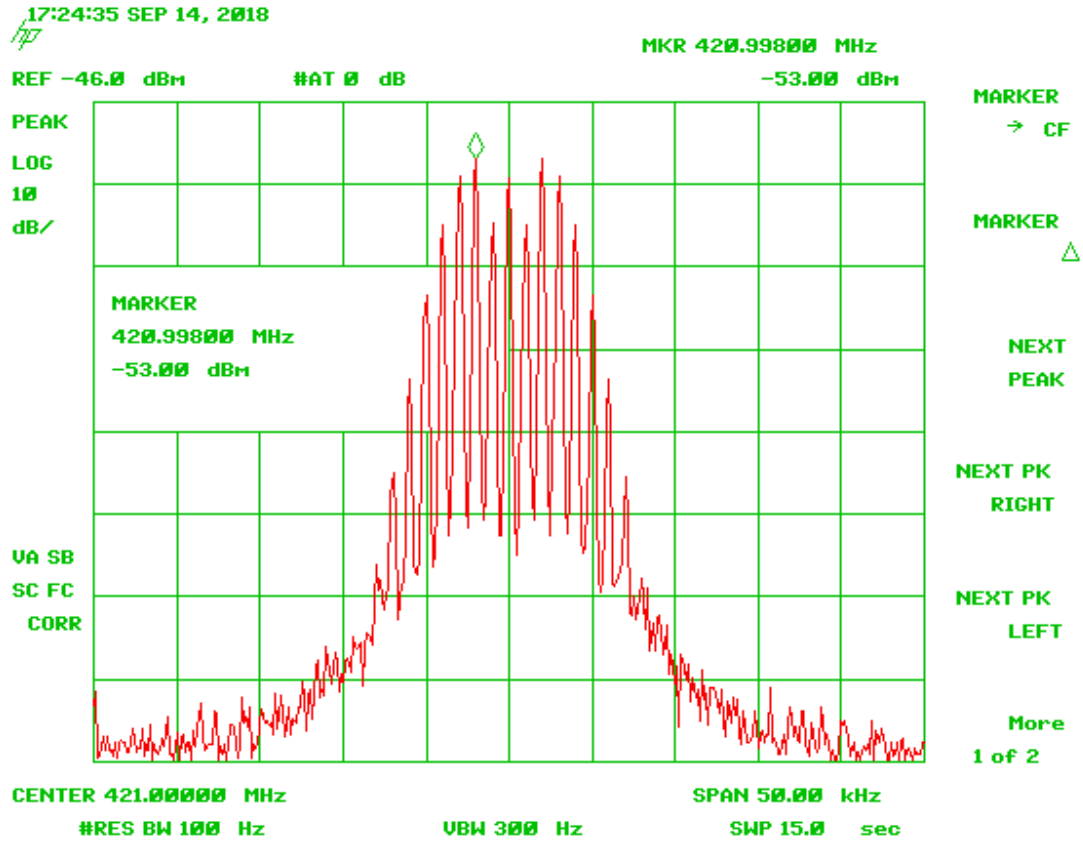


Figure 363. Input 421 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

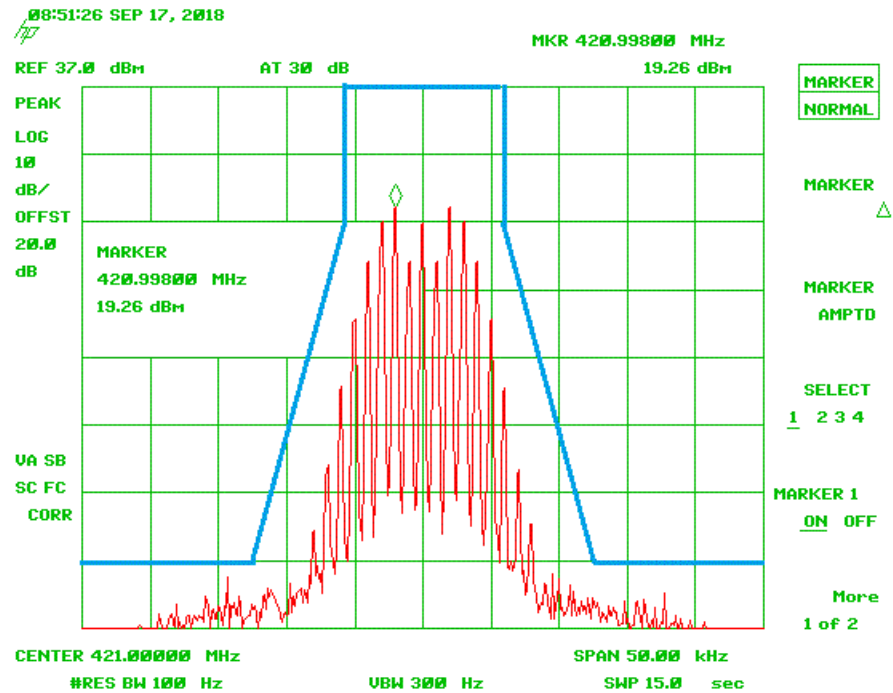


Figure 364. 421 MHz @ 12.5 kHz, Mask B

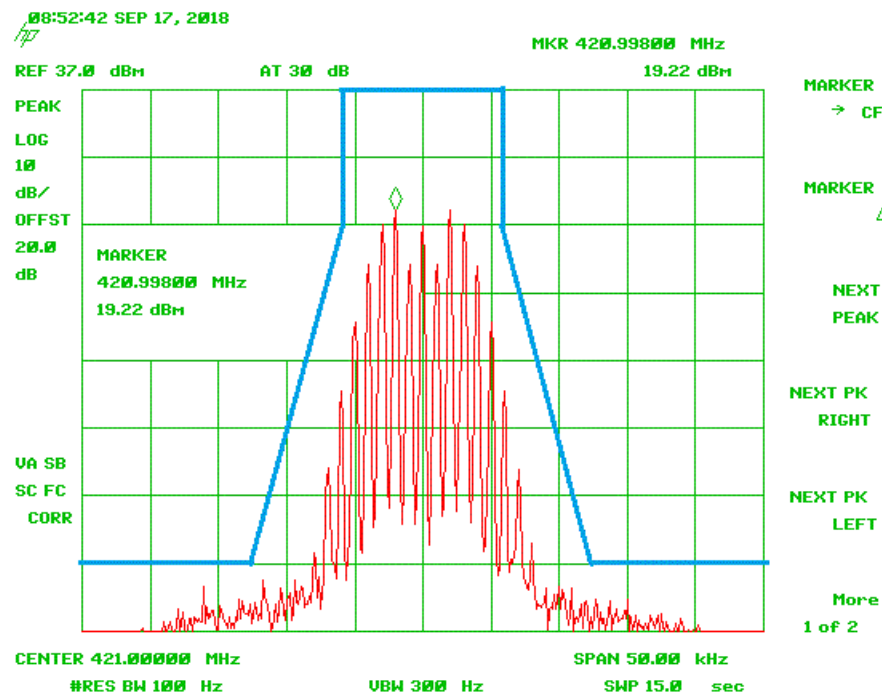


Figure 365. 421 MHz @ 12.5 kHz + 3.0 dB, Mask B

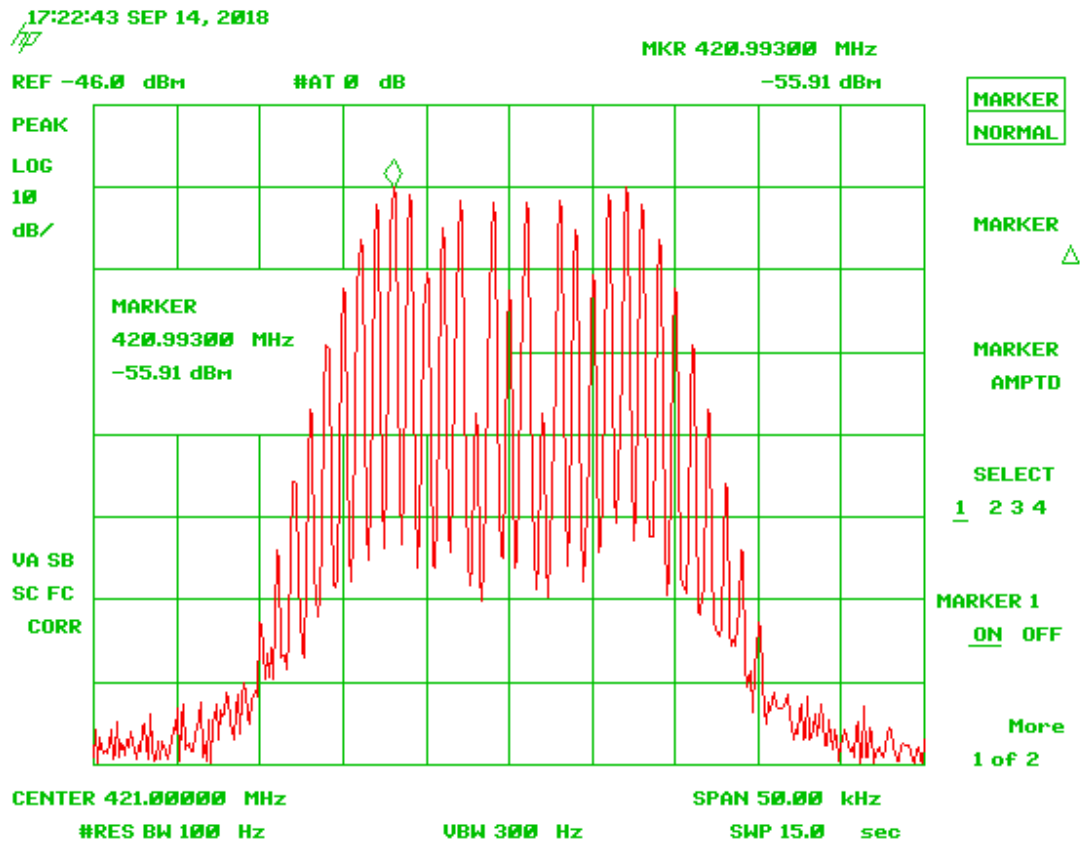


Figure 366. Input 421 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

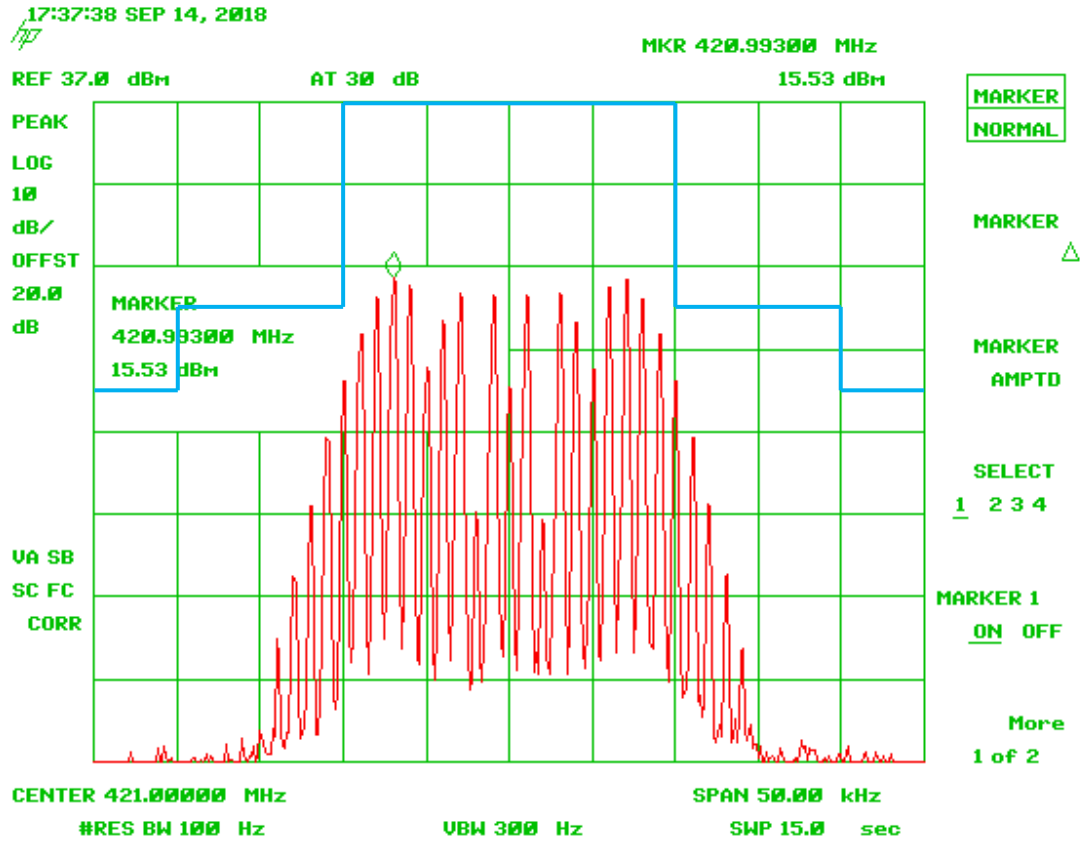


Figure 367. 421 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

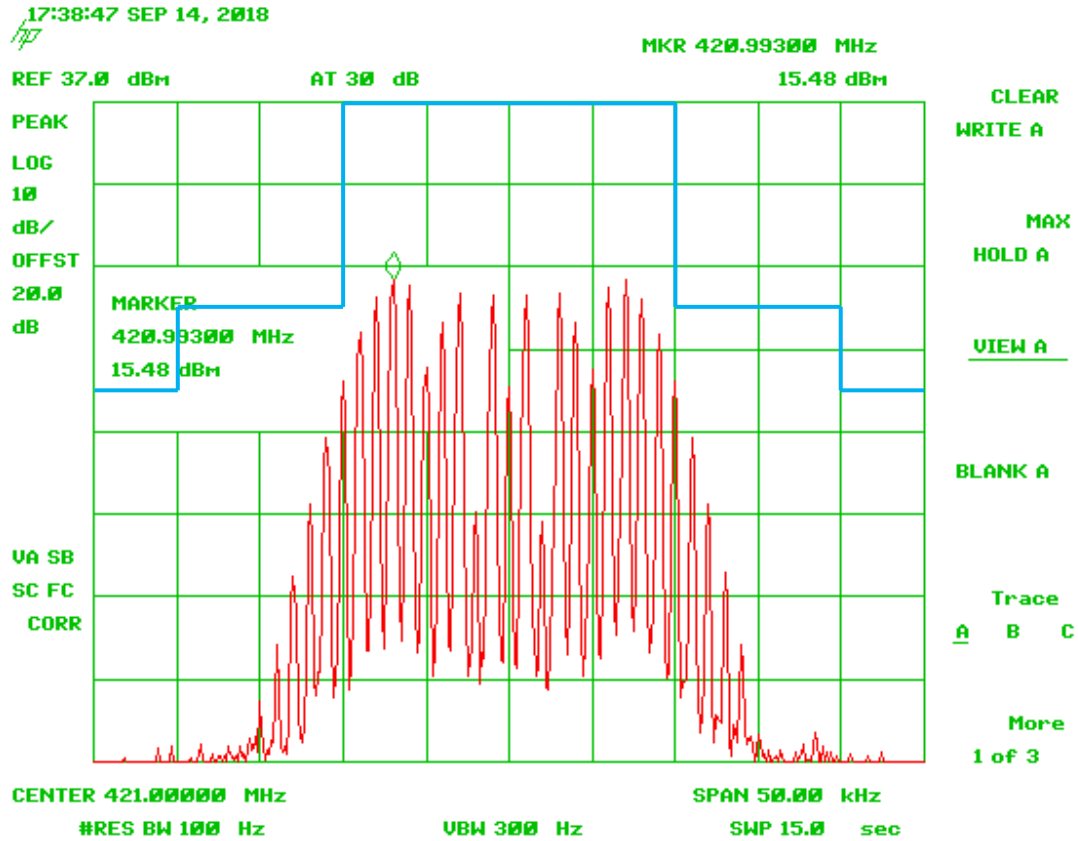


Figure 368. 421 MHz @ 25 kHz + 3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

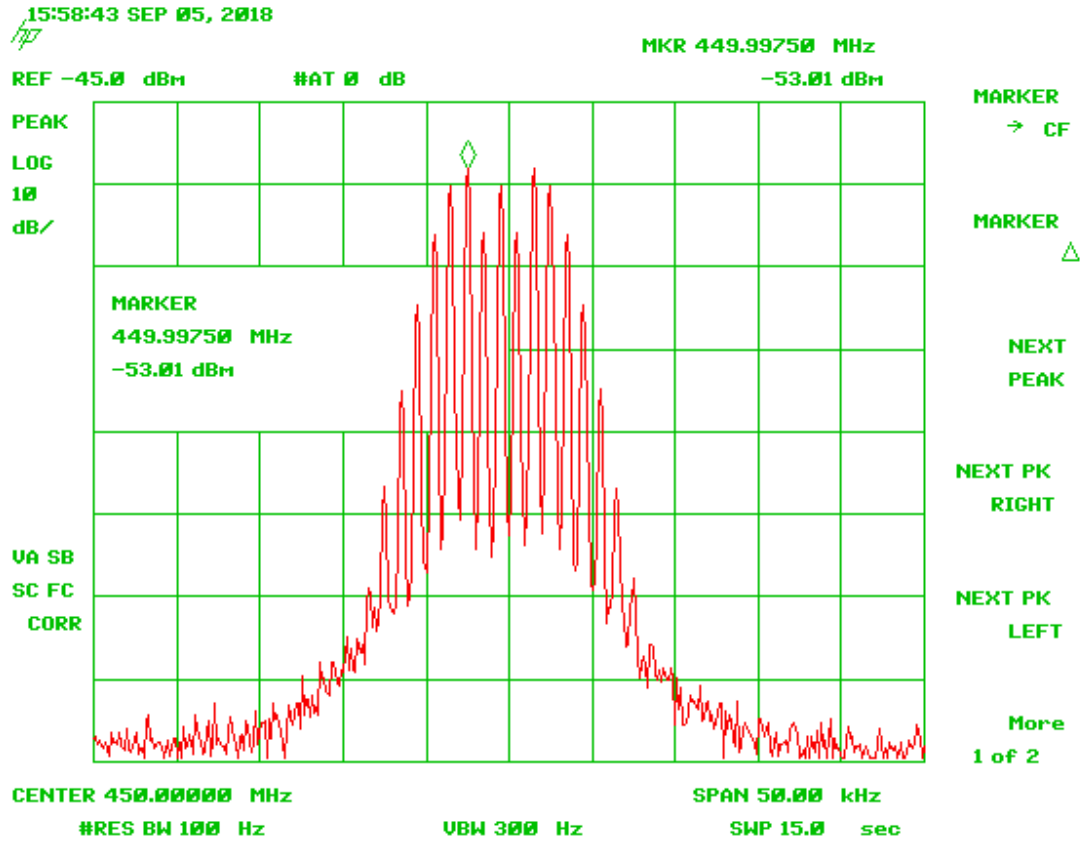


Figure 369. Input 450 MHz @ 12.5 kHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

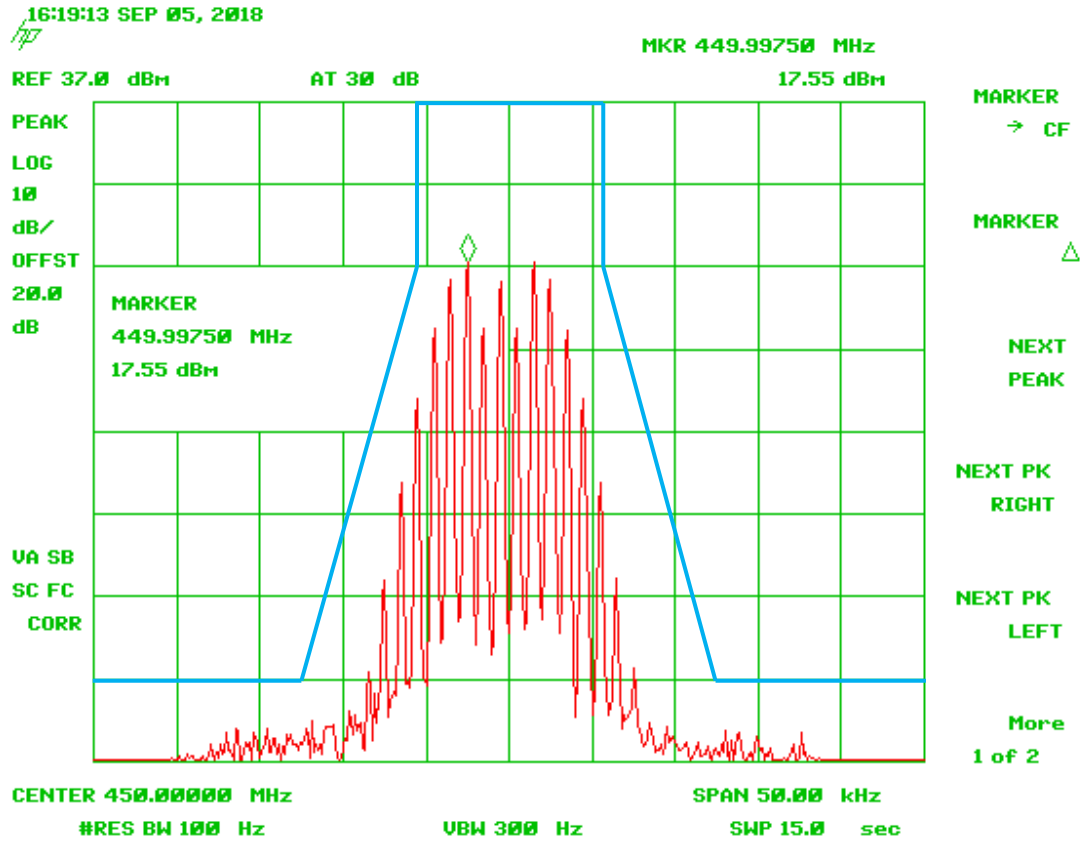


Figure 370. 450 MHz @ 12.5 kHz, Mask D

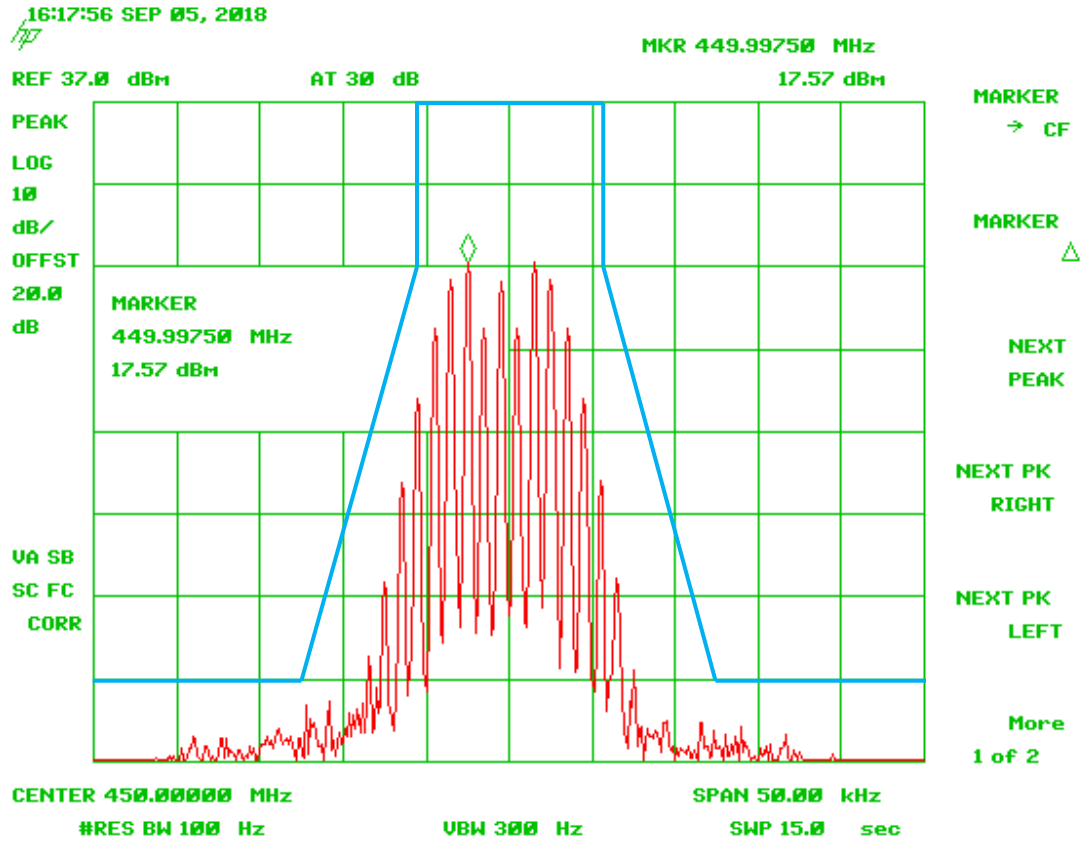


Figure 371. 450 MHz @ 12.5 kHz +3.0 dB, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

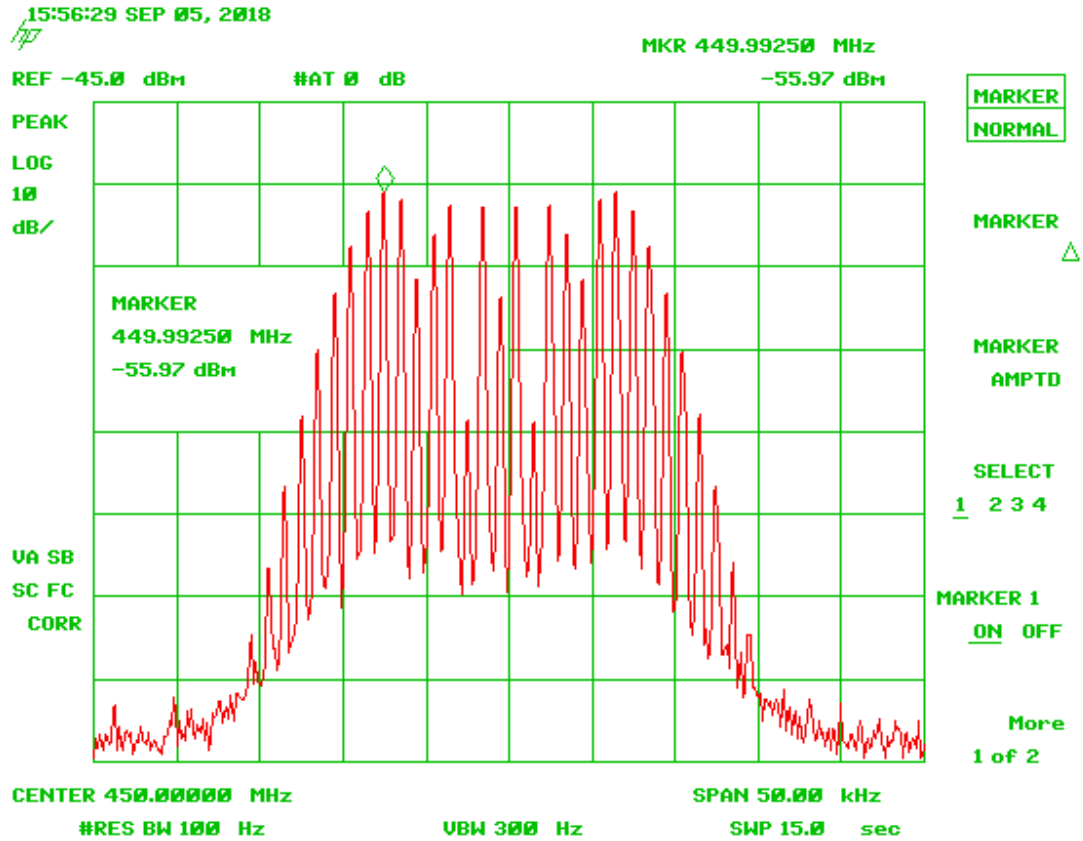


Figure 372. Input 450 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

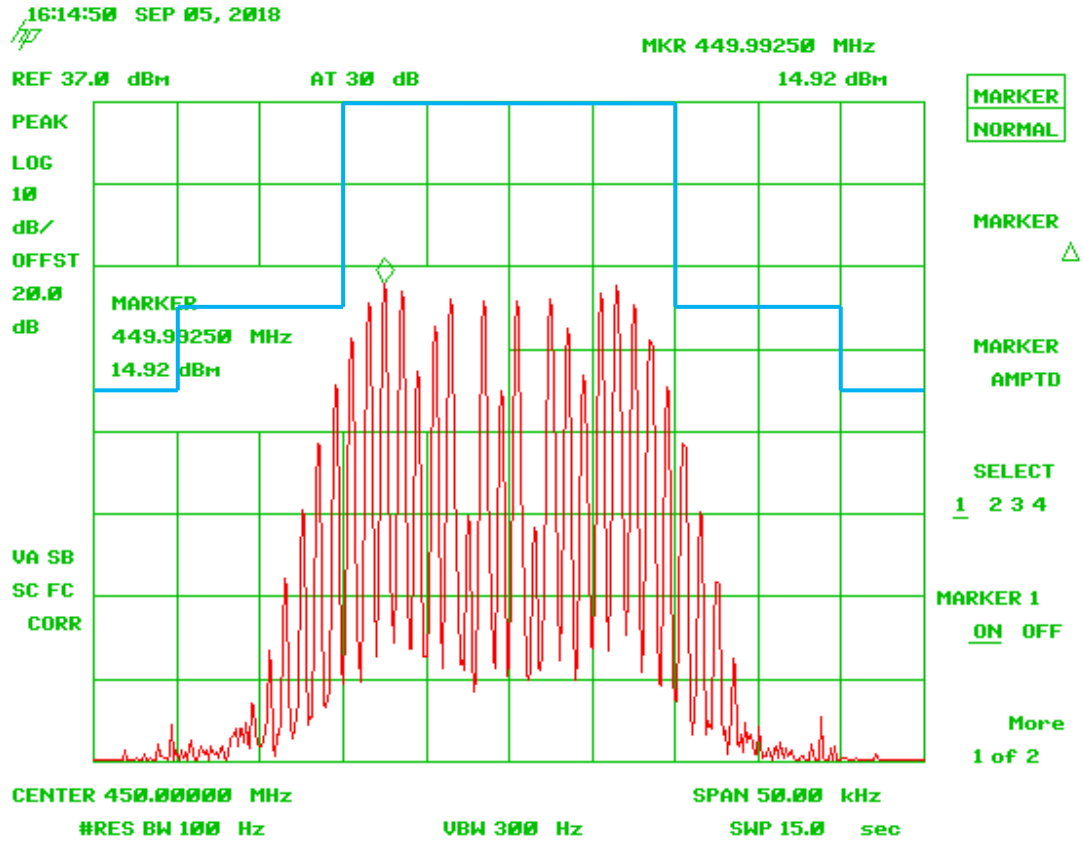


Figure 373. 450 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

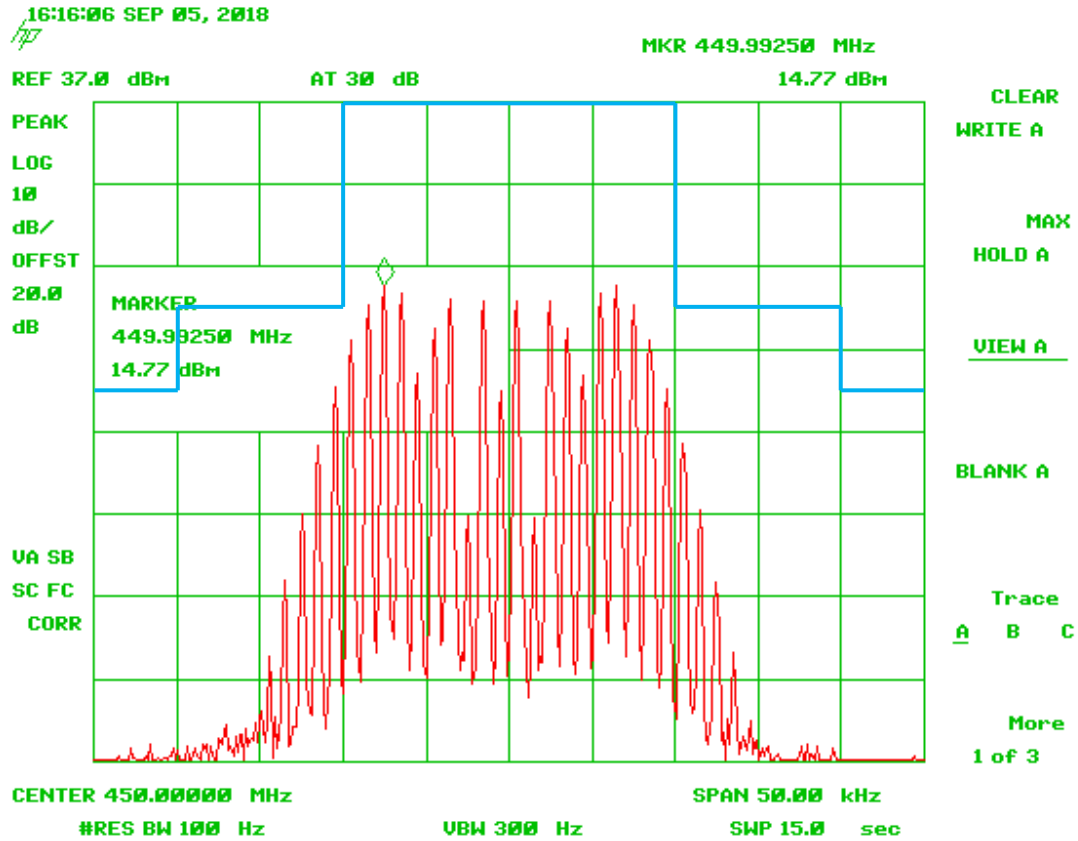


Figure 374. 450 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

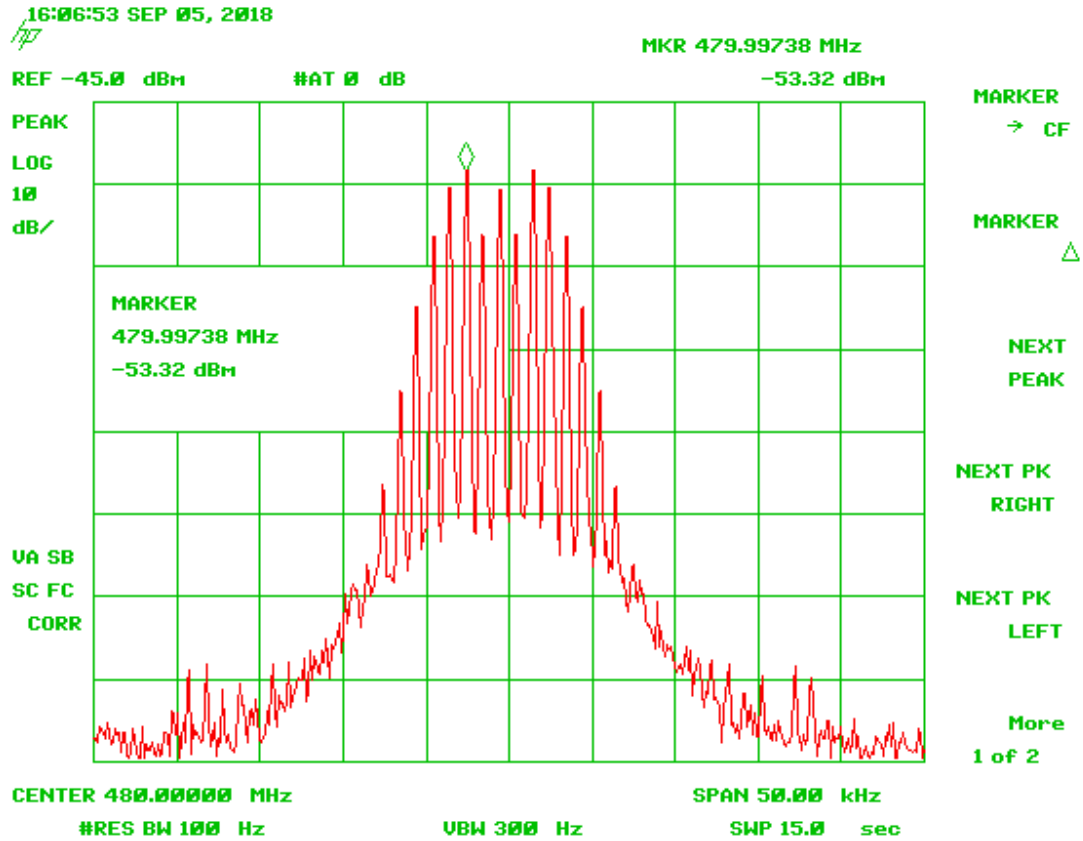


Figure 375. Input 480 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

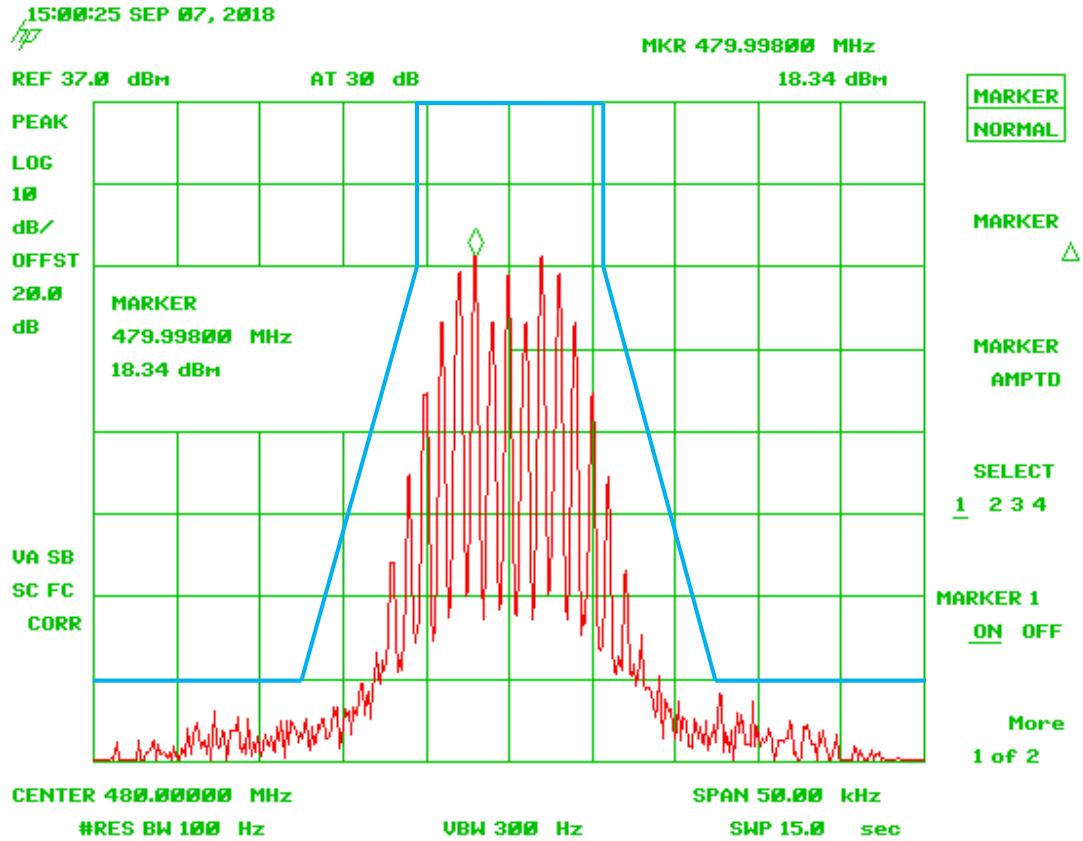


Figure 376. 480 MHz @ 12.5 kHz, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

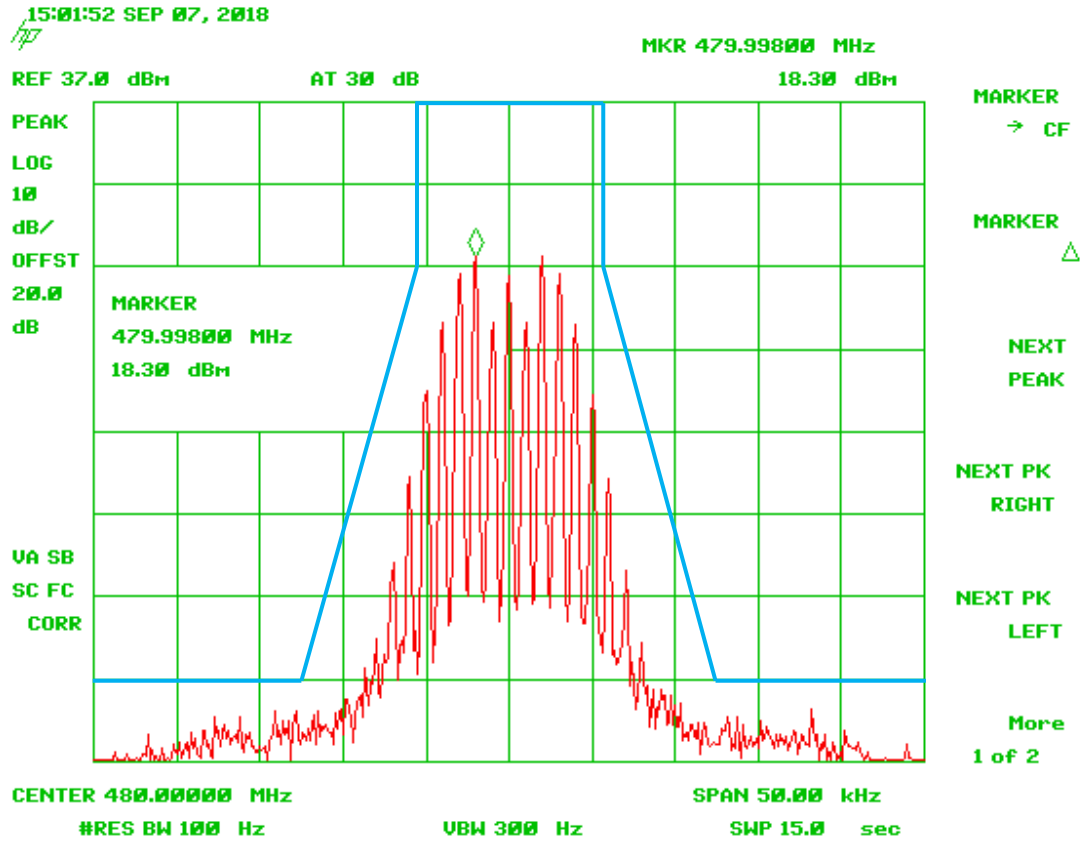


Figure 377. 480 MHz @ 12.5 kHz +3.0 dB, Mask D



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

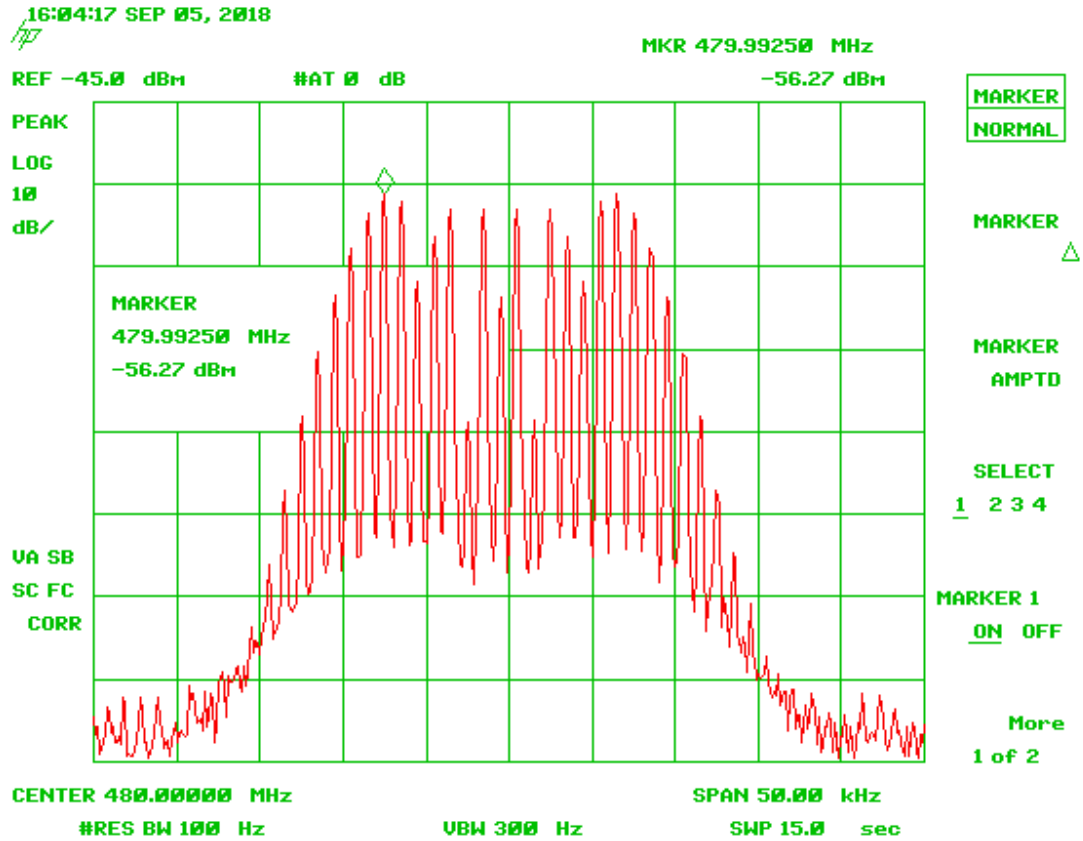


Figure 378. Input 480 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

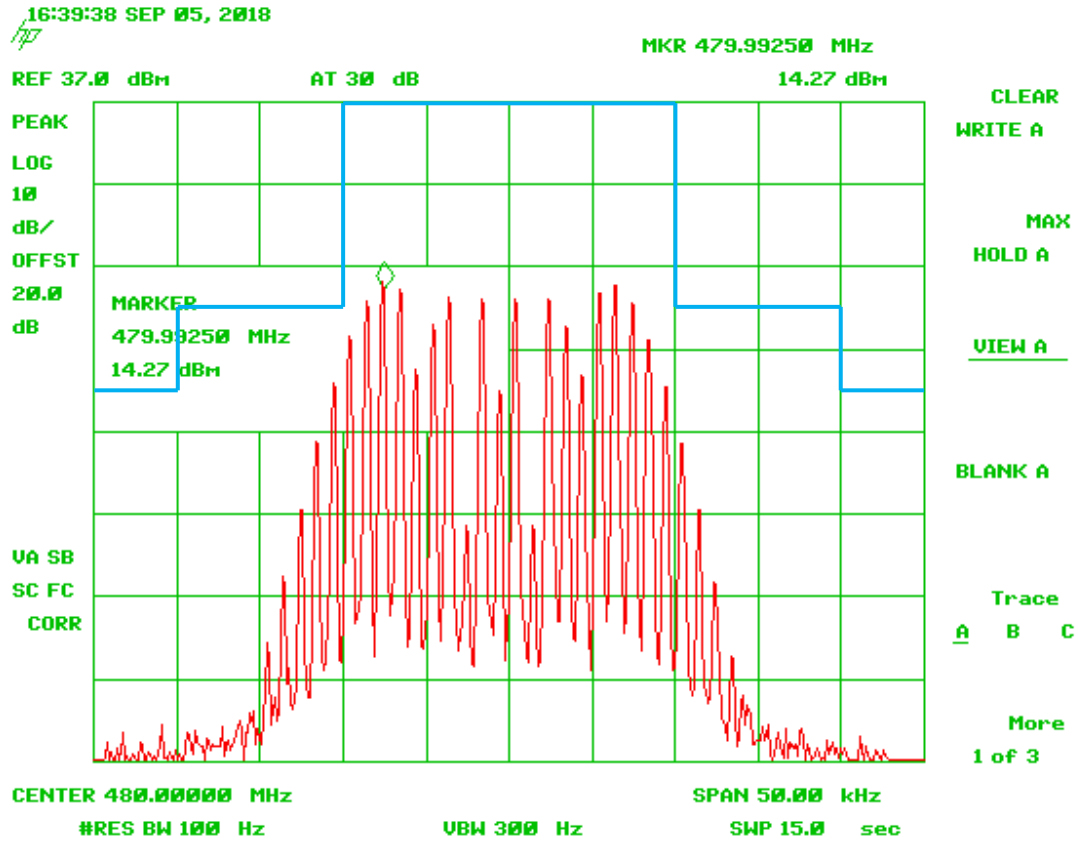


Figure 379. 480 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

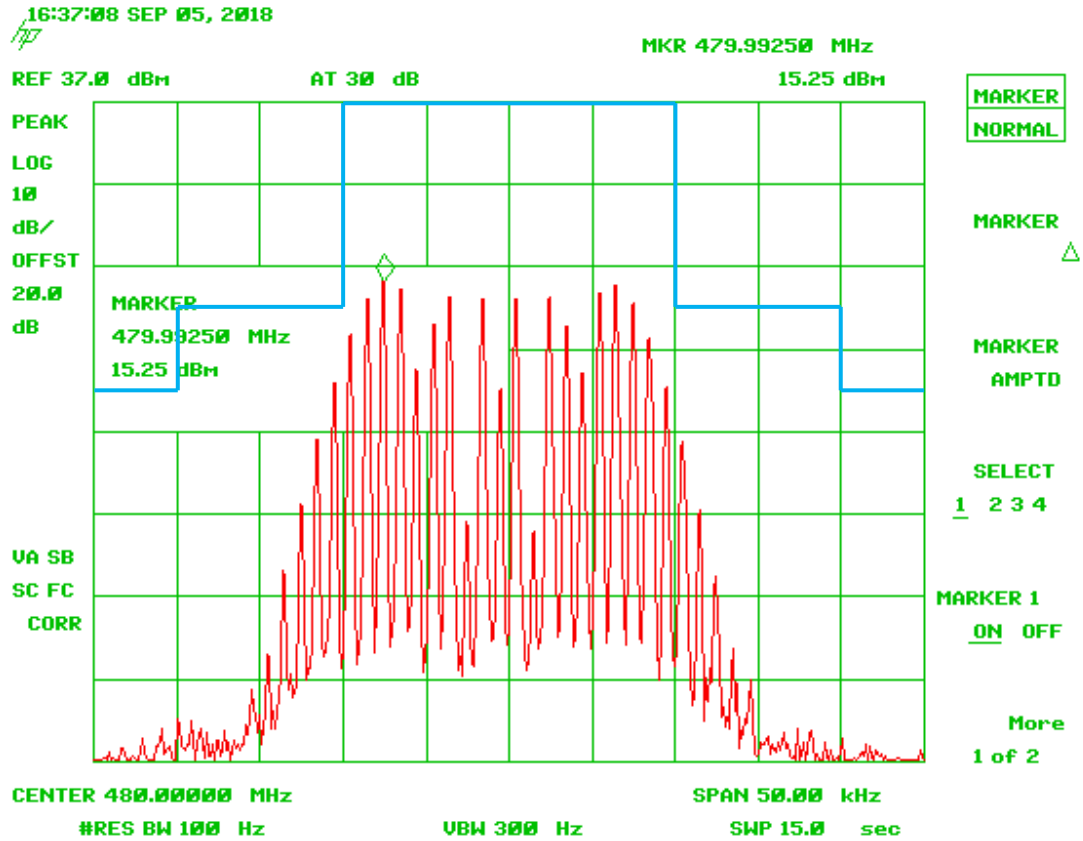


Figure 380. 480 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

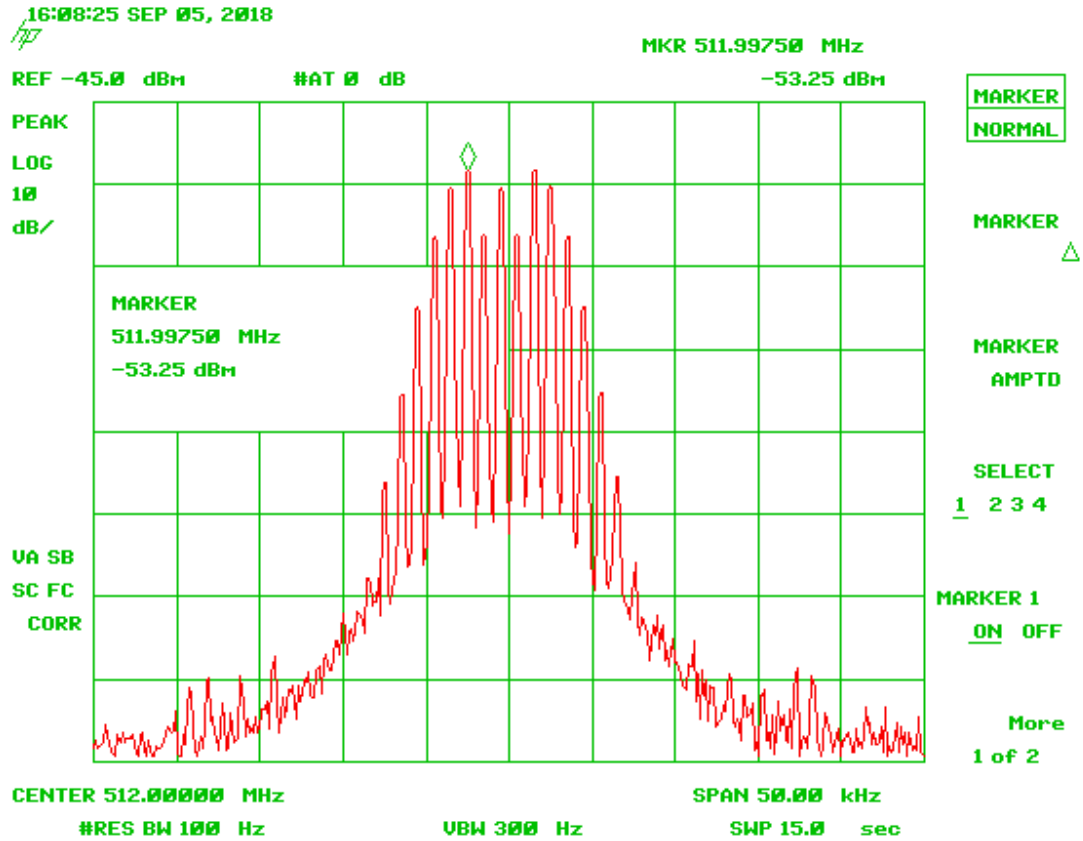


Figure 381. Input 512 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

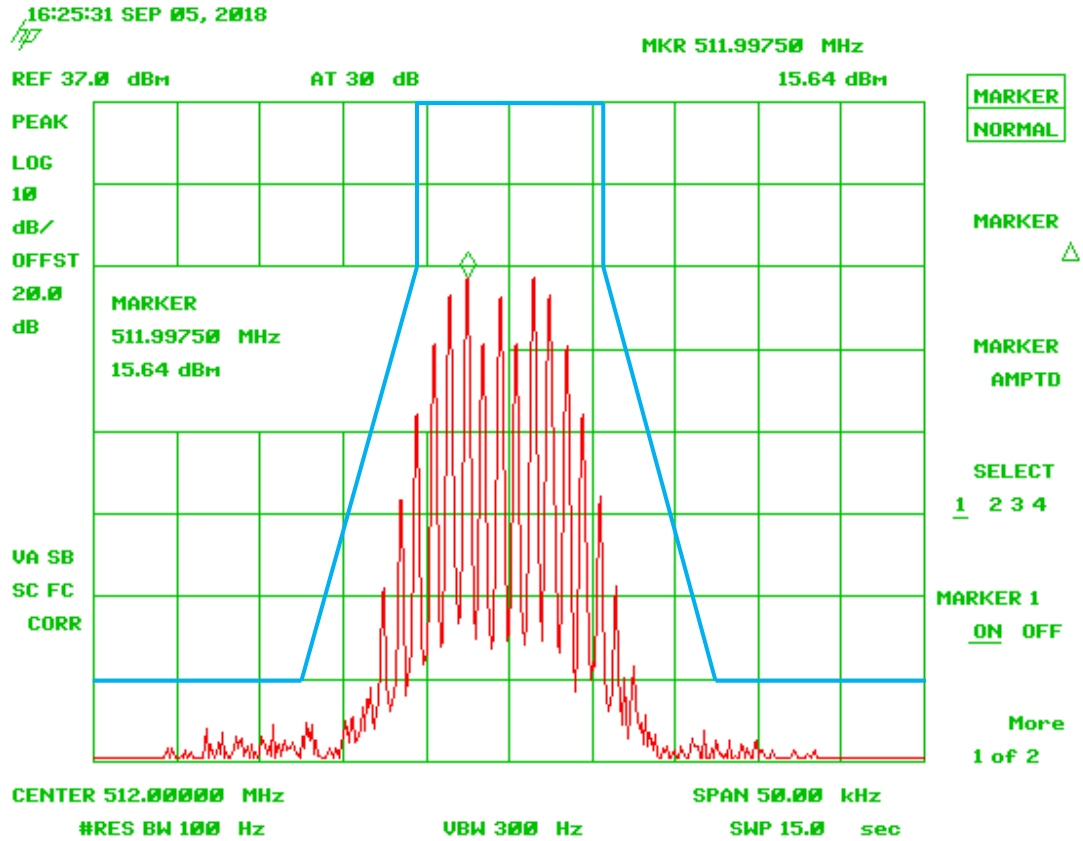


Figure 382. 512 MHz @ 12.5 kHz, Mask D

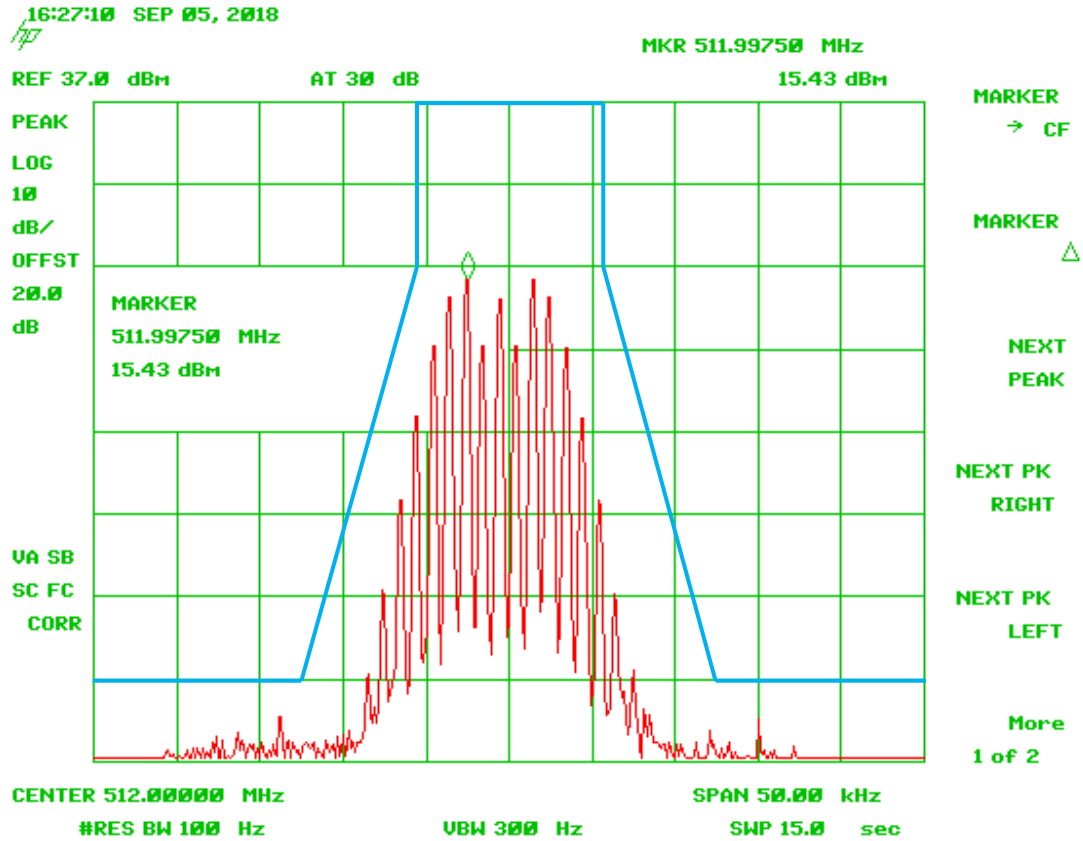


Figure 383. 512 MHz @ 12.5 kHz +3.0 dB, Mask D

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

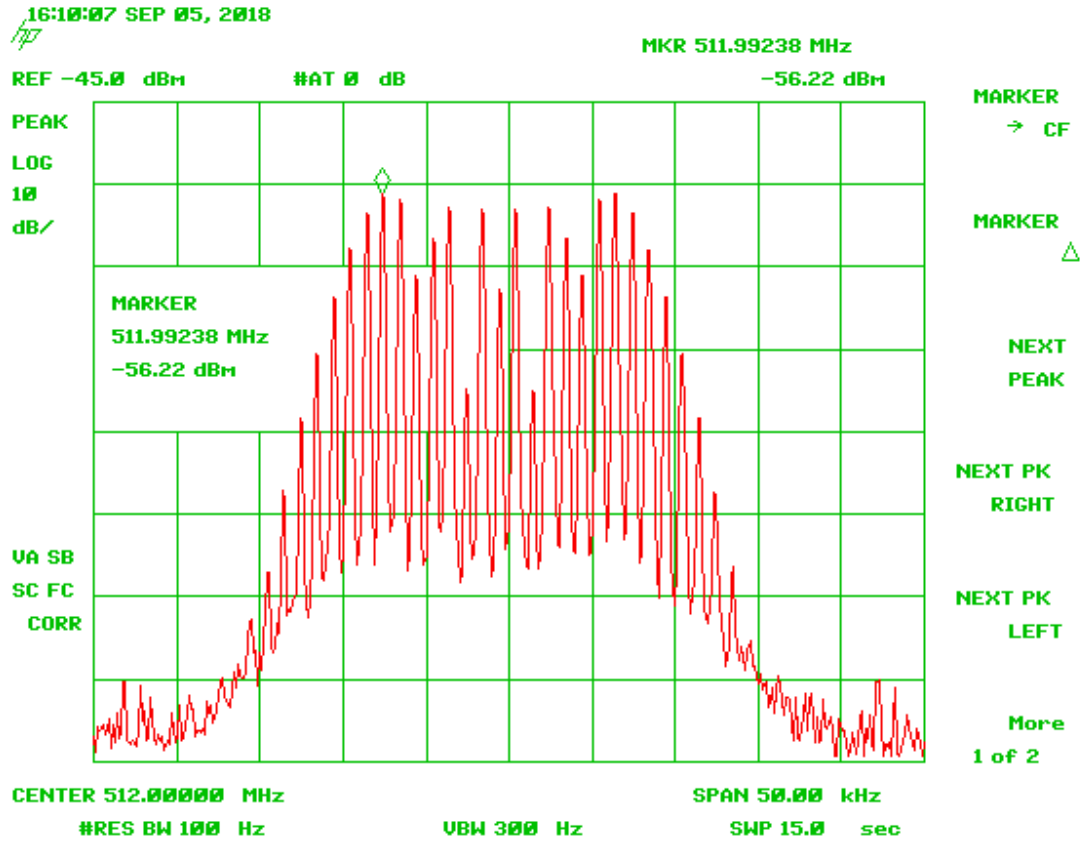


Figure 384. Input 512 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

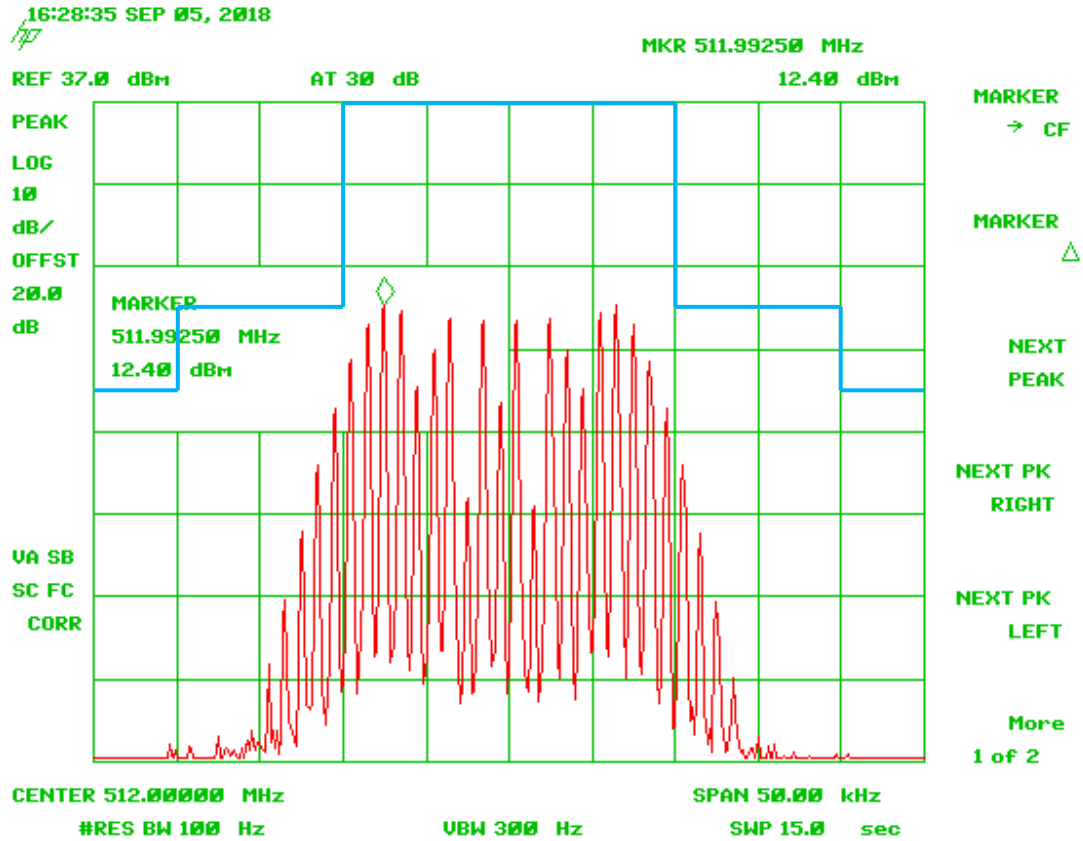


Figure 385. 512 MHz @ 25 kHz, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

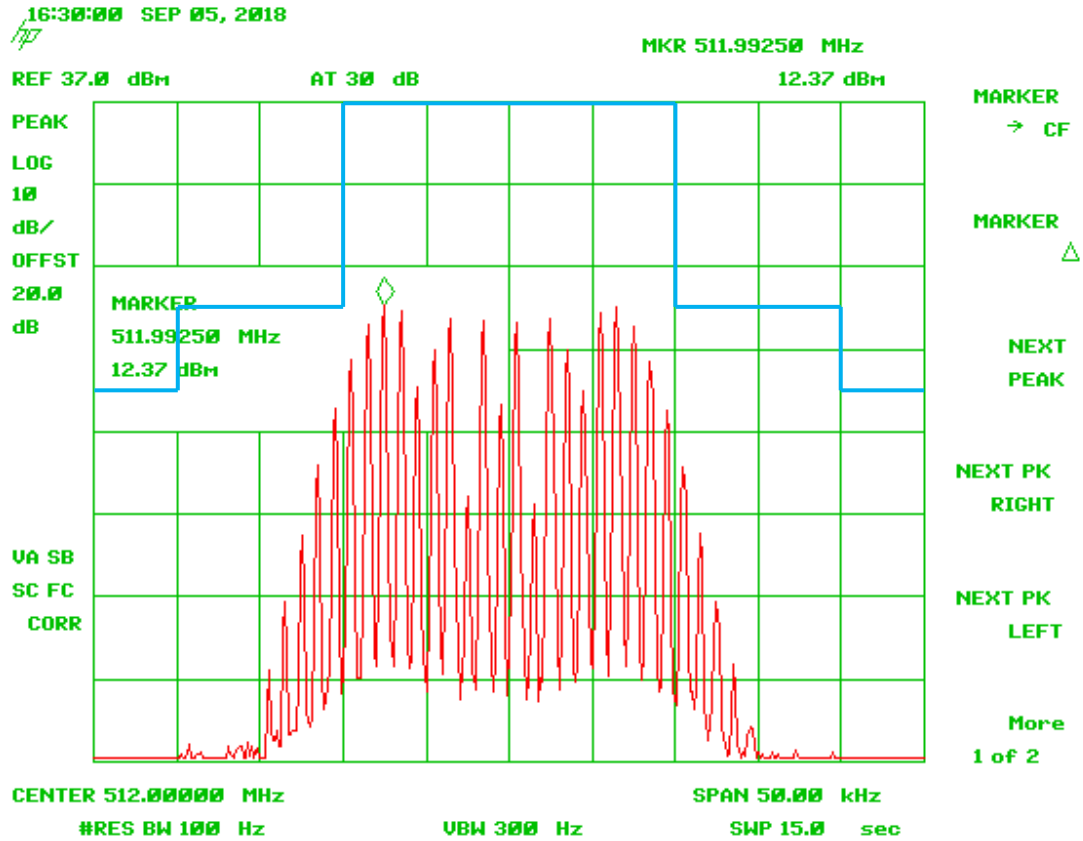


Figure 386. 512 MHz @ 25 kHz +3.0, Mask B

## 2.18.3 700 MHz Channels

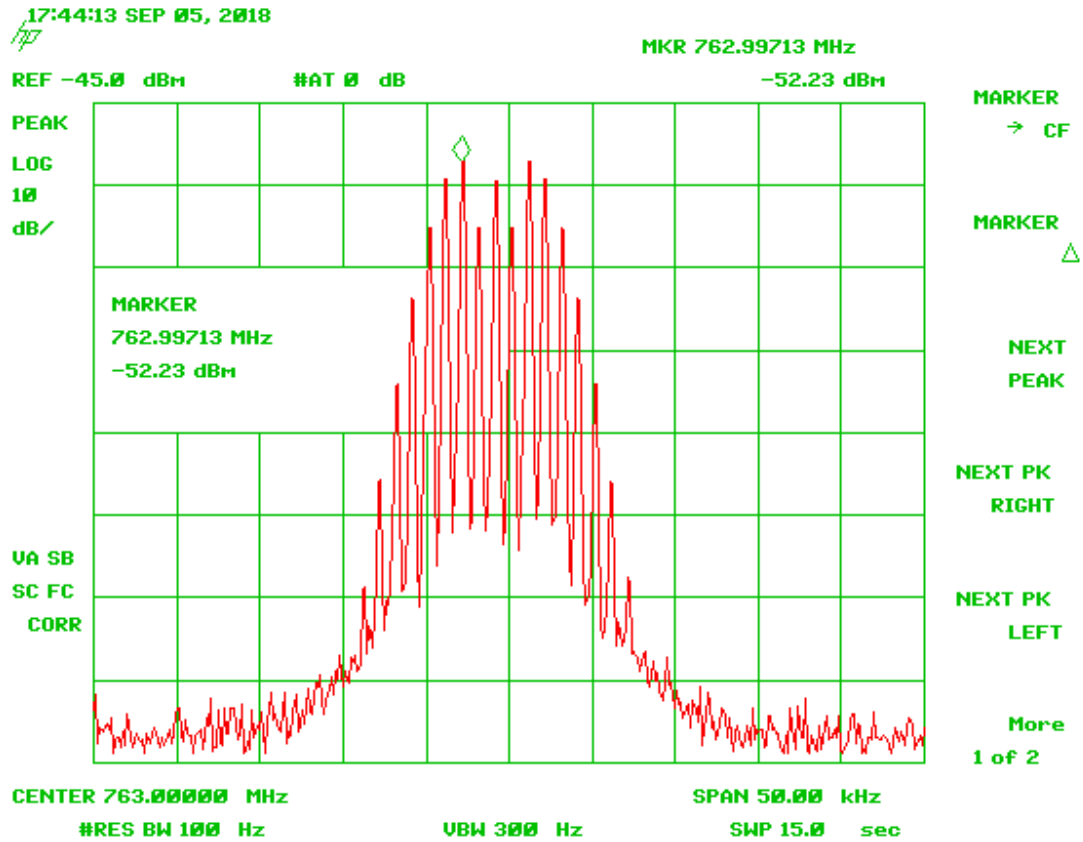


Figure 387. Input 763 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

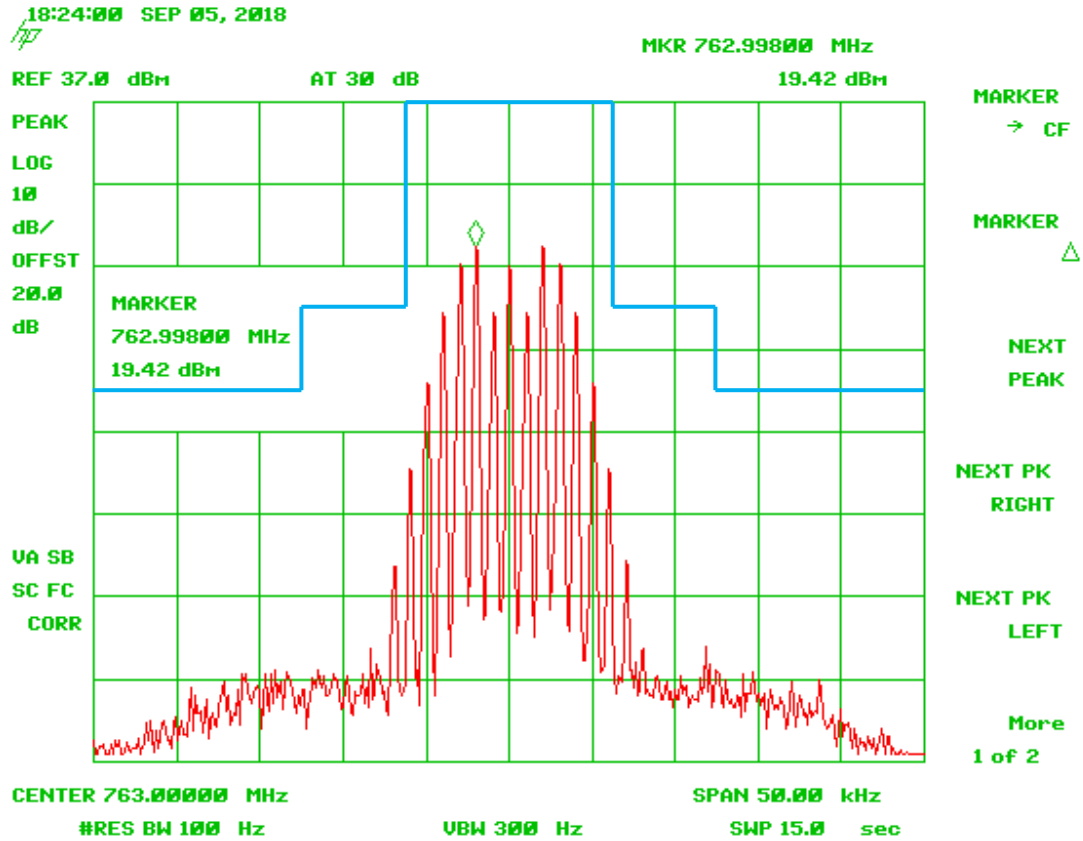


Figure 388. 763 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

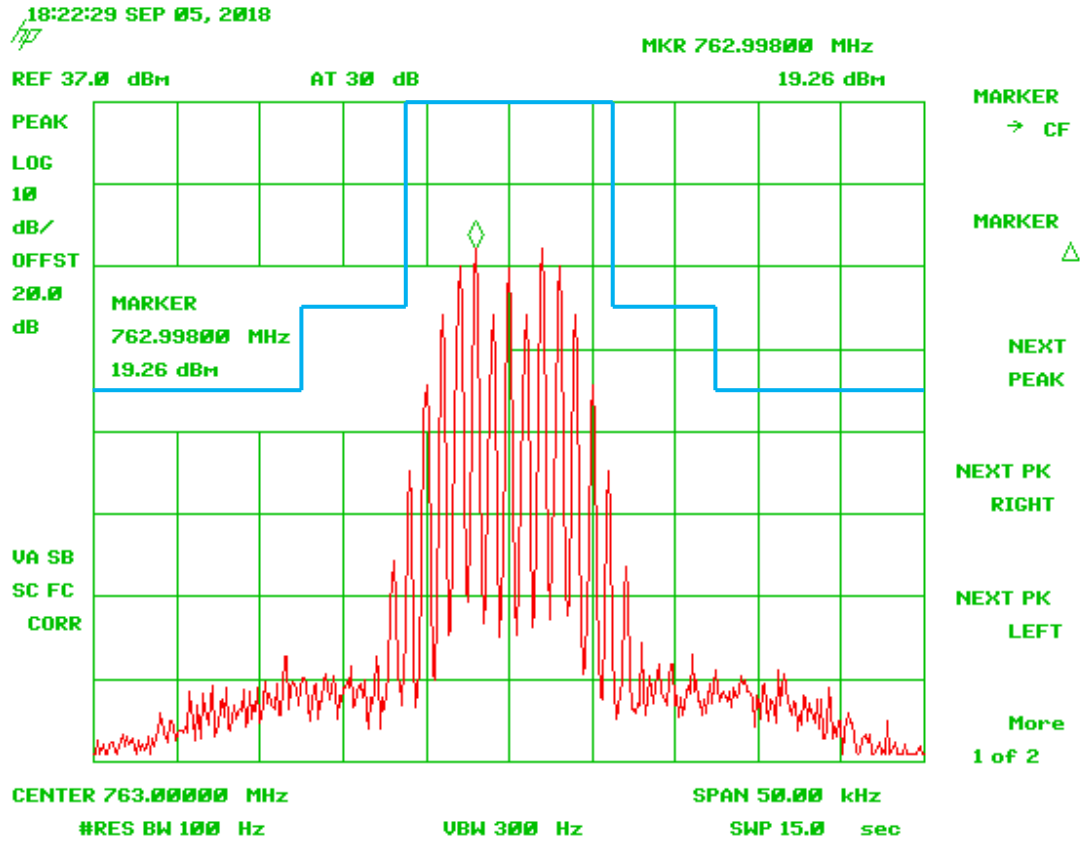


Figure 389. 763 MHz @ 12.5 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

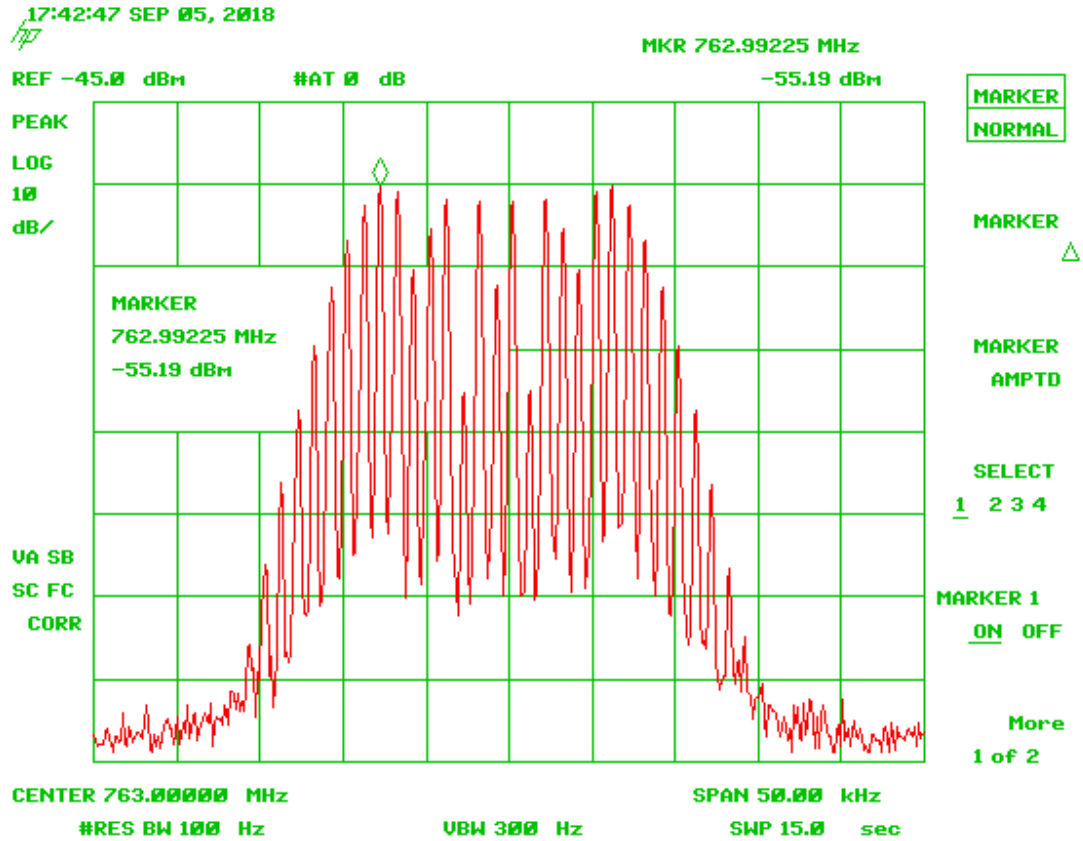


Figure 390. Input 763 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

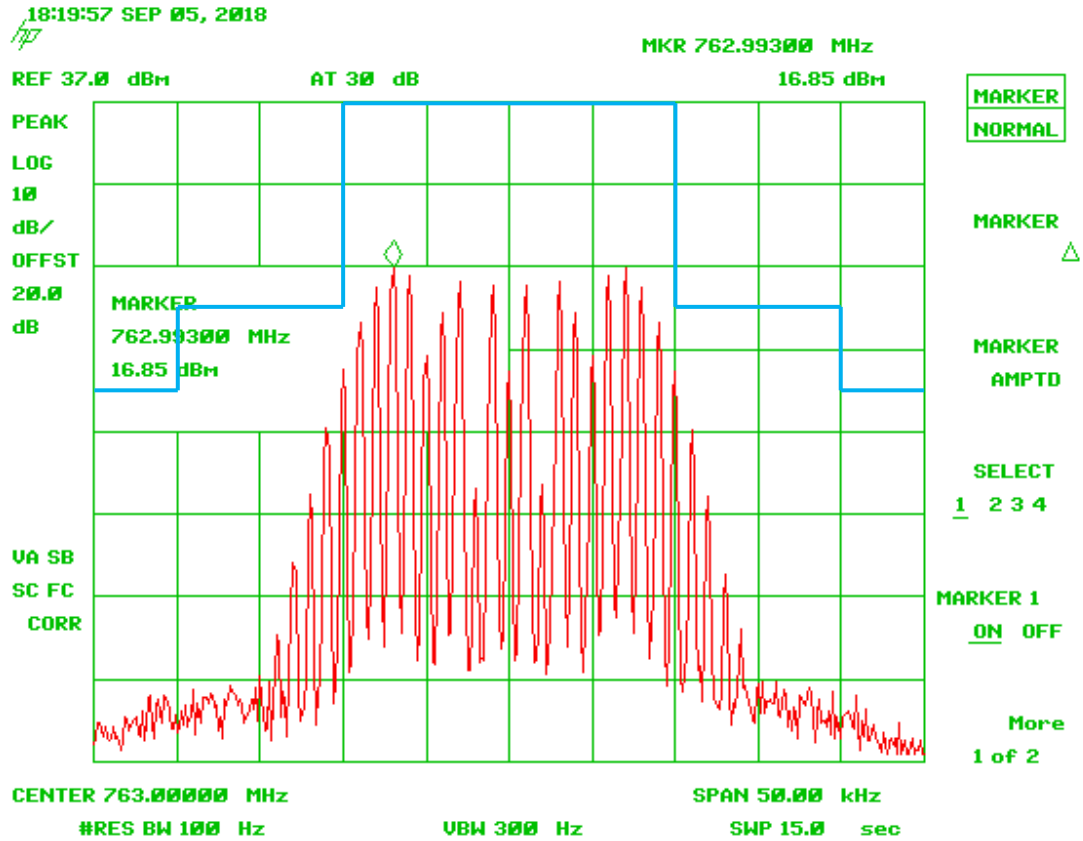


Figure 391. 763 MHz @ 25 kHz, Mask B

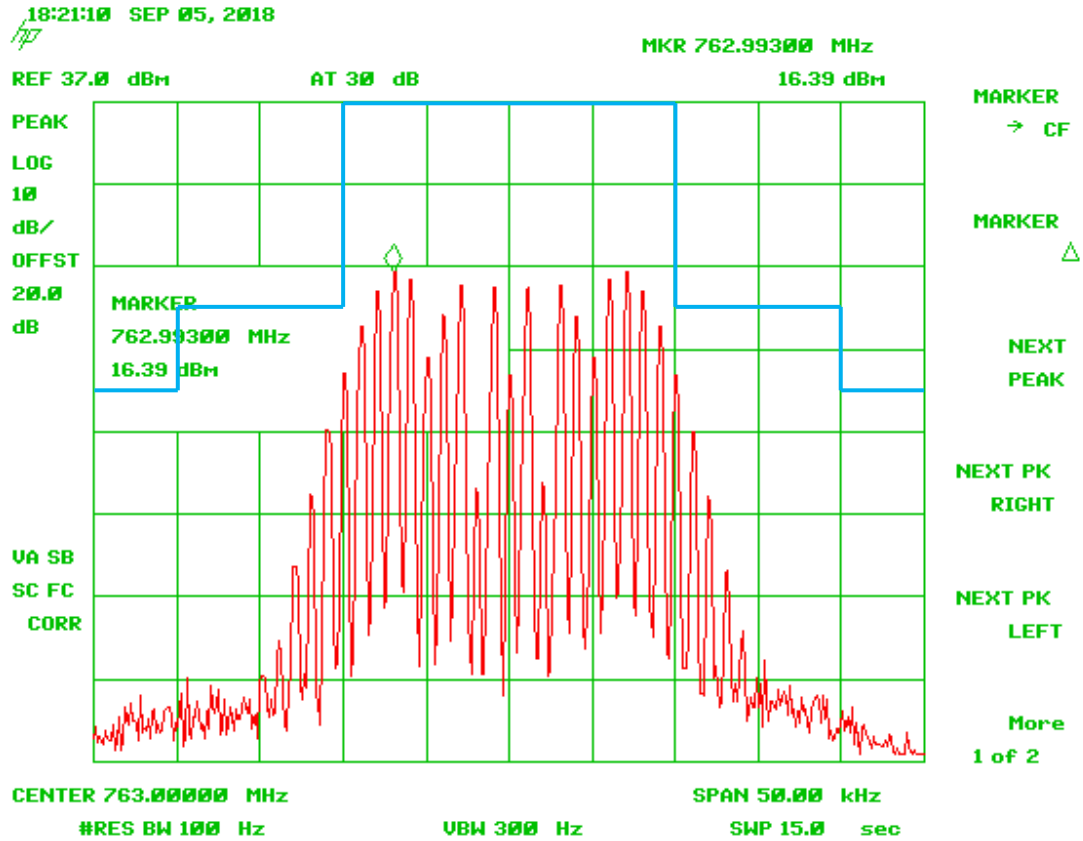


Figure 392. 763 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

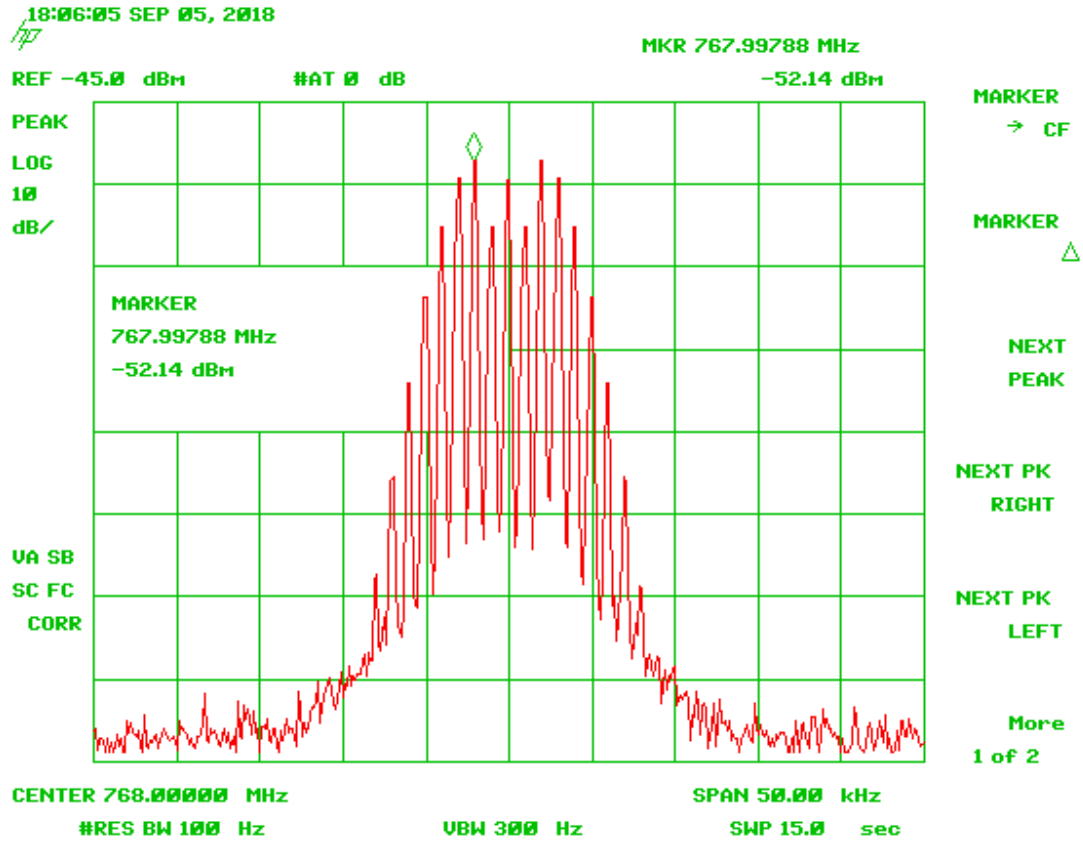


Figure 393. Input 768 MHz @ 12.5 kHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

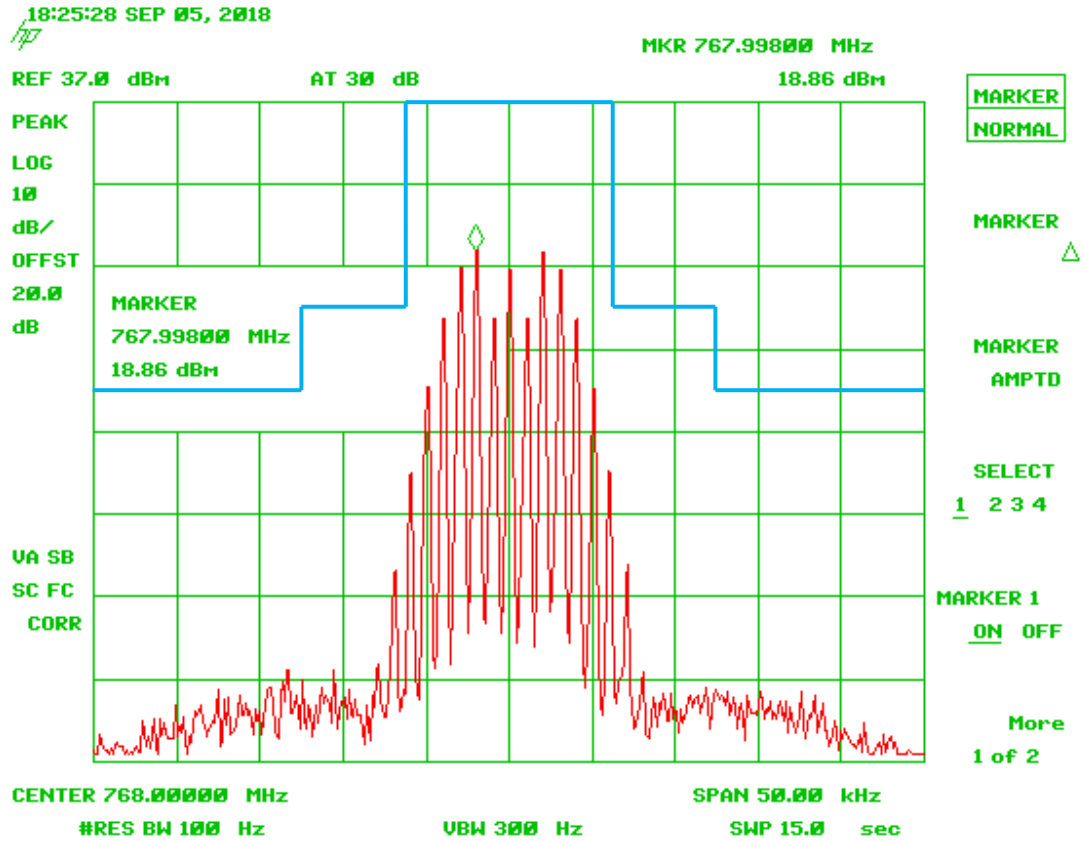


Figure 394. 768 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

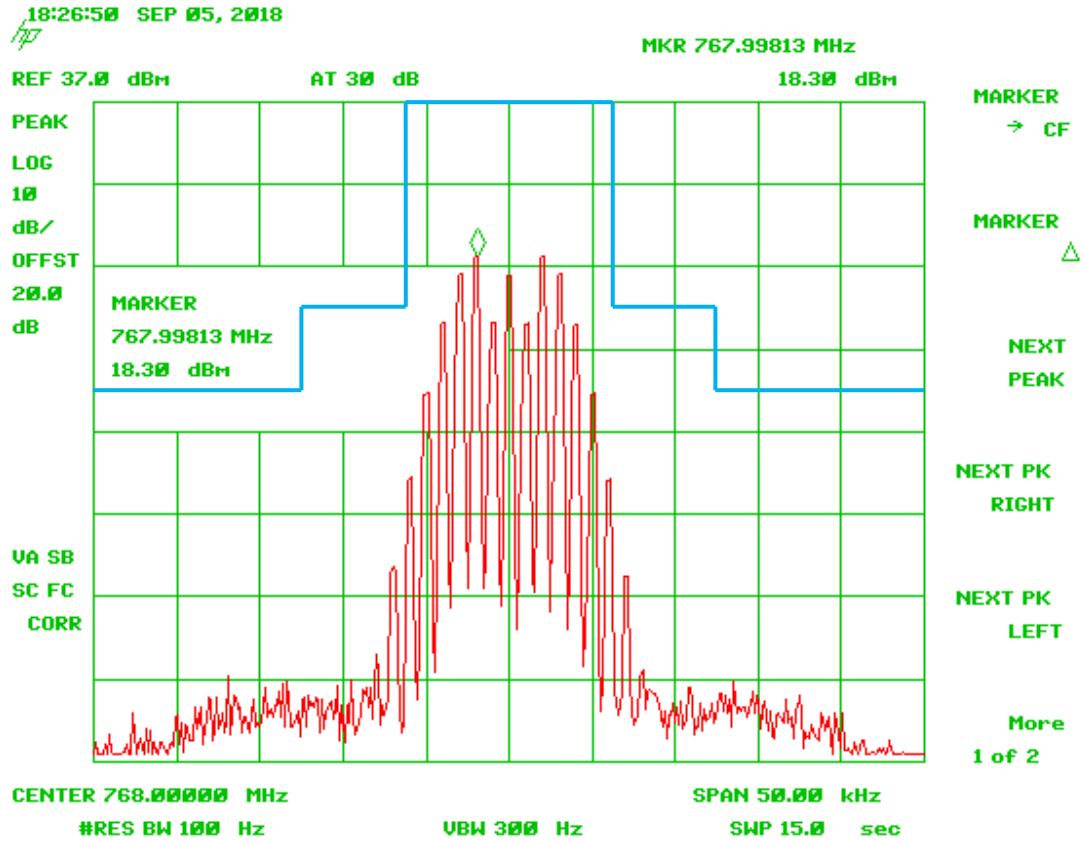


Figure 395. 768 MHz @ 12.5 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

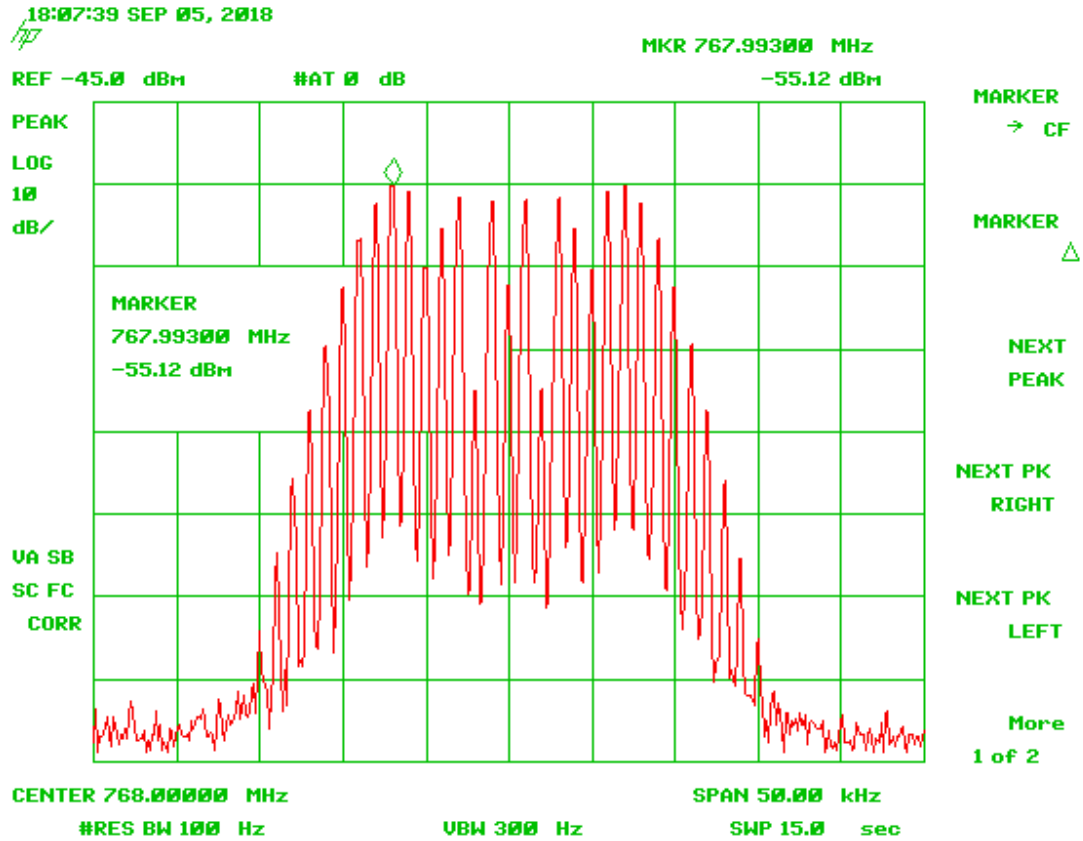


Figure 396. Input 768 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

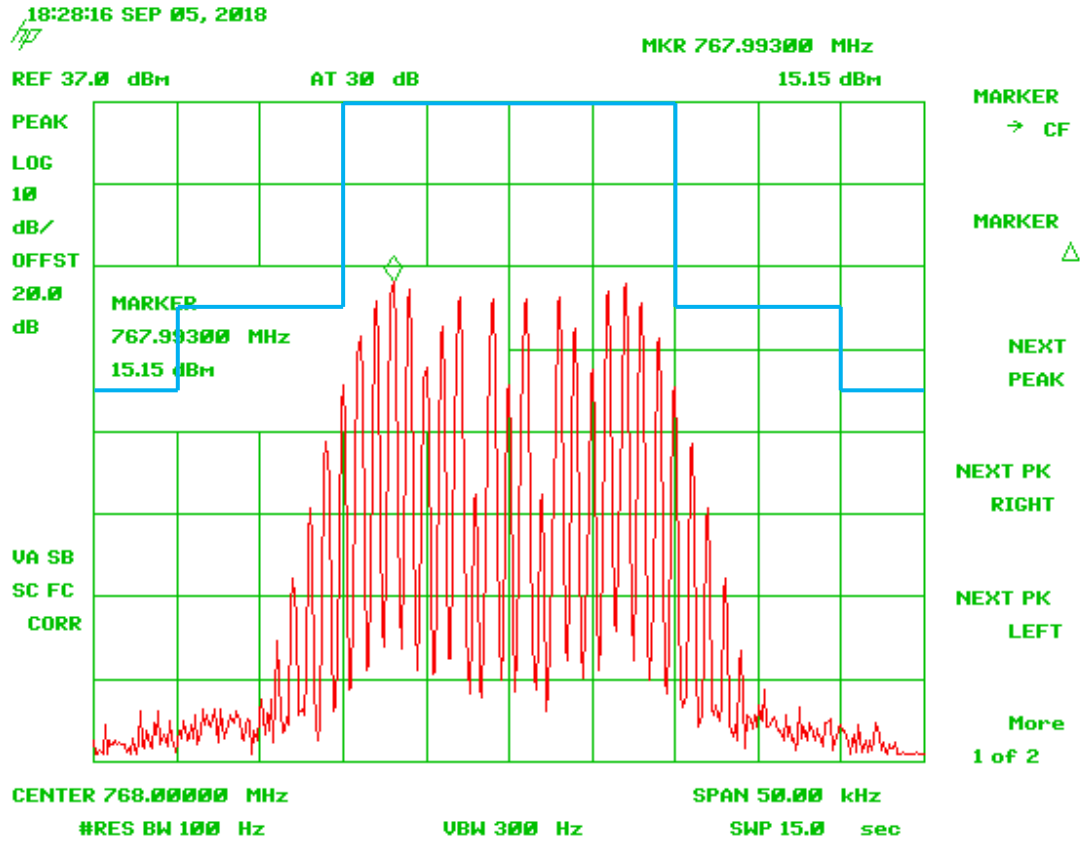


Figure 397. 768 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

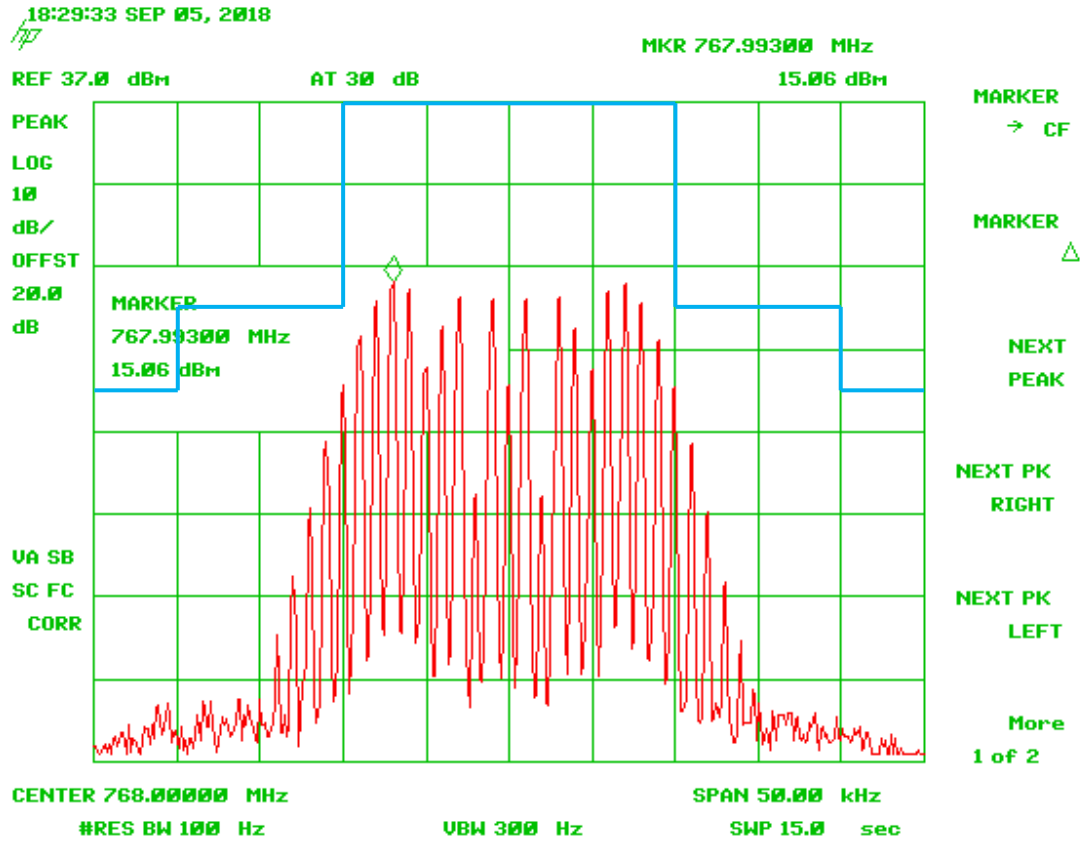


Figure 398. 768 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

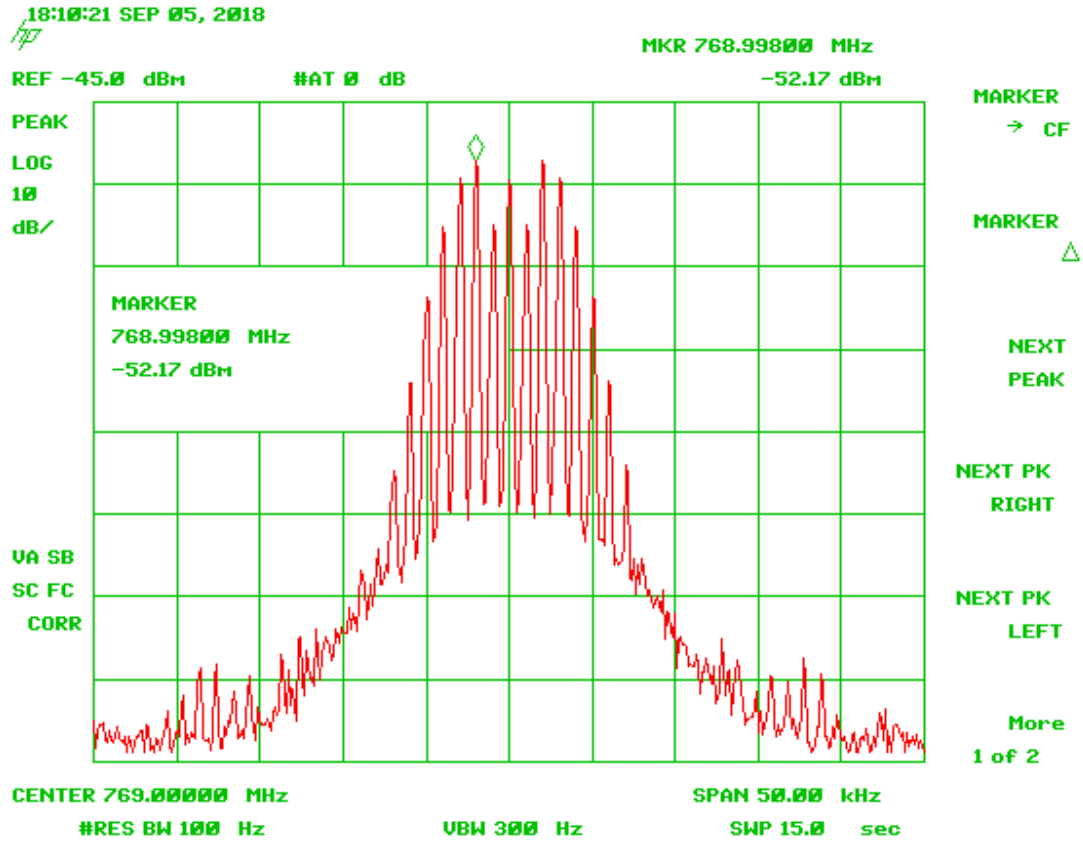


Figure 399. Input 769 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

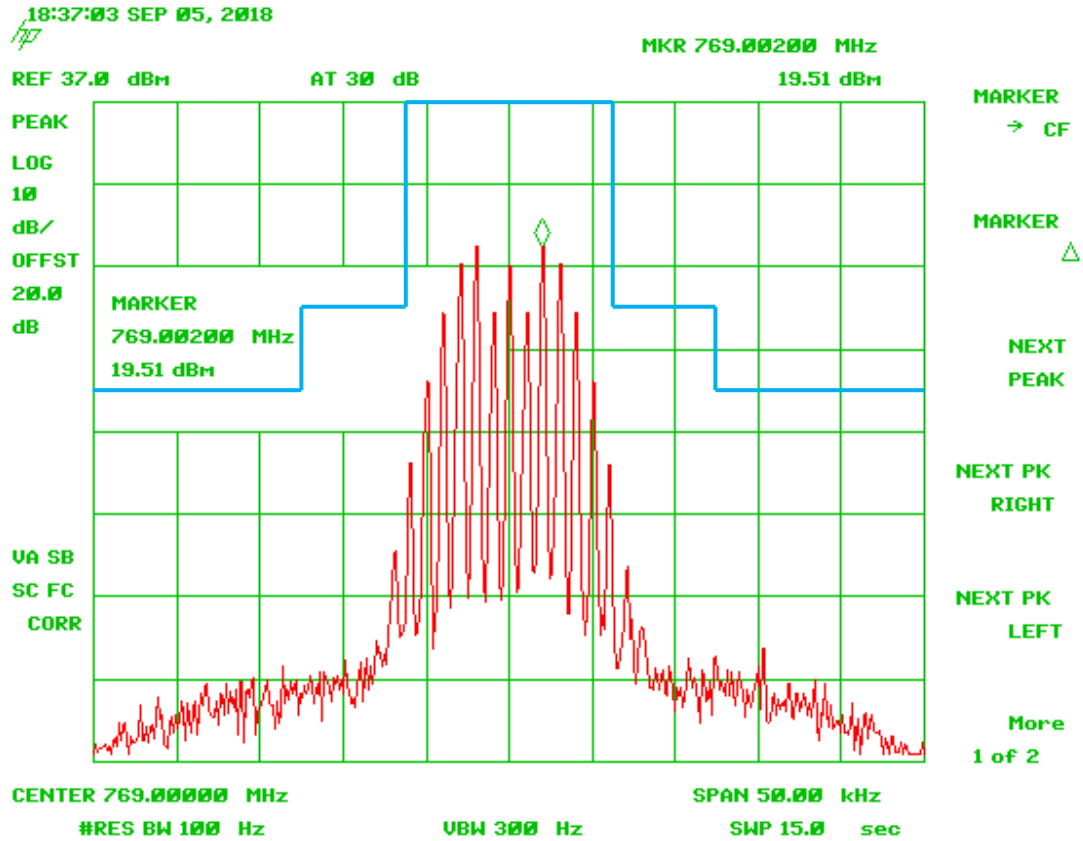


Figure 400. 769 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

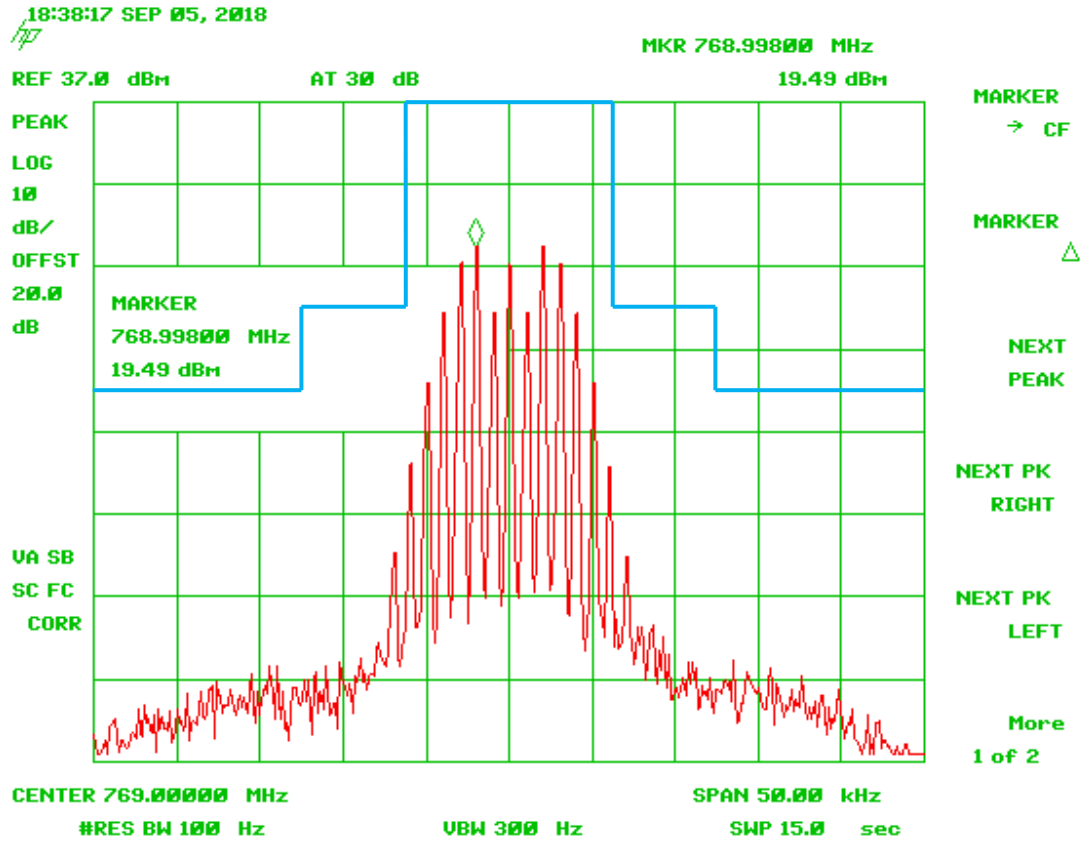


Figure 401. 769 MHz @ 12.5 kHz +3.0 dB, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

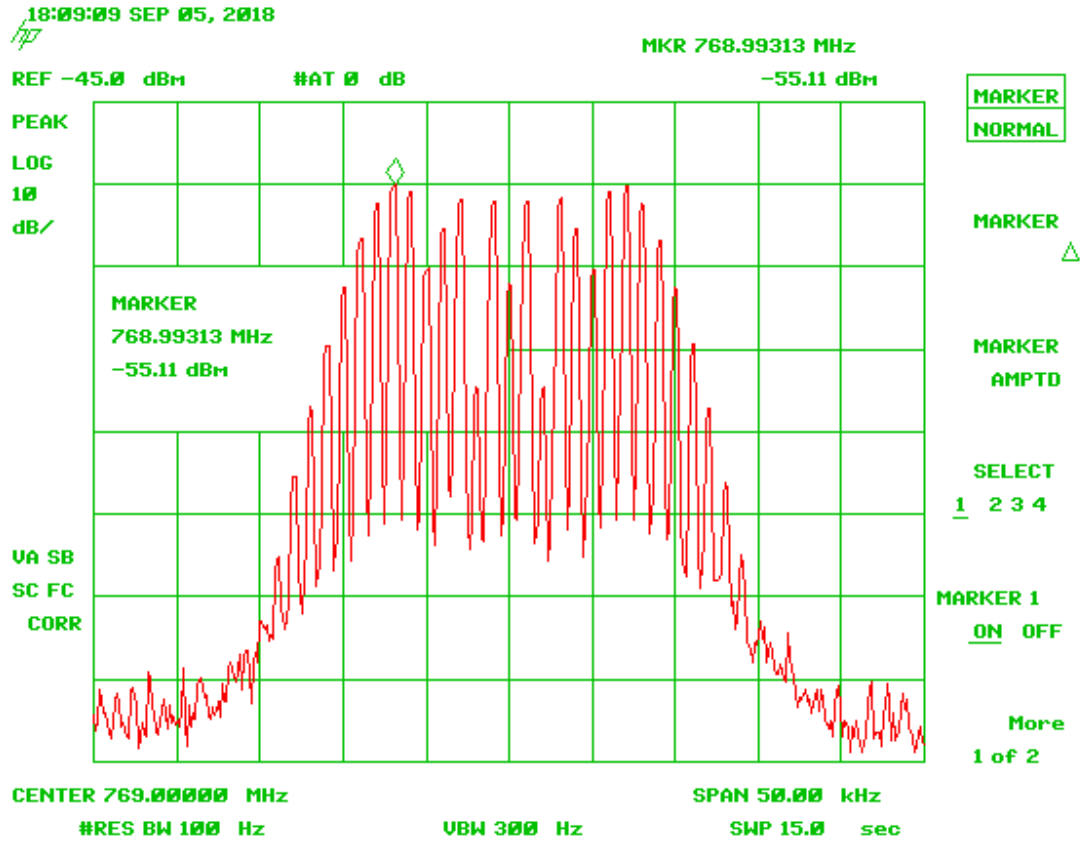


Figure 402. Input 769 MHz @ 25 kHz

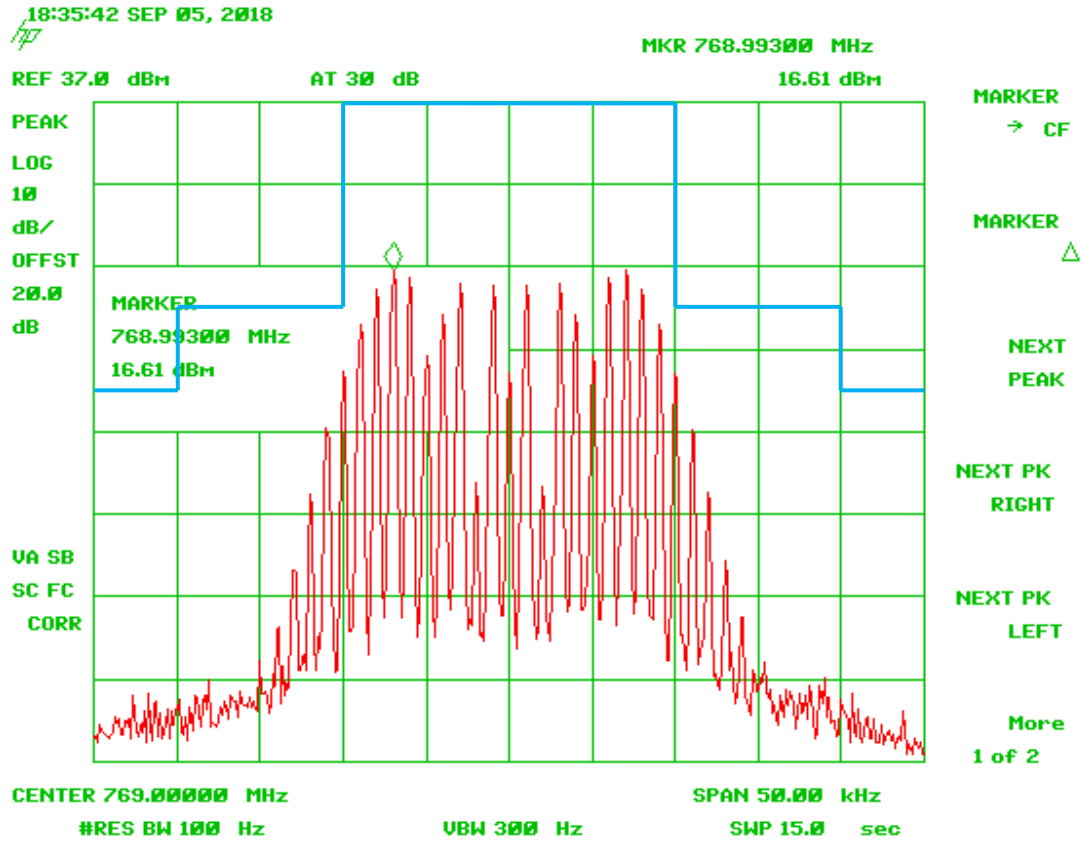


Figure 403. 769 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

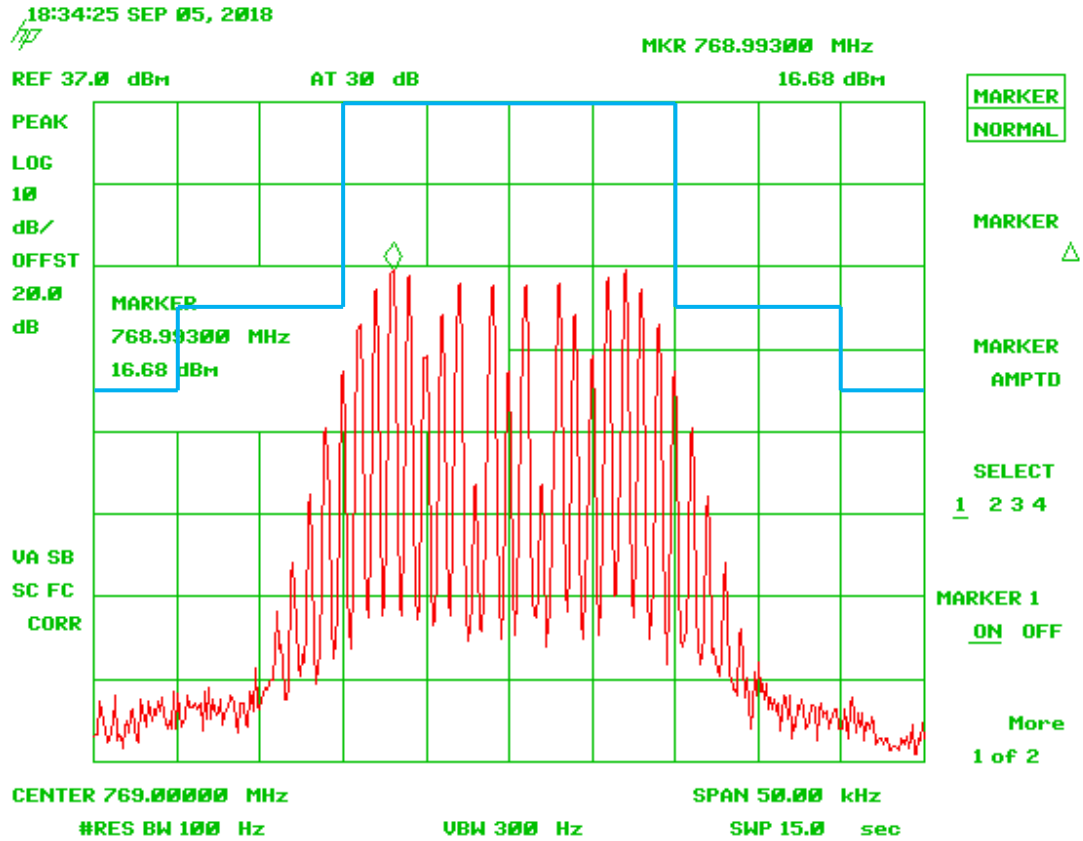


Figure 404. 769 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

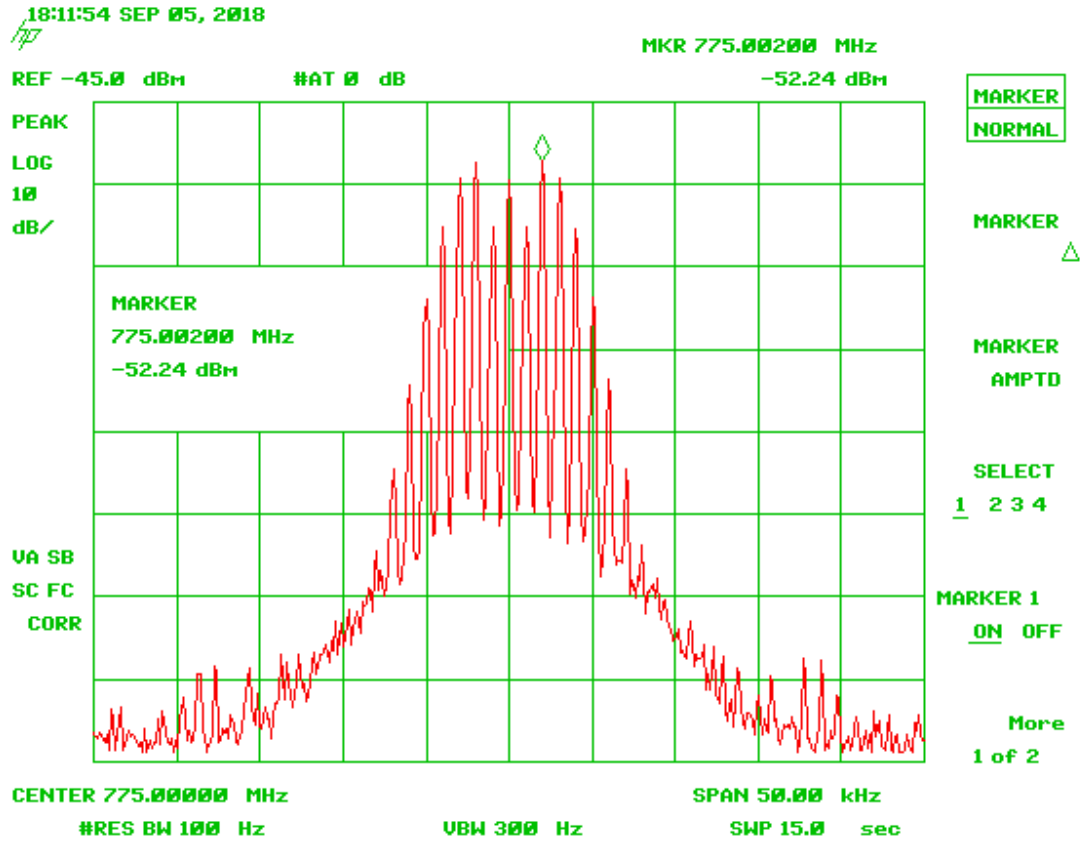


Figure 405. Input 775 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

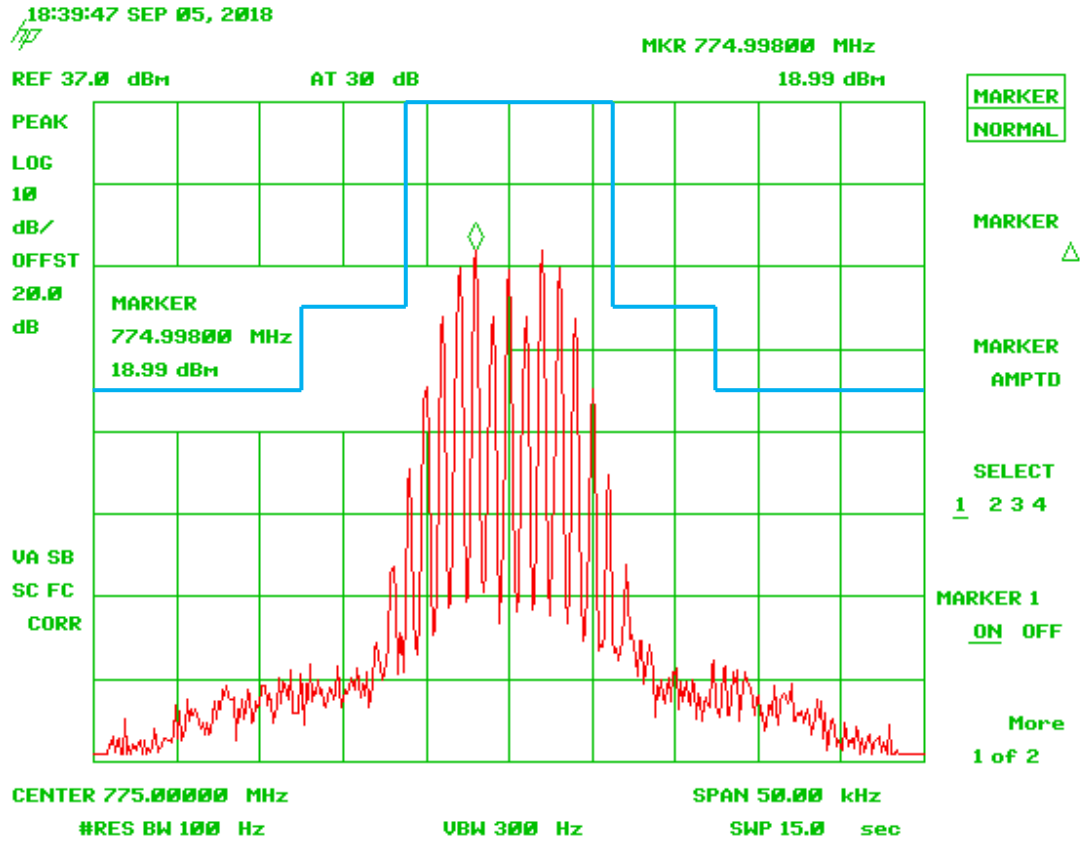


Figure 406. 775 MHz @ 12.5 MHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

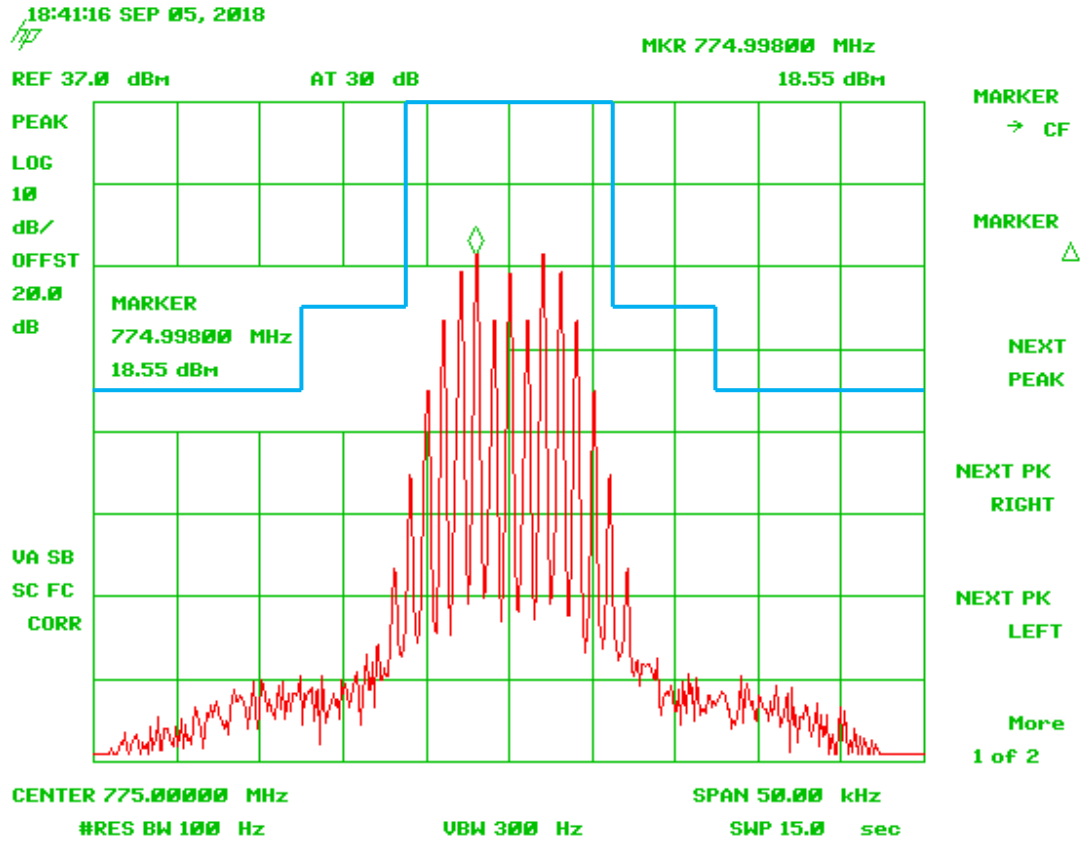


Figure 407. 775 MHz @ 12.5 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

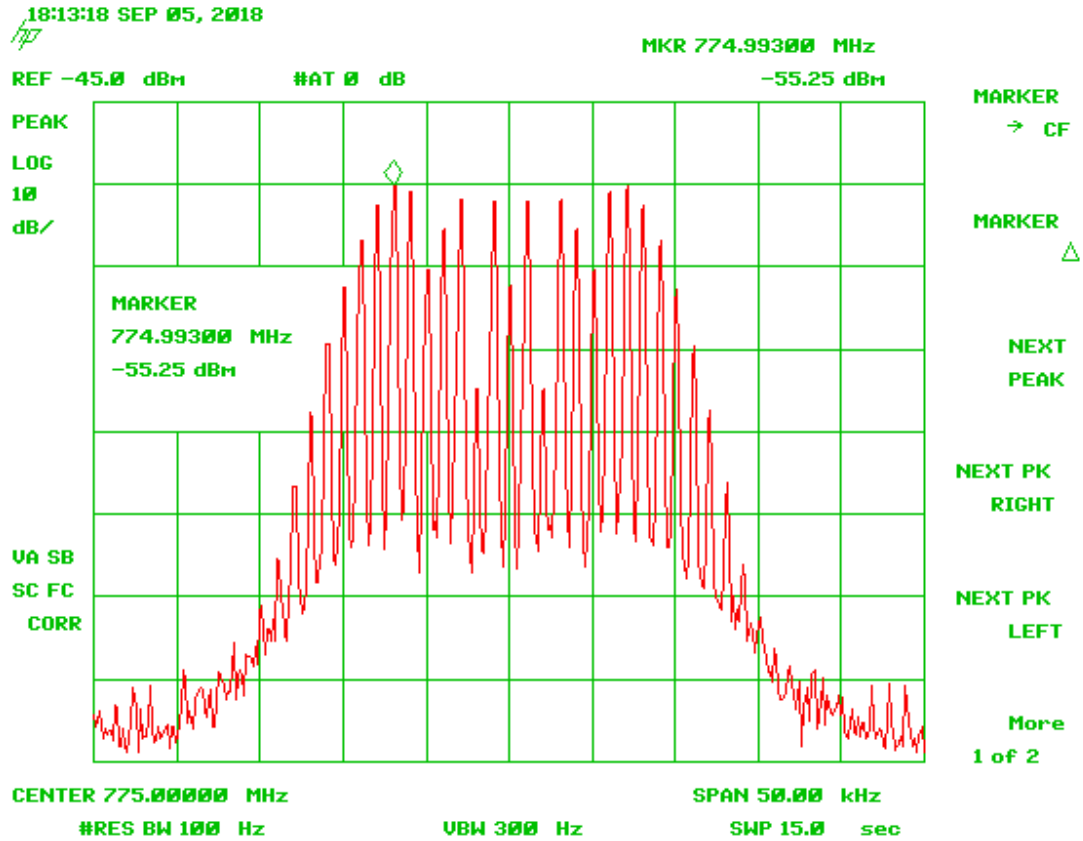


Figure 408. Input 775 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

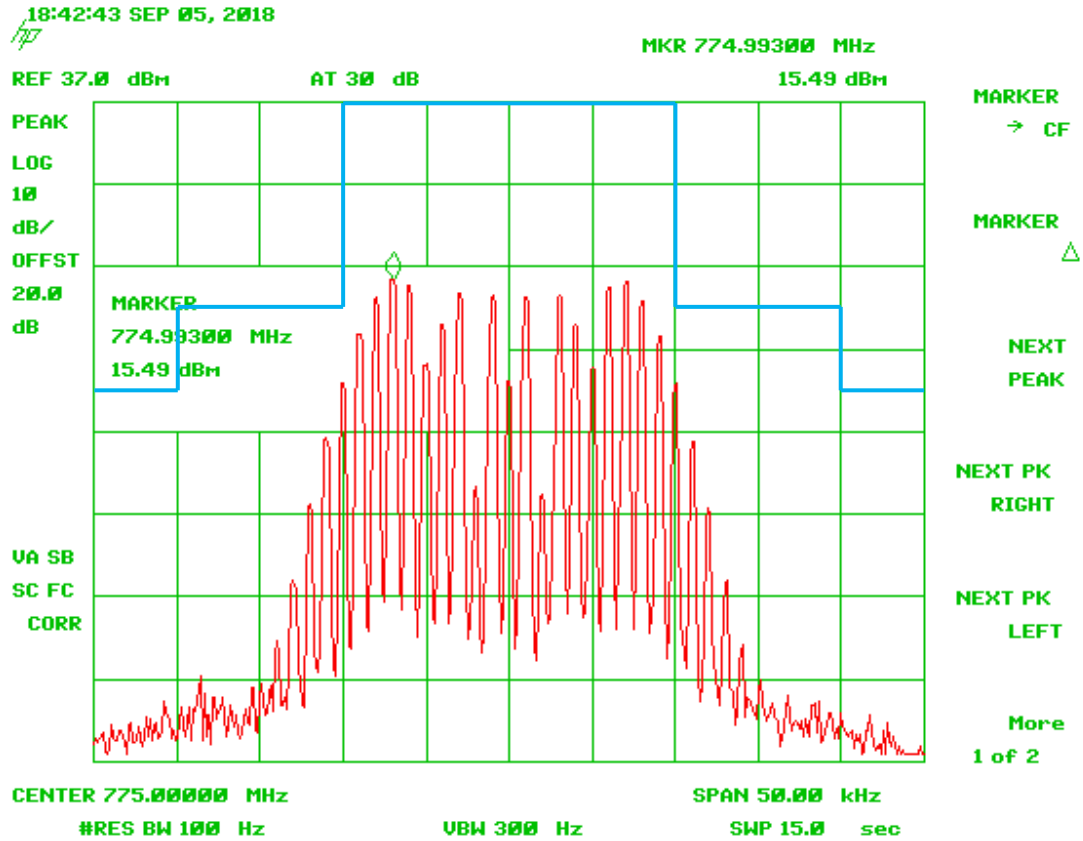


Figure 409. 775 MHz @ 25 kHz, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

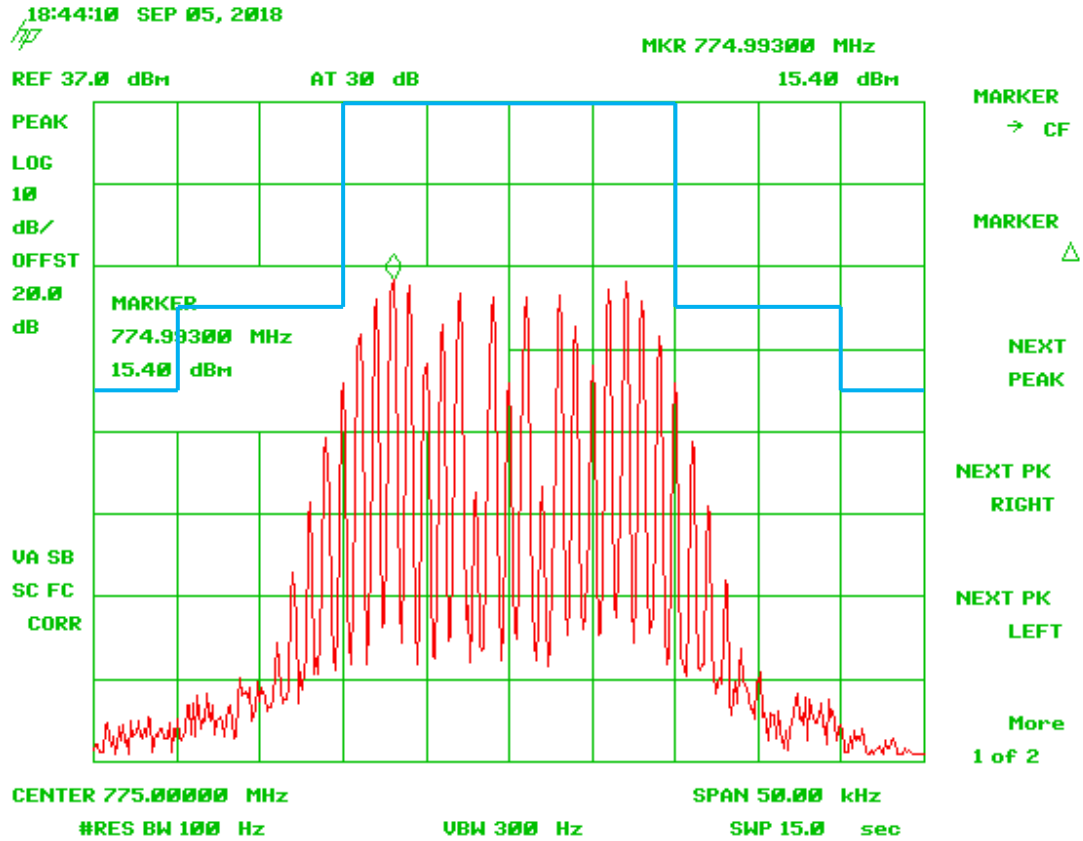


Figure 410. 775 MHz @ 25 kHz +3.0 dB, Mask B

## 2.18.4 800 MHz Channel

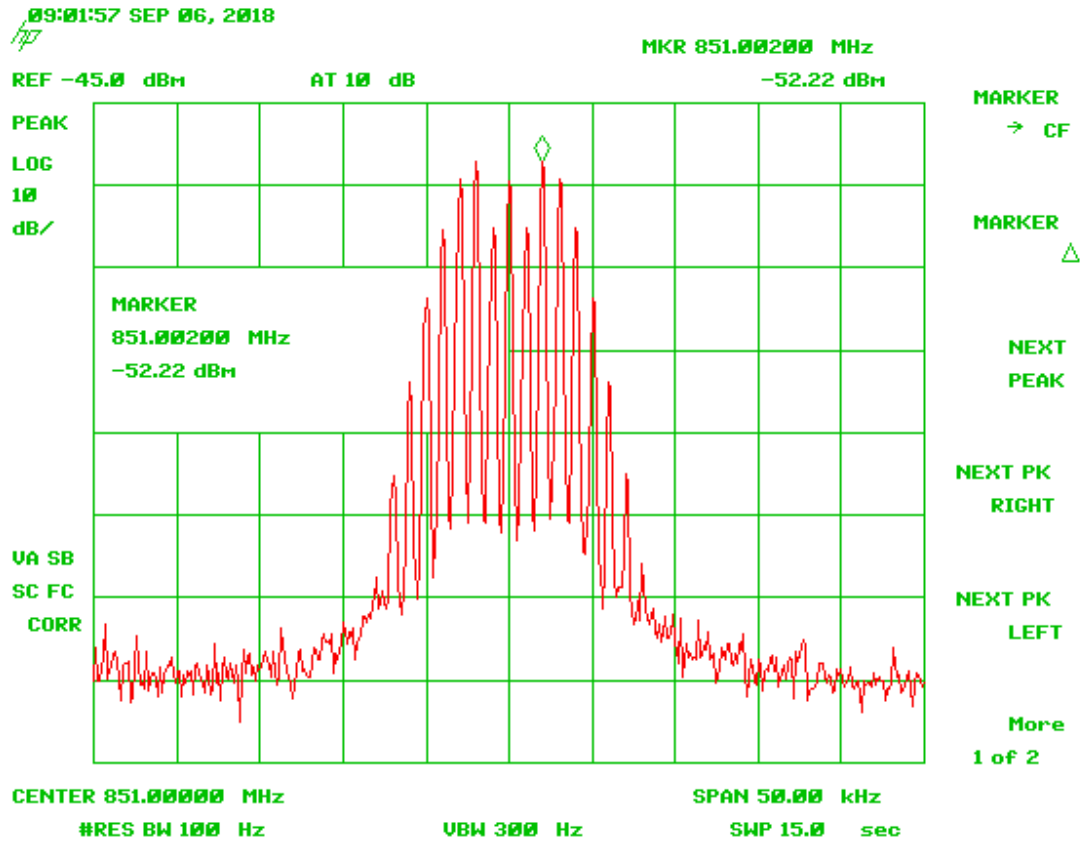


Figure 411. Input 851 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

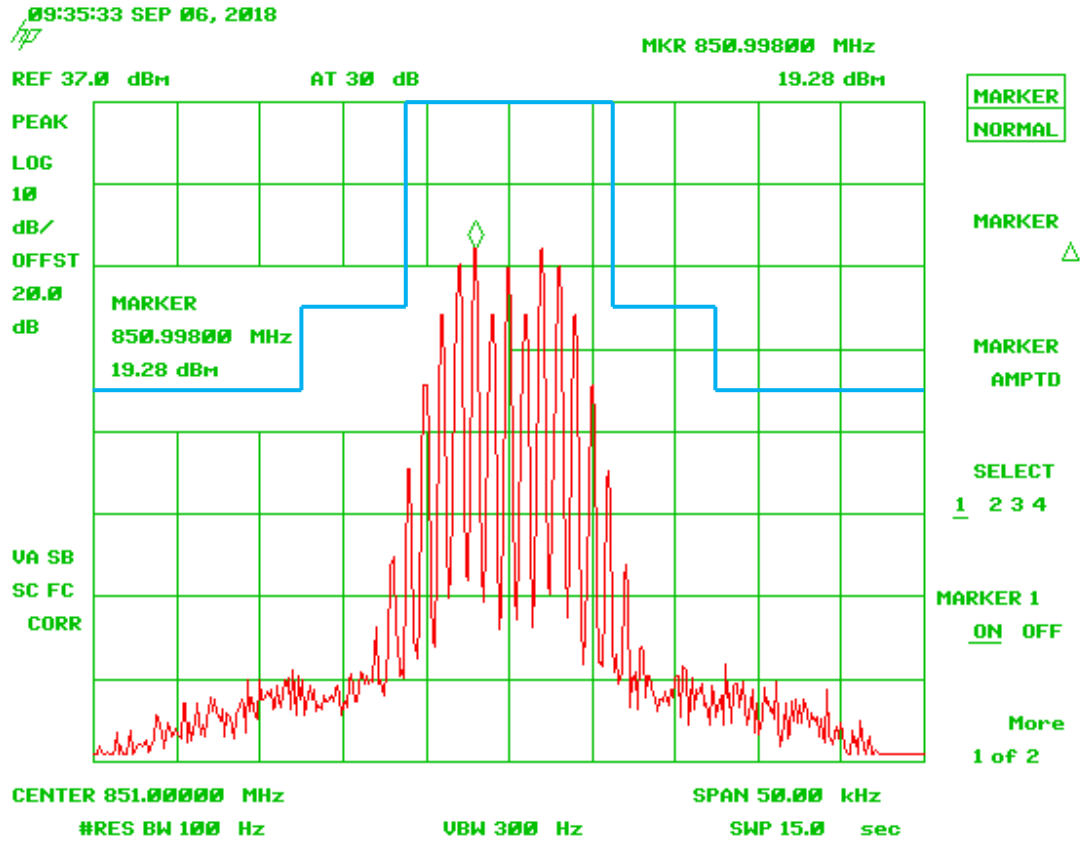


Figure 412. 851 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

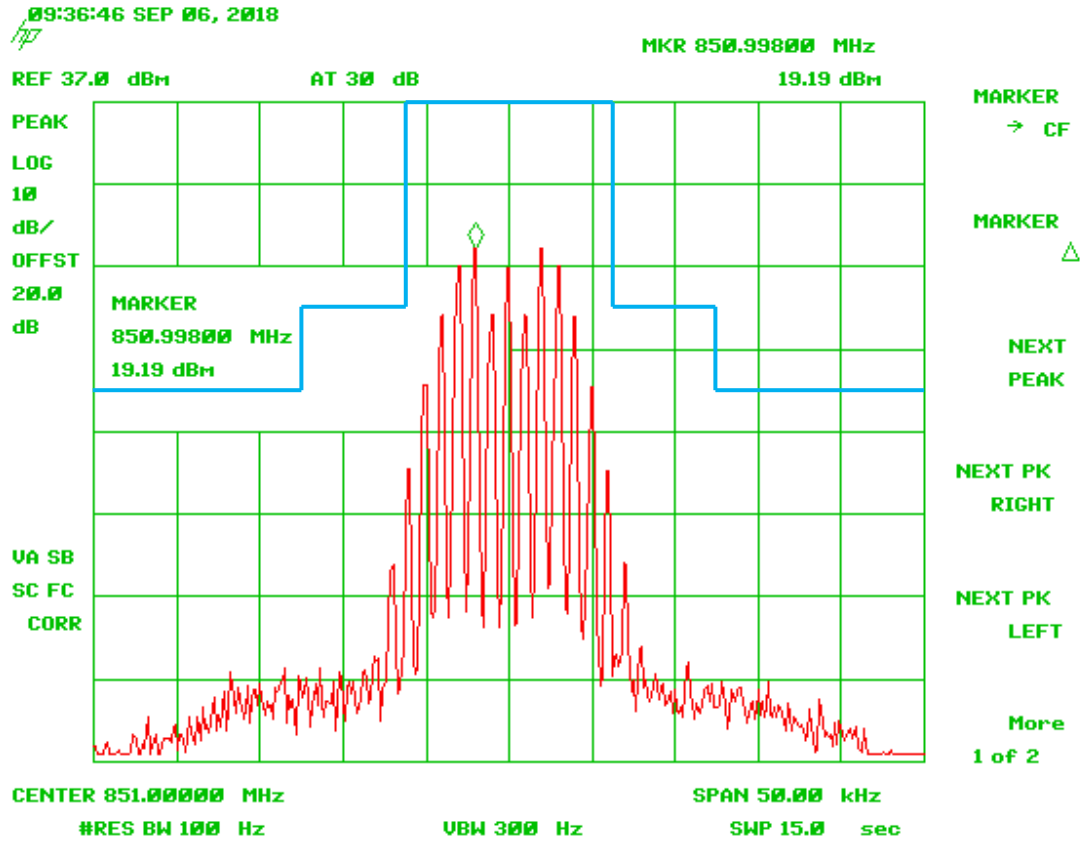


Figure 413. 851 MHz @ 12.5 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

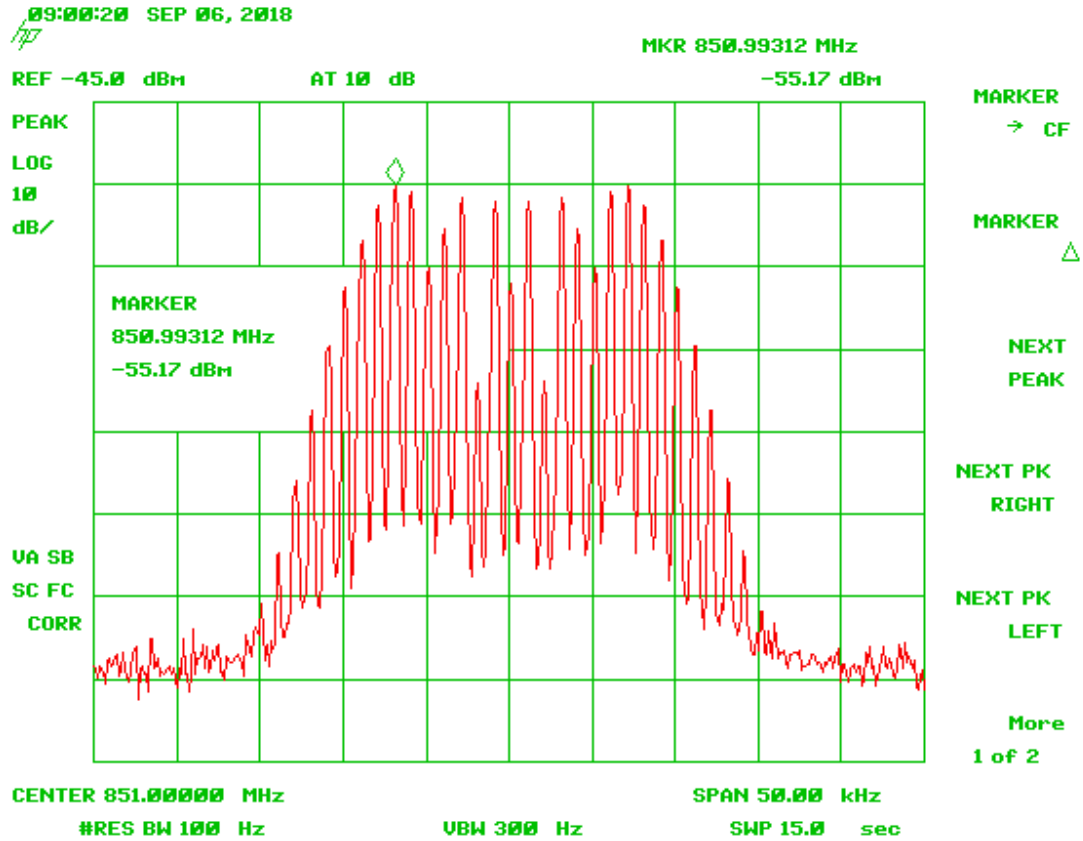


Figure 414. Input 851 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

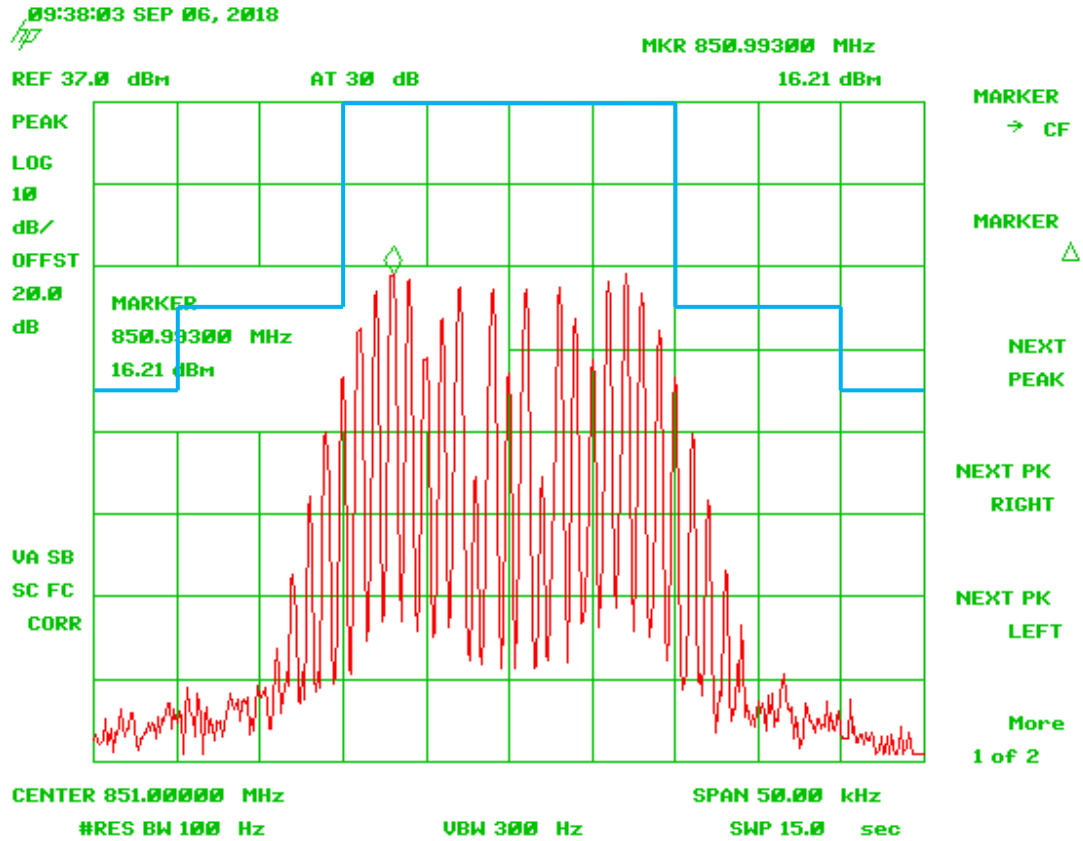


Figure 415. 851 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

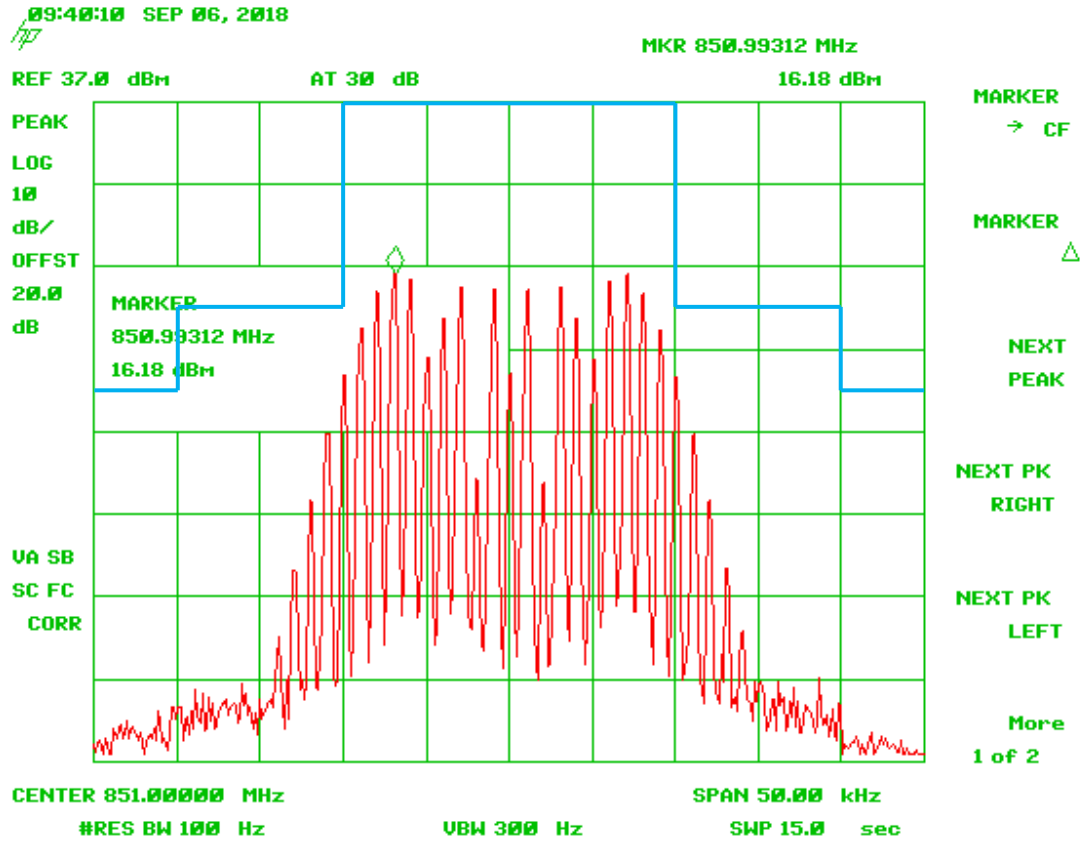


Figure 416. 851 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

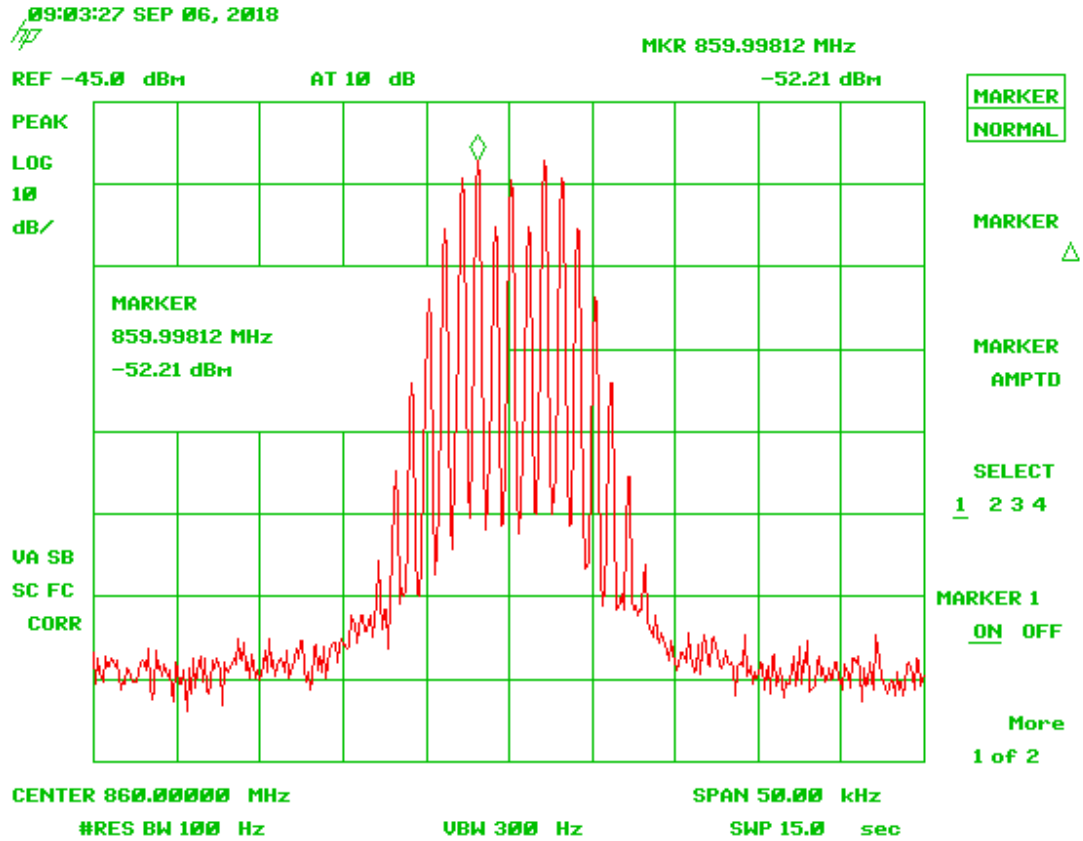


Figure 417. Input 860 MHz @ 12.5 kHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

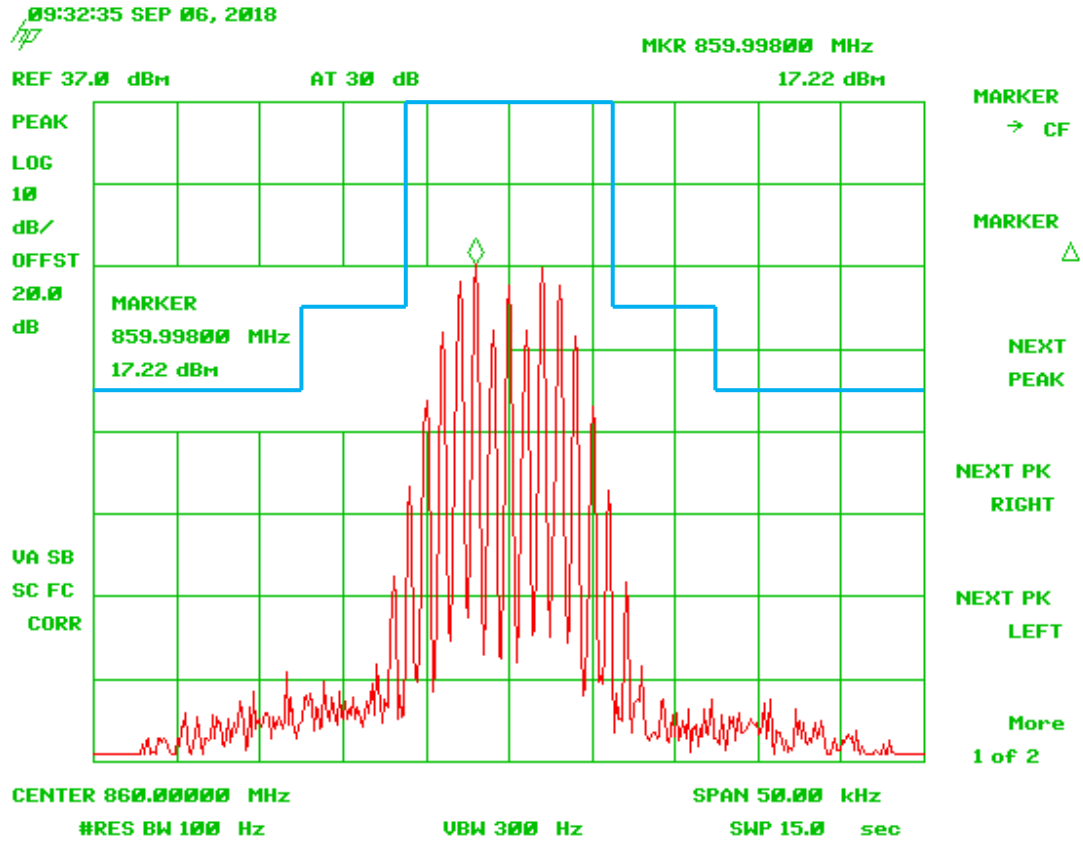


Figure 418. 860 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

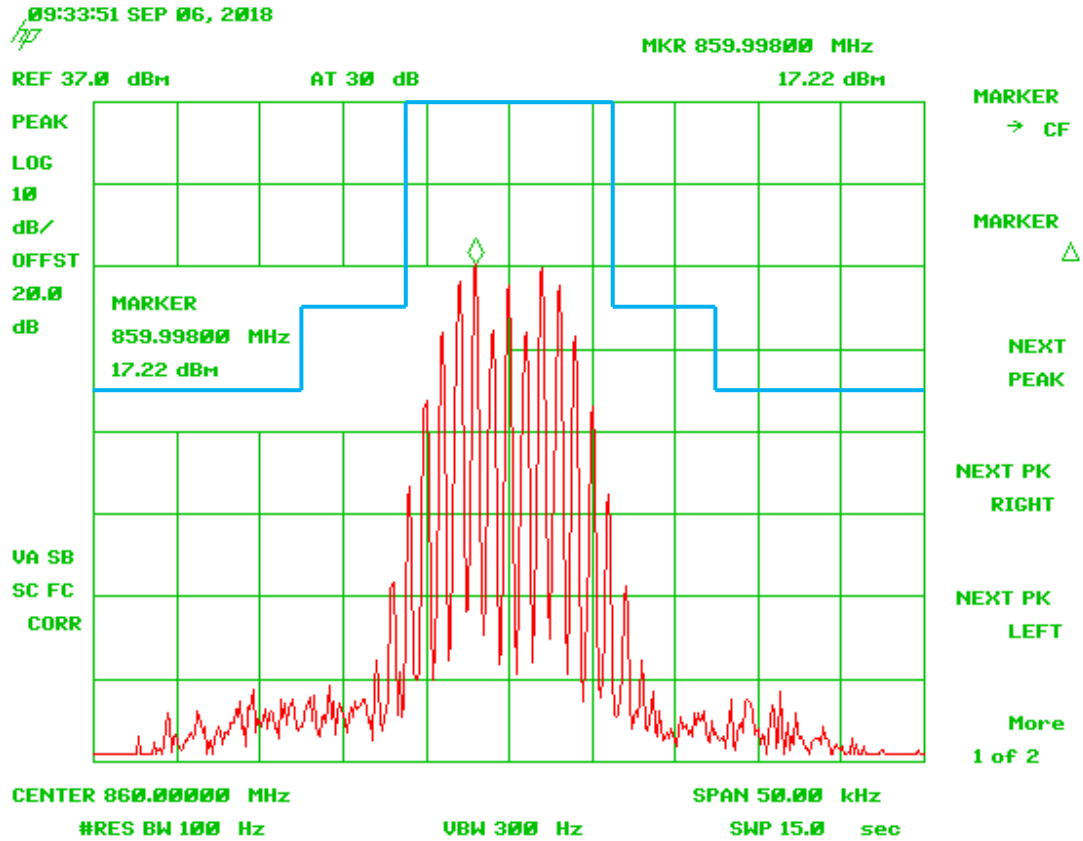


Figure 419. 860 MHz @ 12.5 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

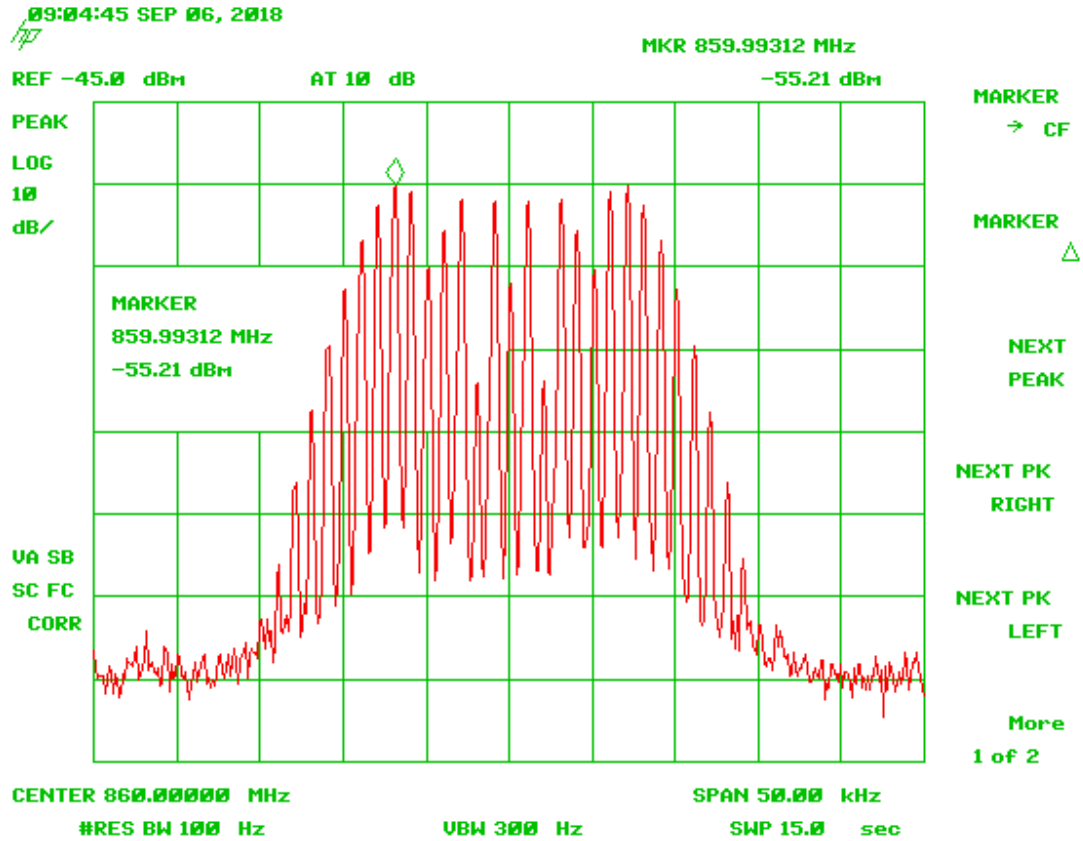


Figure 420. Input 860 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

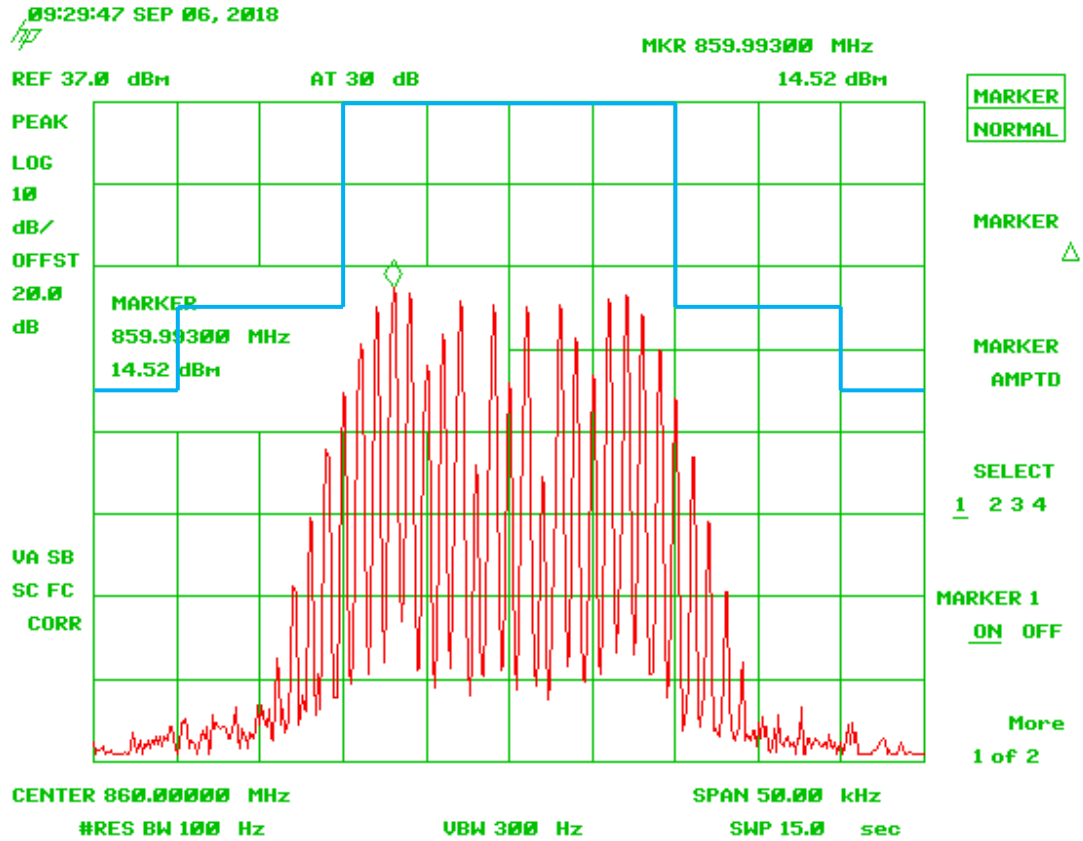


Figure 421. 860 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

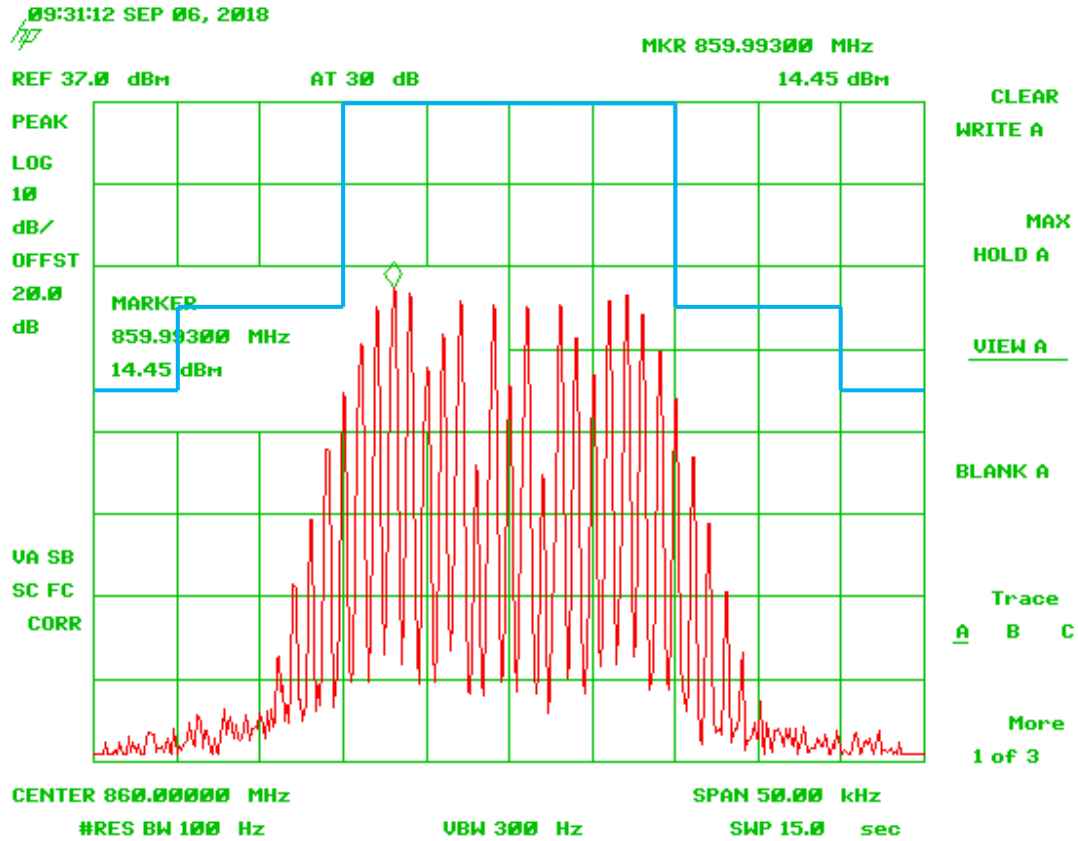


Figure 422. 860 MHz @ 25 kHz +3.0 dB, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

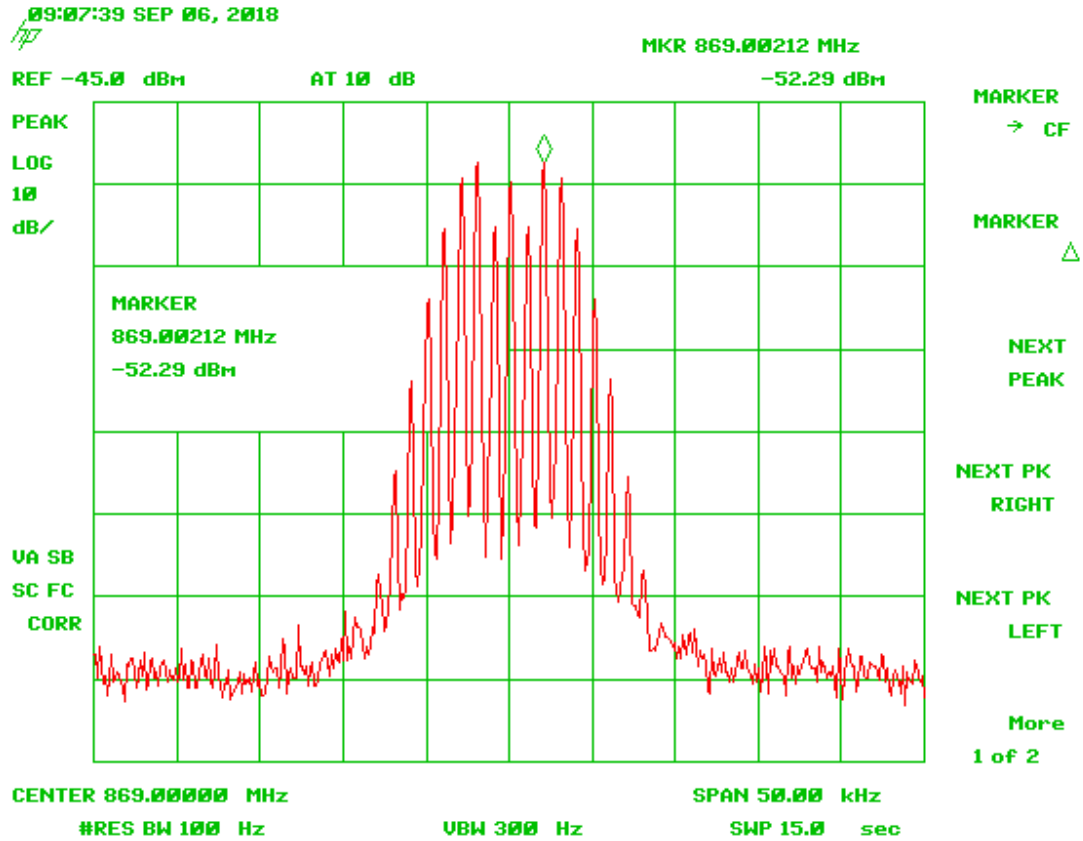


Figure 423. Input 869 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

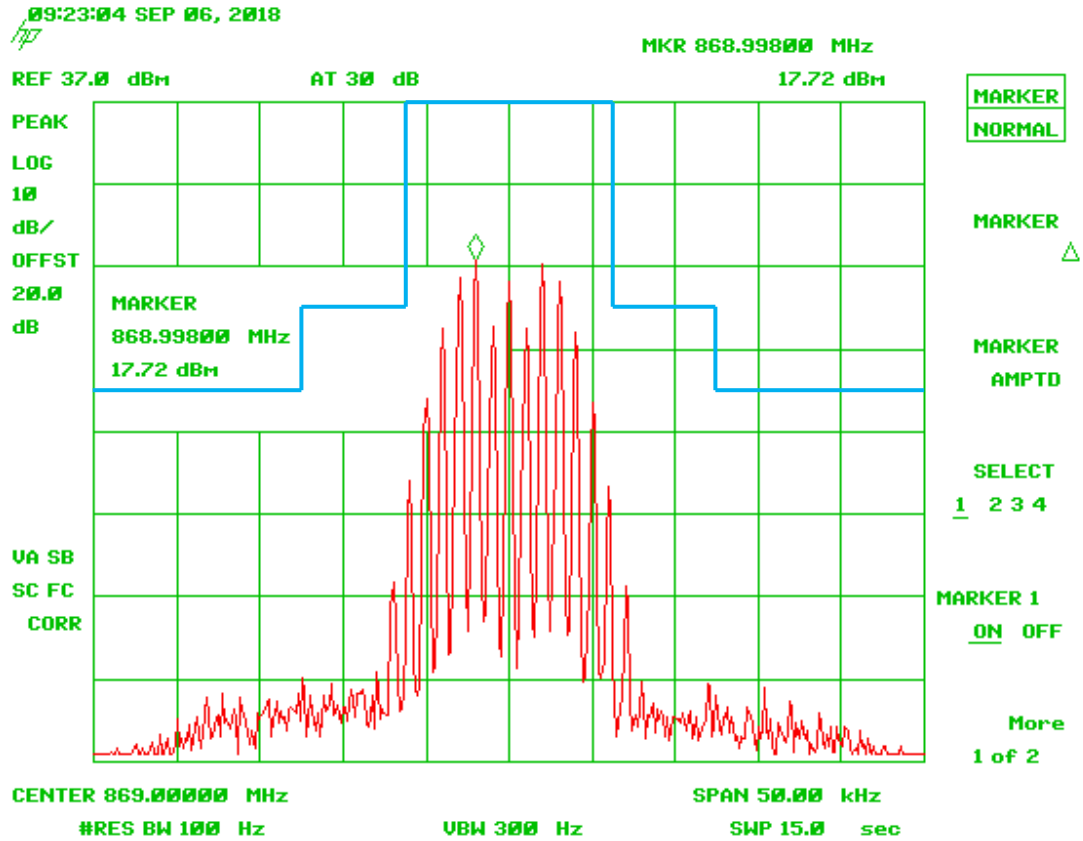


Figure 424. 869 MHz @ 12.5 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

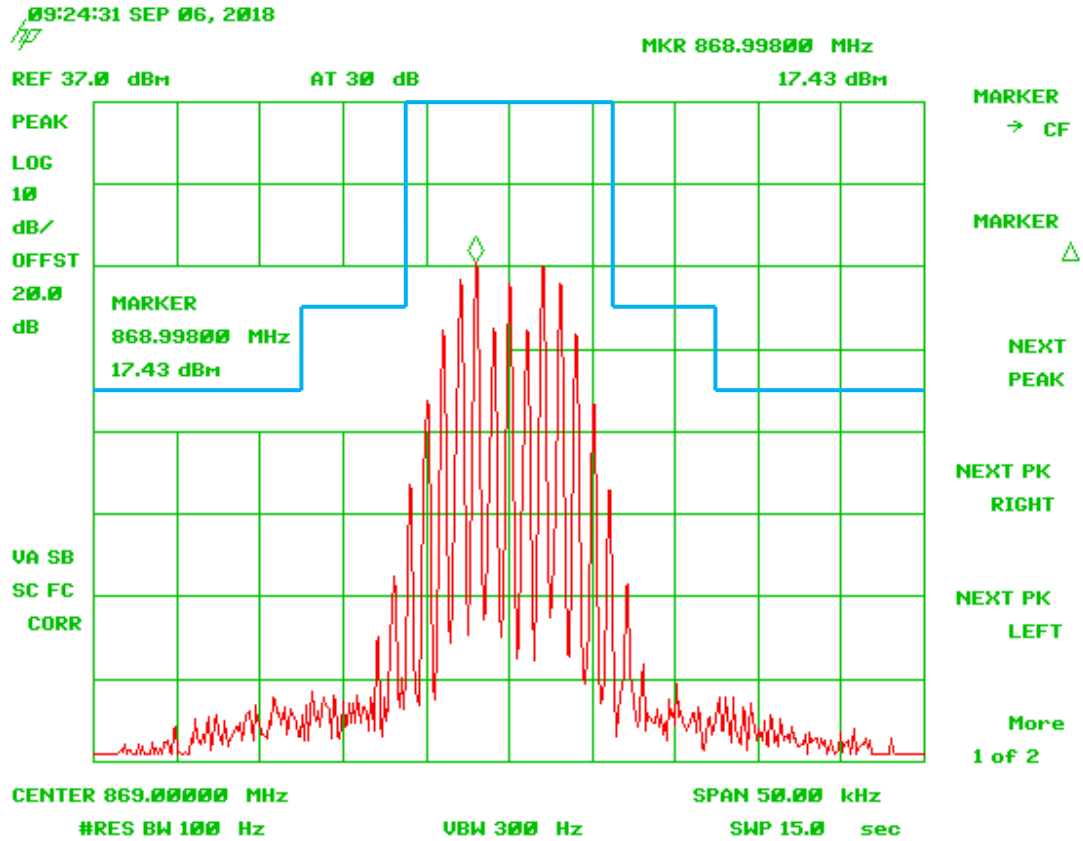


Figure 425. 869 MHz @ 12.5 kHz +3.0 dB, Mask B



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

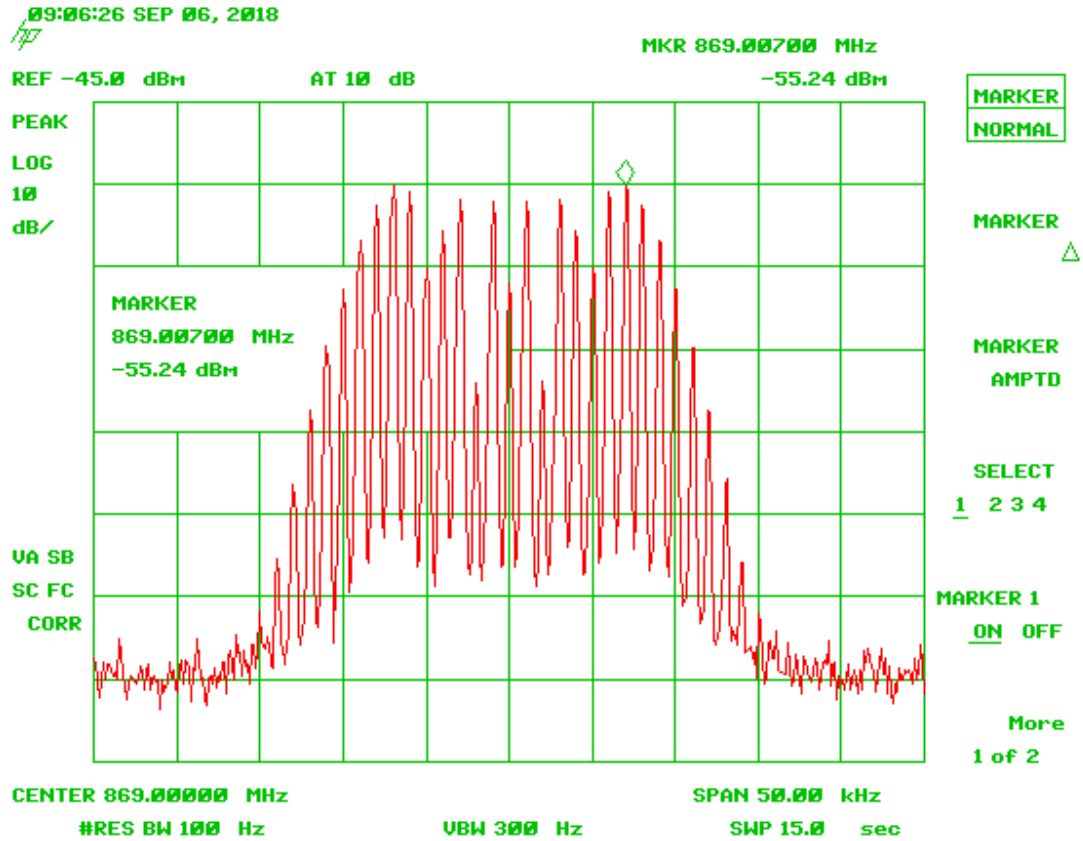


Figure 426. Input 869 MHz @ 25 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

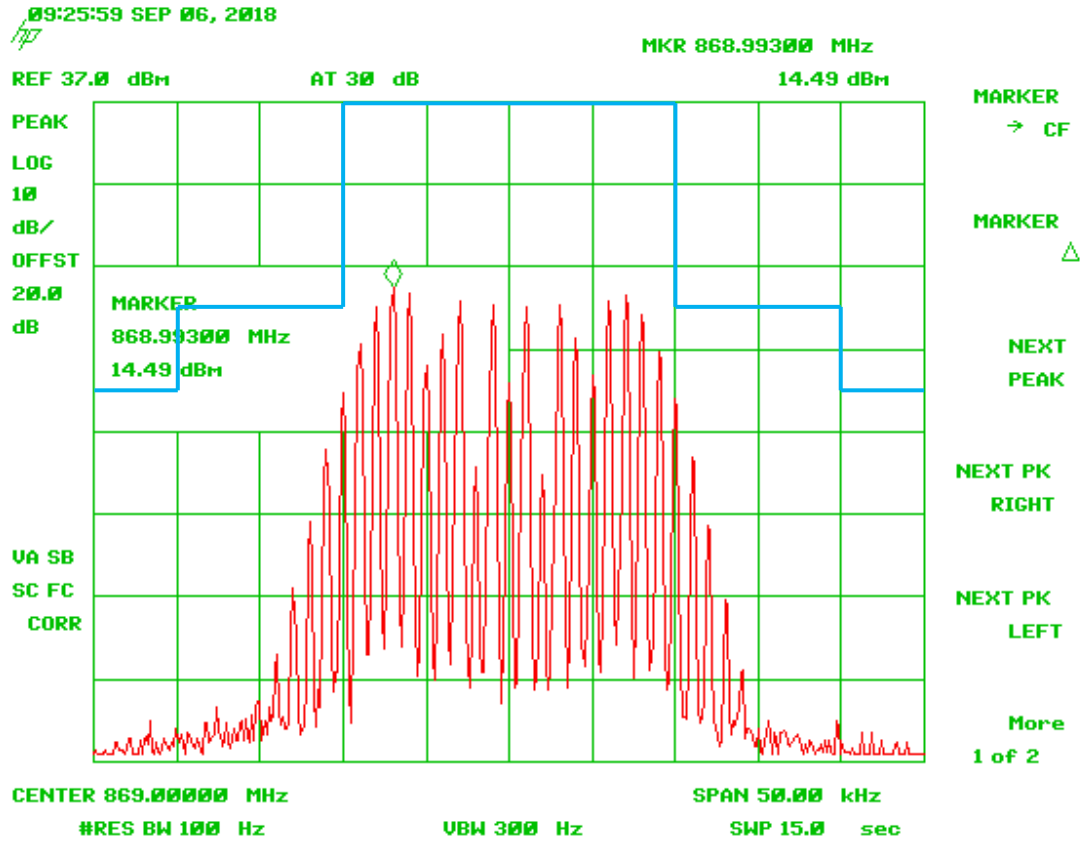


Figure 427. 869 MHz @ 25 kHz, Mask B

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

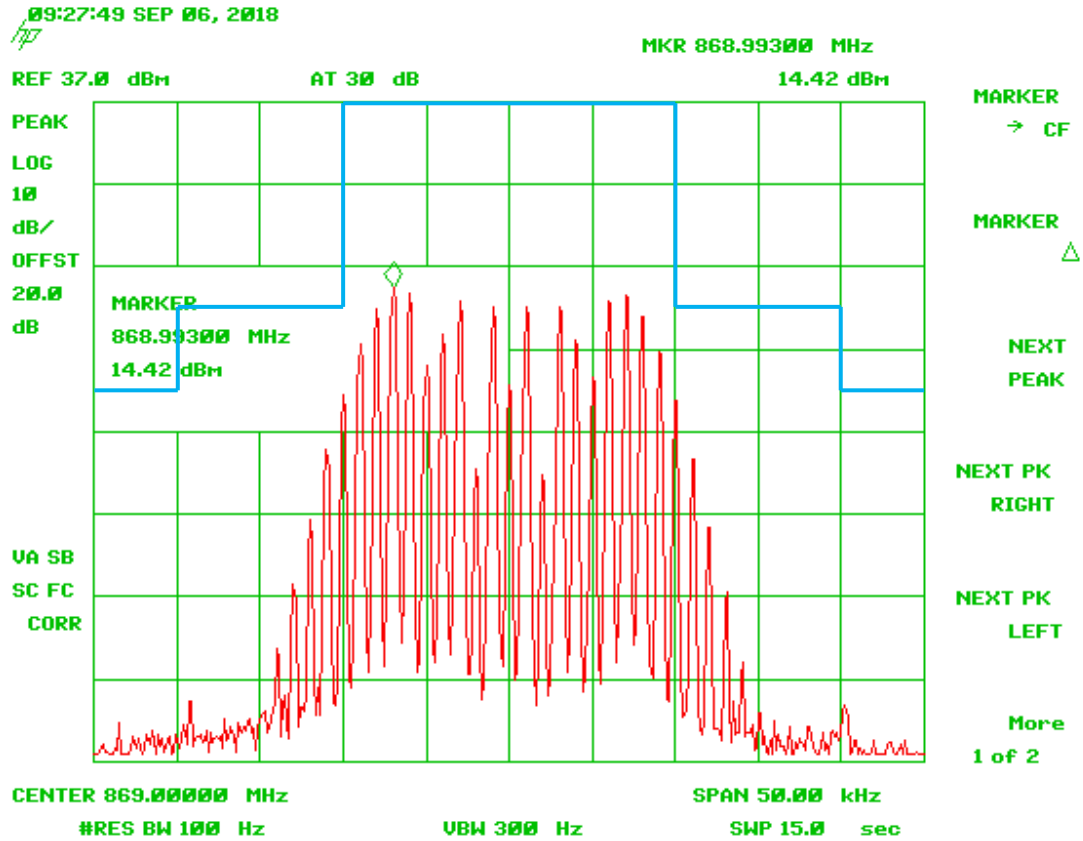


Figure 428. 869 MHz @ 25 kHz +3.0 dB, Mask B

## 2.18.5 900 MHz Channel

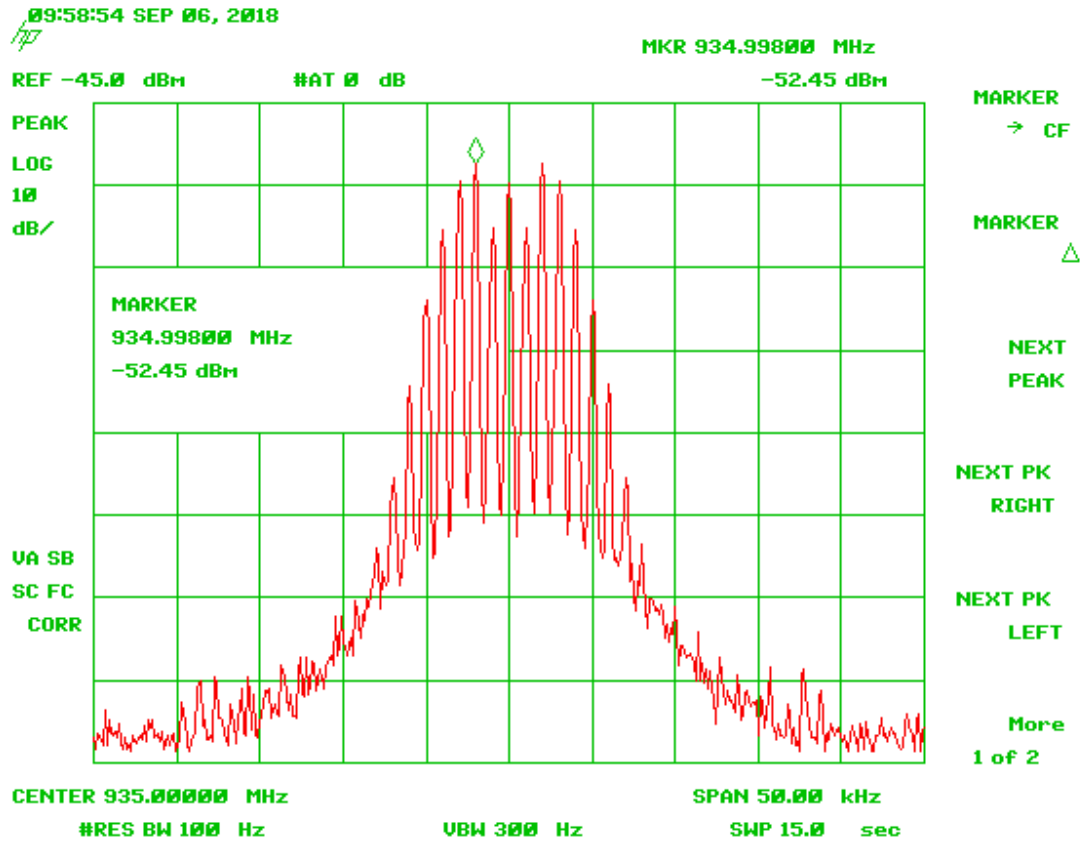


Figure 429. Input 935 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

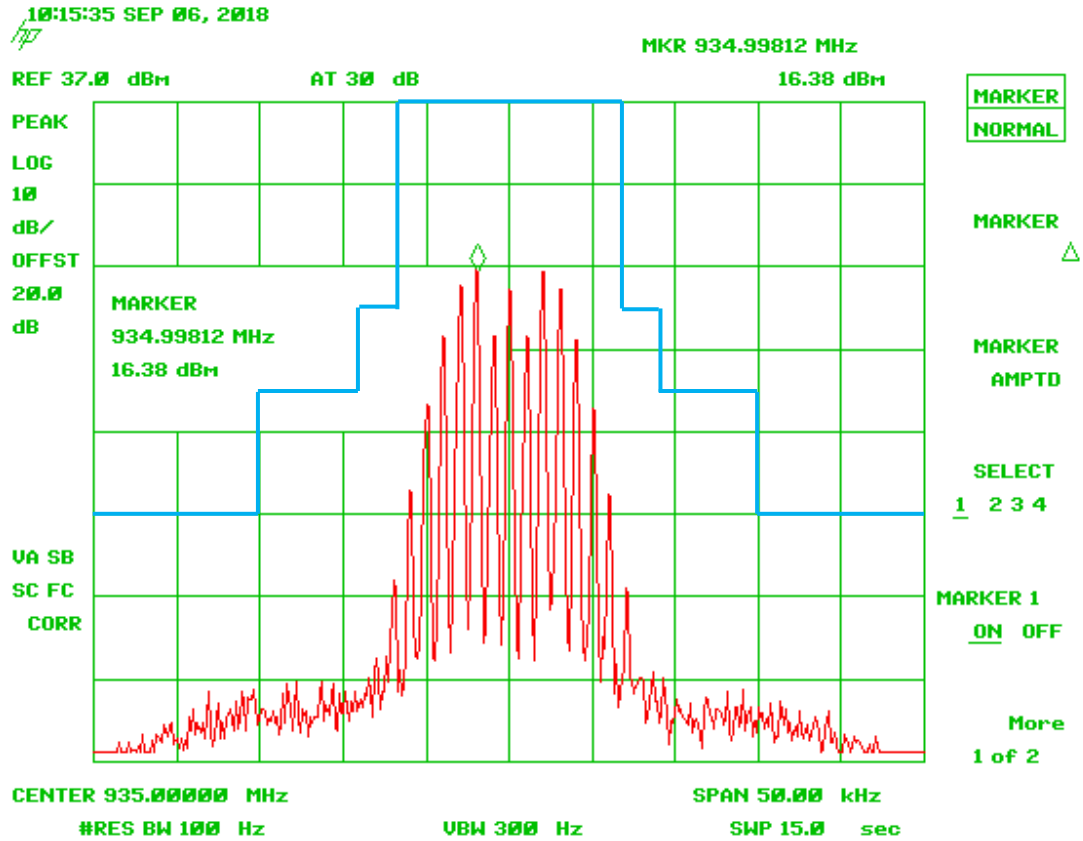


Figure 430. 935 MHz @ 12.5 kHz, Mask I

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

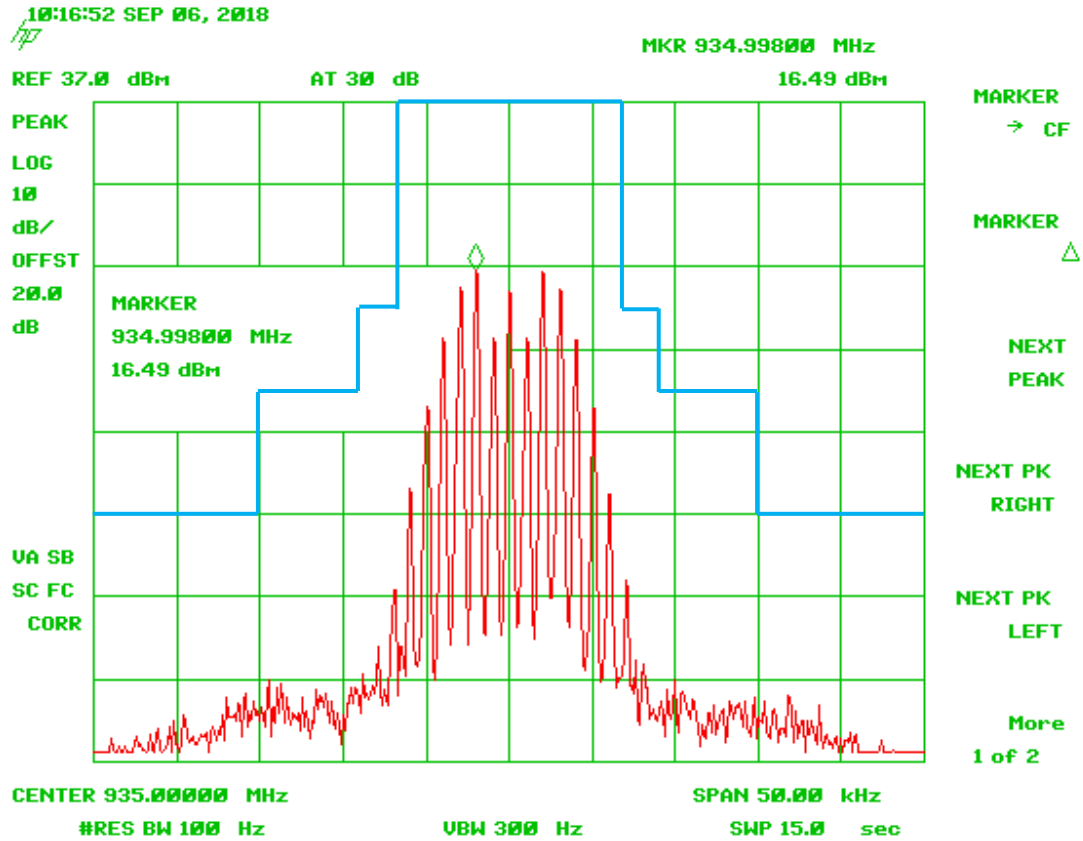


Figure 431. 935 MHz @ 12.5 +3.0 dB, Mask I

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

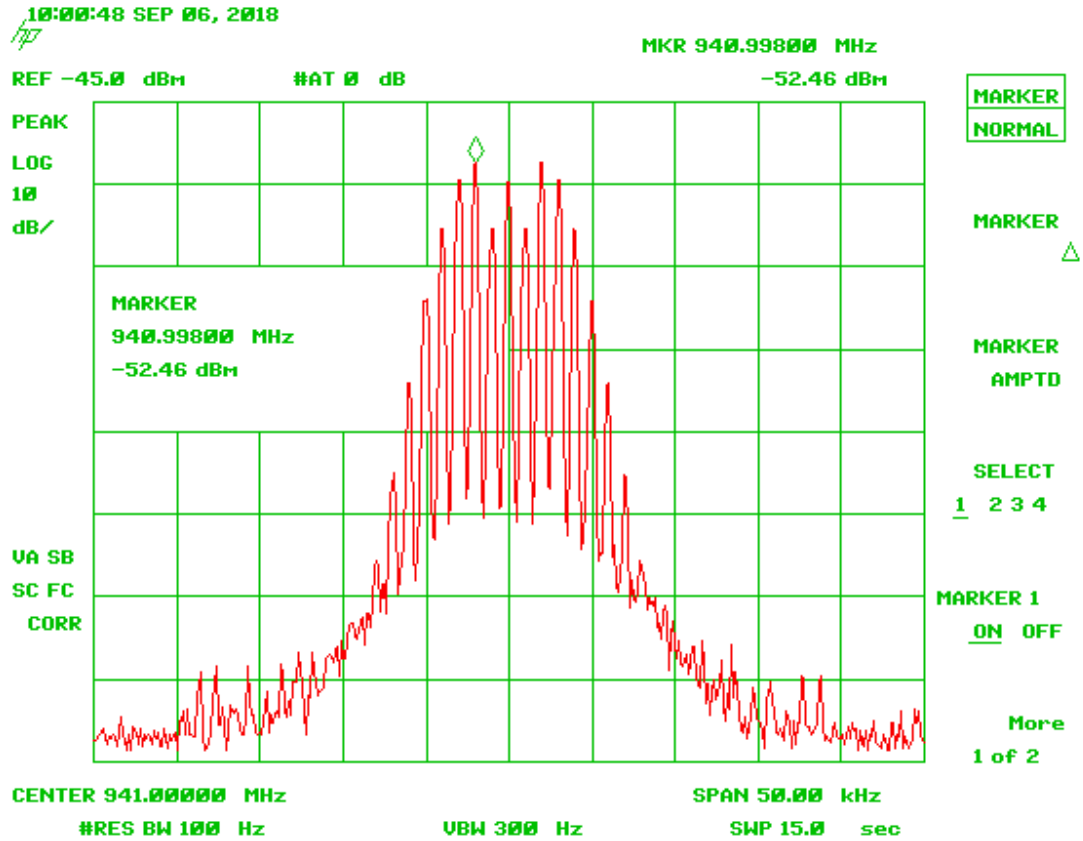


Figure 432. Input 941 MHz @ 12.5 kHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

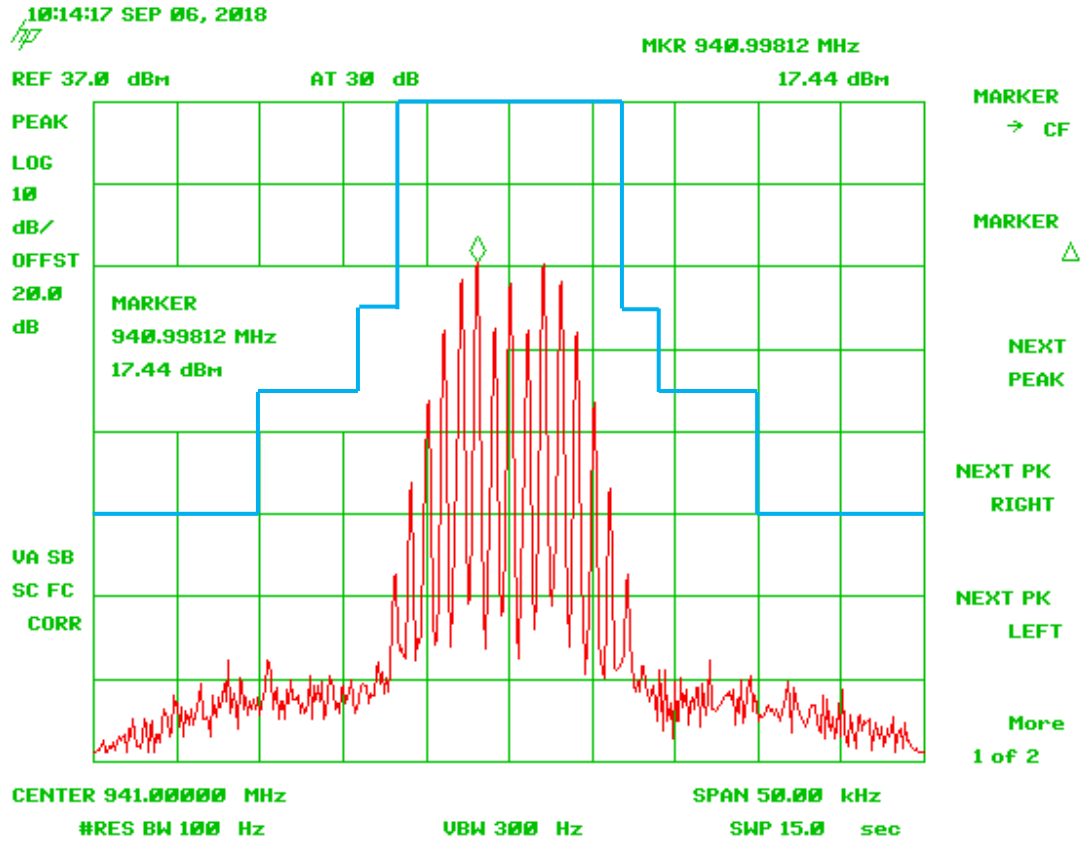


Figure 433. 941 MHz @ 12.5 kHz, Mask I



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

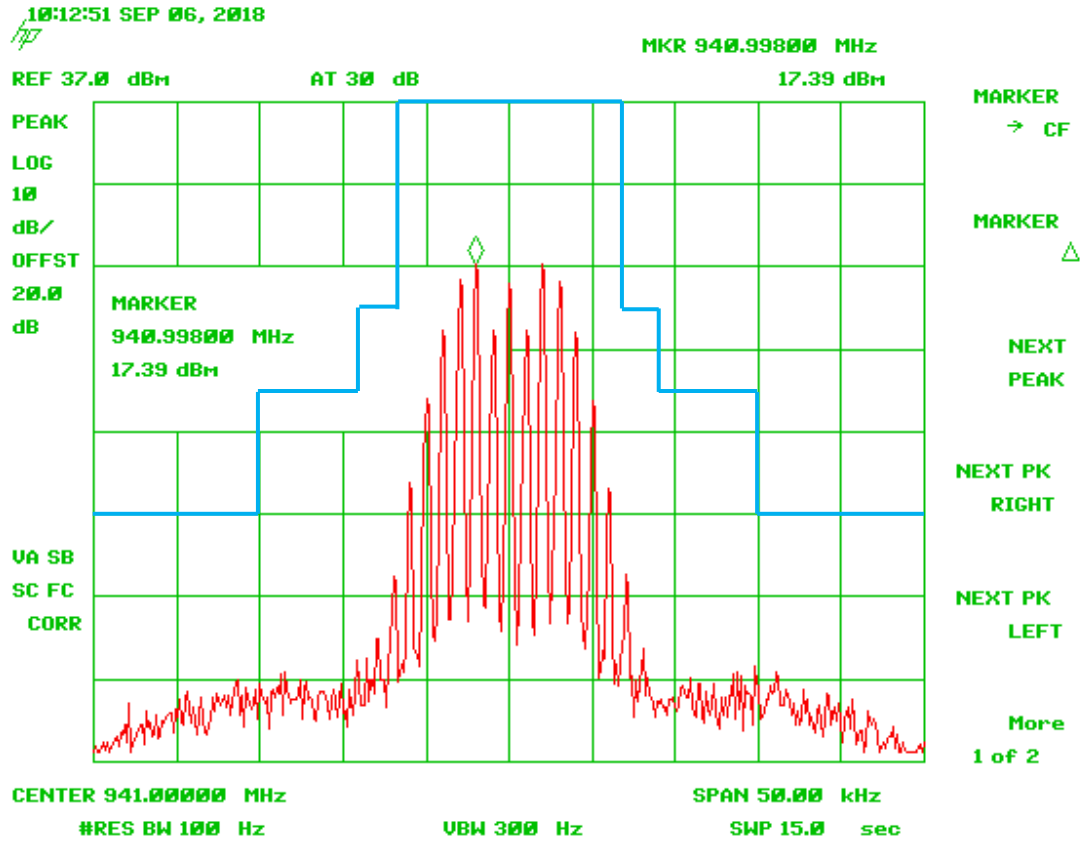


Figure 434. 941 MHz @ 12.5 kHz +3.0 dB, Mask I

## **2.19 Spurious Emissions (FCC Section 90.219(d)(e)(3) and RSS-131, 6.5) - Downlink**

Spurious Emissions from a signal booster must not exceed -13 dBm within any 100 kHz measurement bandwidth.

### **2.19.1 Radiated Spurious Emissions Measurement**

The EUT was tested in a semi-anechoic chamber. The EUT was set on a turntable with the EUT positioned 3m from the receiving antenna. A spectrum analyzer was used to measure the emissions and verify that the levels met the requirements for Radiated Emissions. The EUT was tested by rotating it 360° with the receiving antenna in both the vertical then horizontal position. The receive antenna was elevated from 1 m to 4 m to ensure that the maximum emission was captured. A signal generator was used to provide a signal to exercise the channel cards within the EUT. The EUT output was terminated with a 50 ohm non-radiating load.

The RBW was set to 100 KHz for measurements below 1 GHz and 1 MHz for measurements above 1 GHz. The VBW was 3 times the RBW.

FCC limit = -13 dBm (Assuming EIPR)

Radiated emission limit =  $-13 \text{ dBm} - 20 \log(3\text{m}) + 104.8 = 82.25 \text{ dBuV/m}$

The following plots show the worst-case results, which were measured with the antennas in both horizontal and vertical position.

### 2.19.1.1 VHF Radiated Spurious Emissions Plots

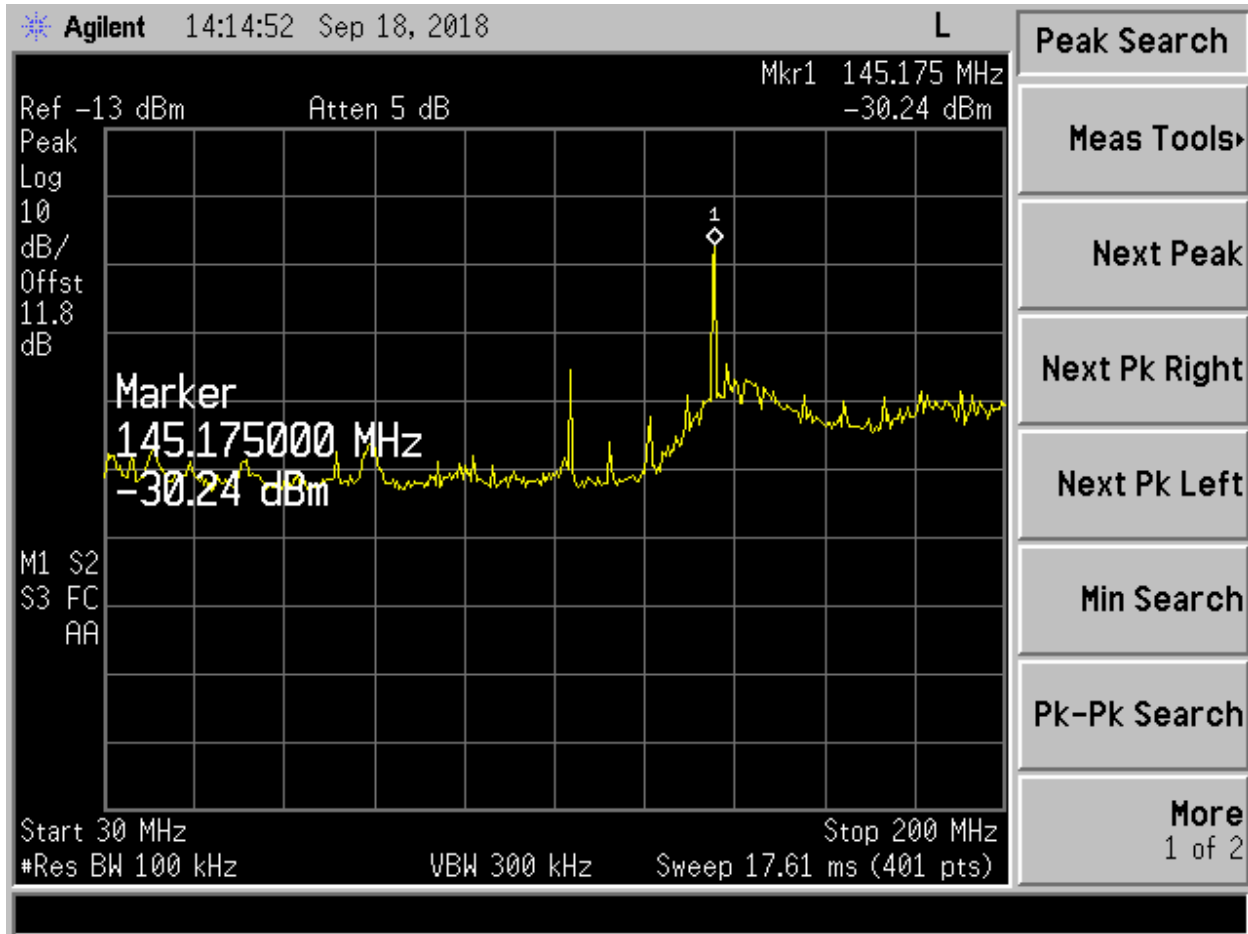


Figure 435. 145 MHz Horizontal, 30 – 200 MHz

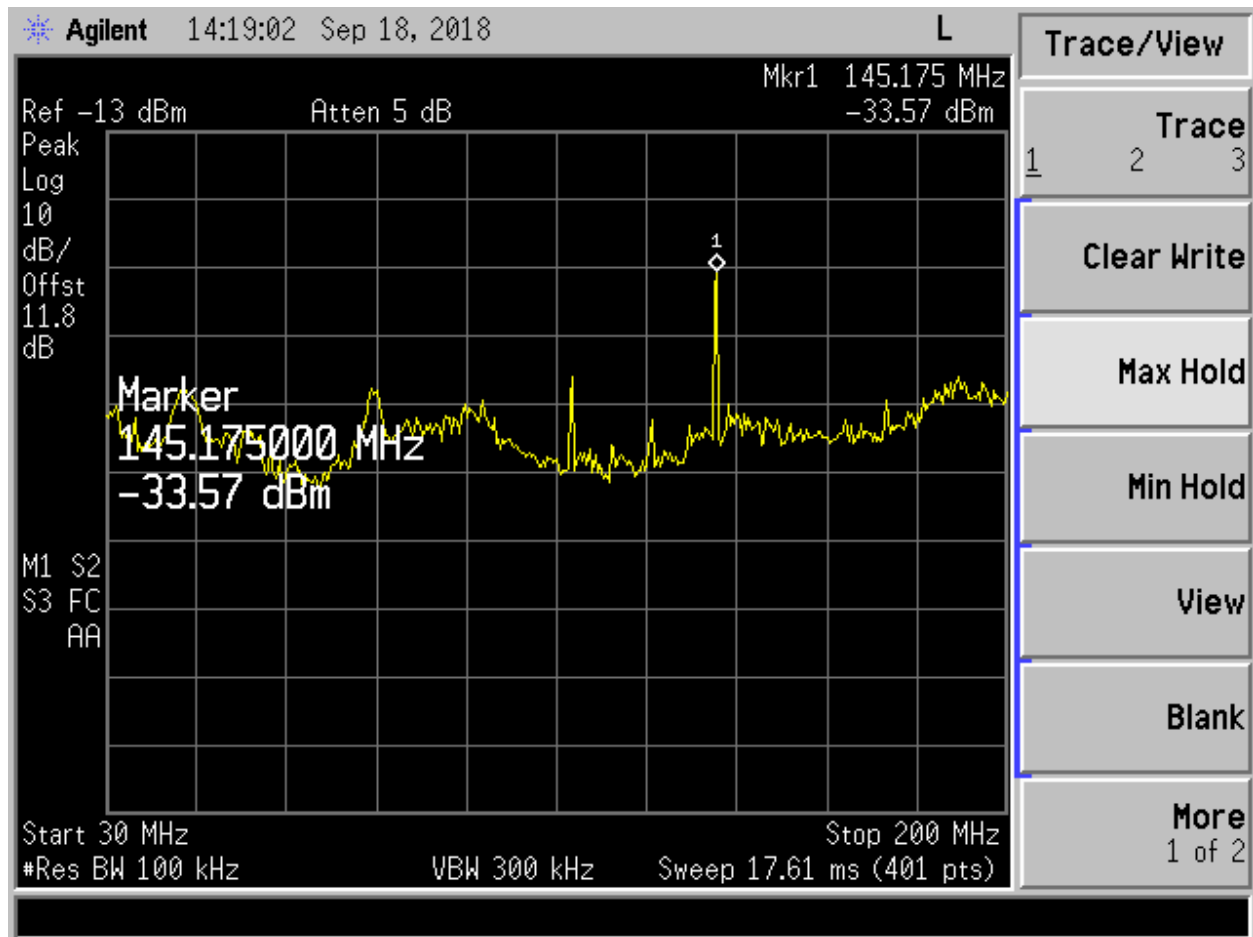


Figure 436. 145 MHz Vertical, 30 – 200 MHz

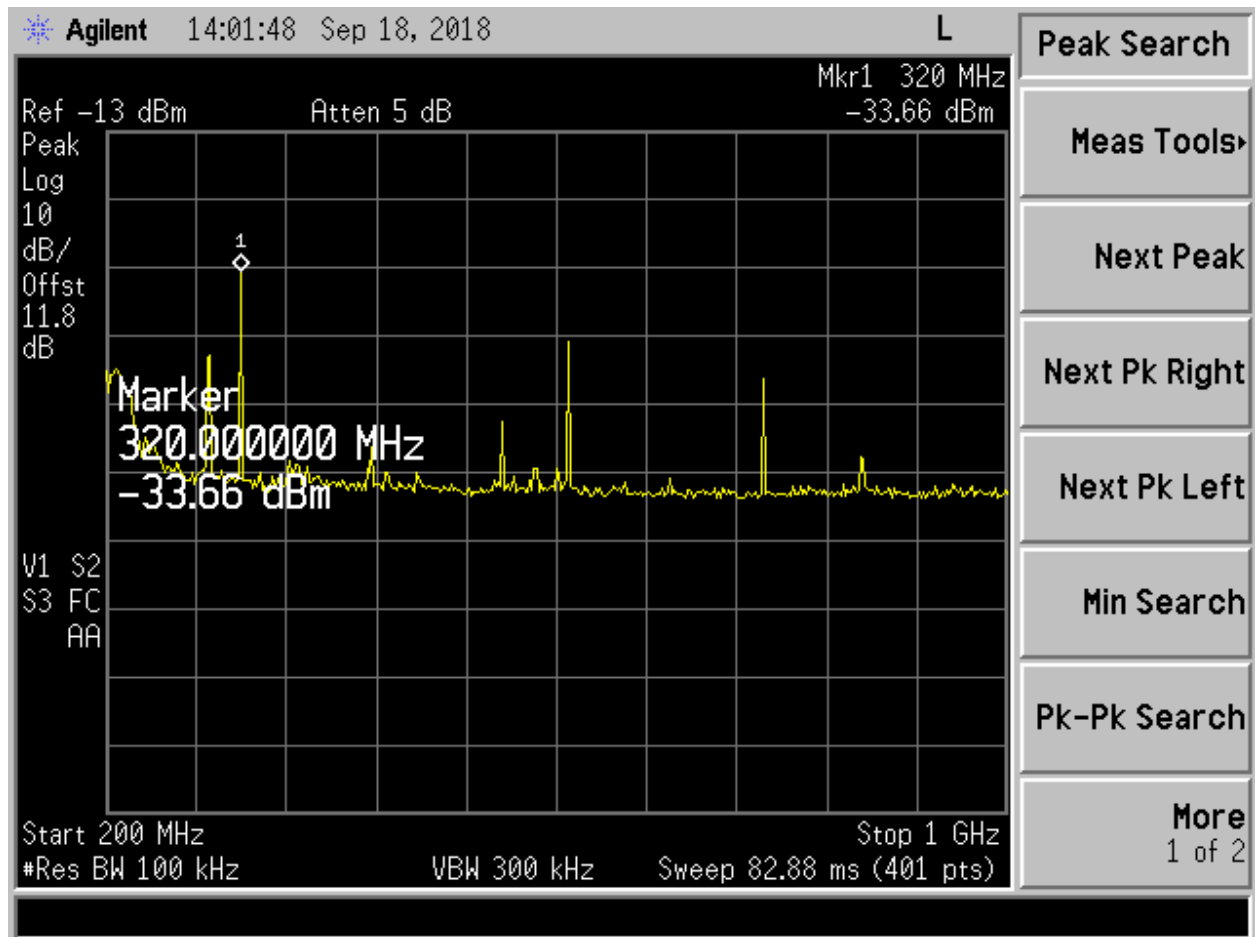


Figure 437. 145 MHz Horizontal, 200 MHz – 1GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

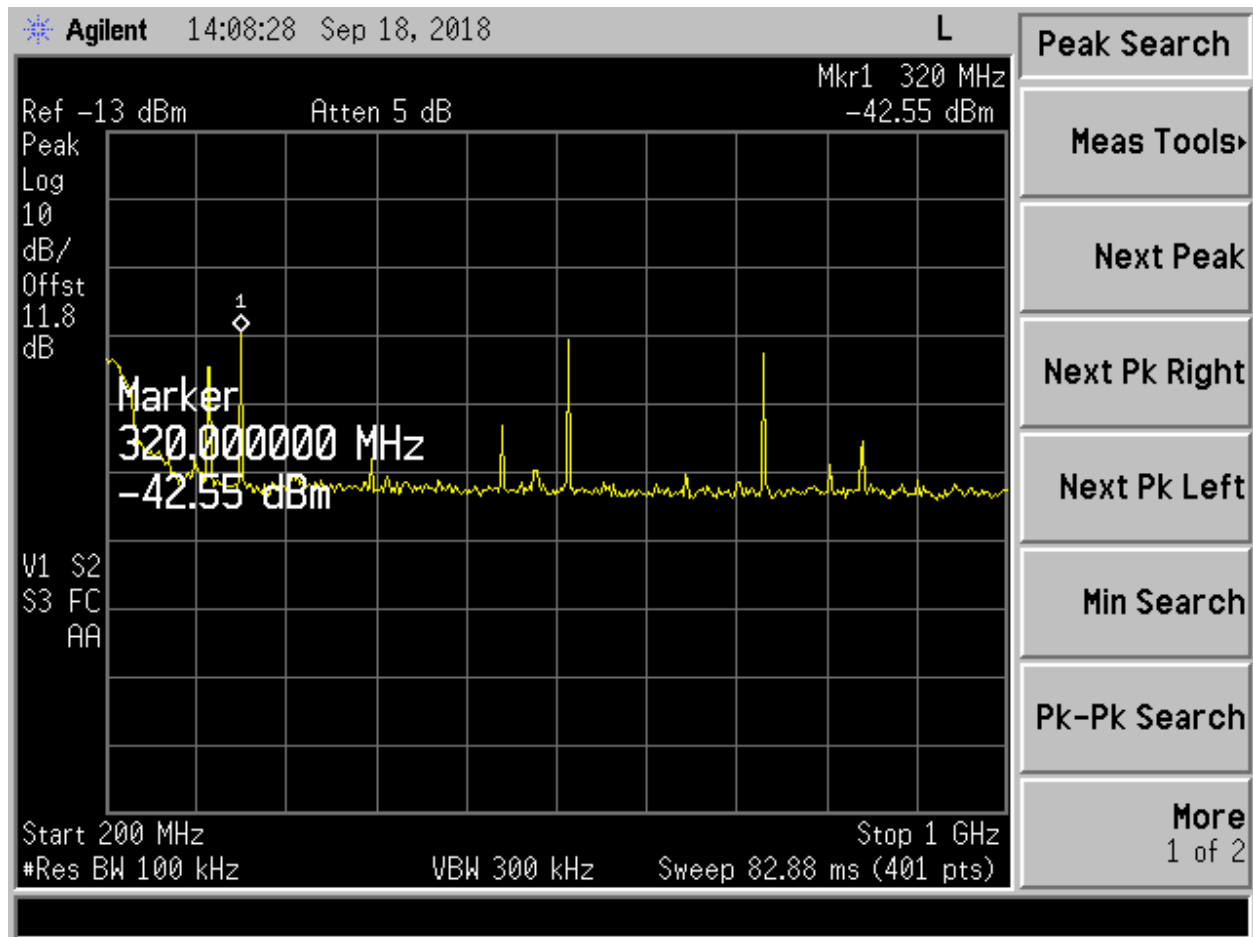


Figure 438. 145 MHz Vertical, 200 MHz – 1 GHz

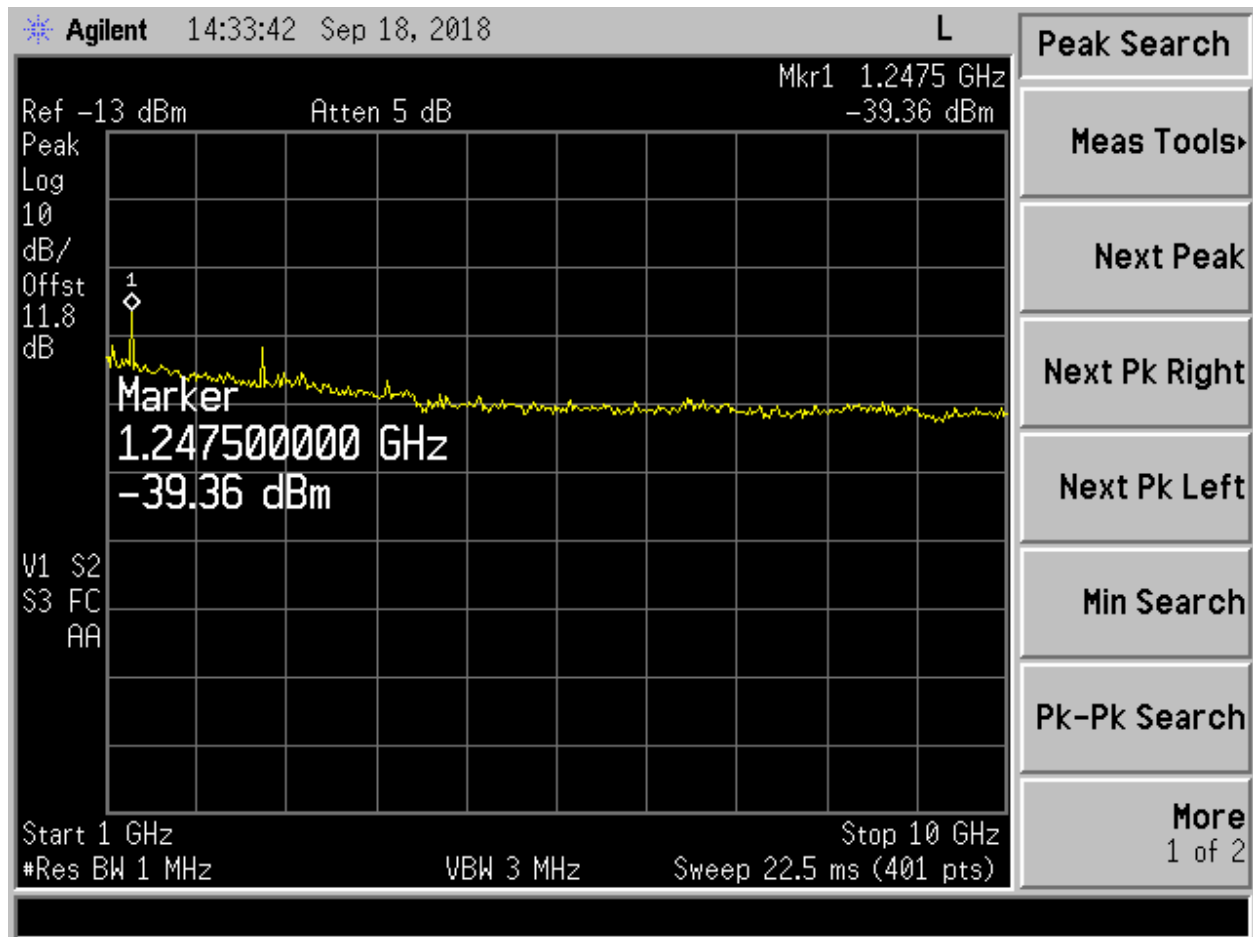


Figure 439. 145 MHz Horizontal above 1 GHz

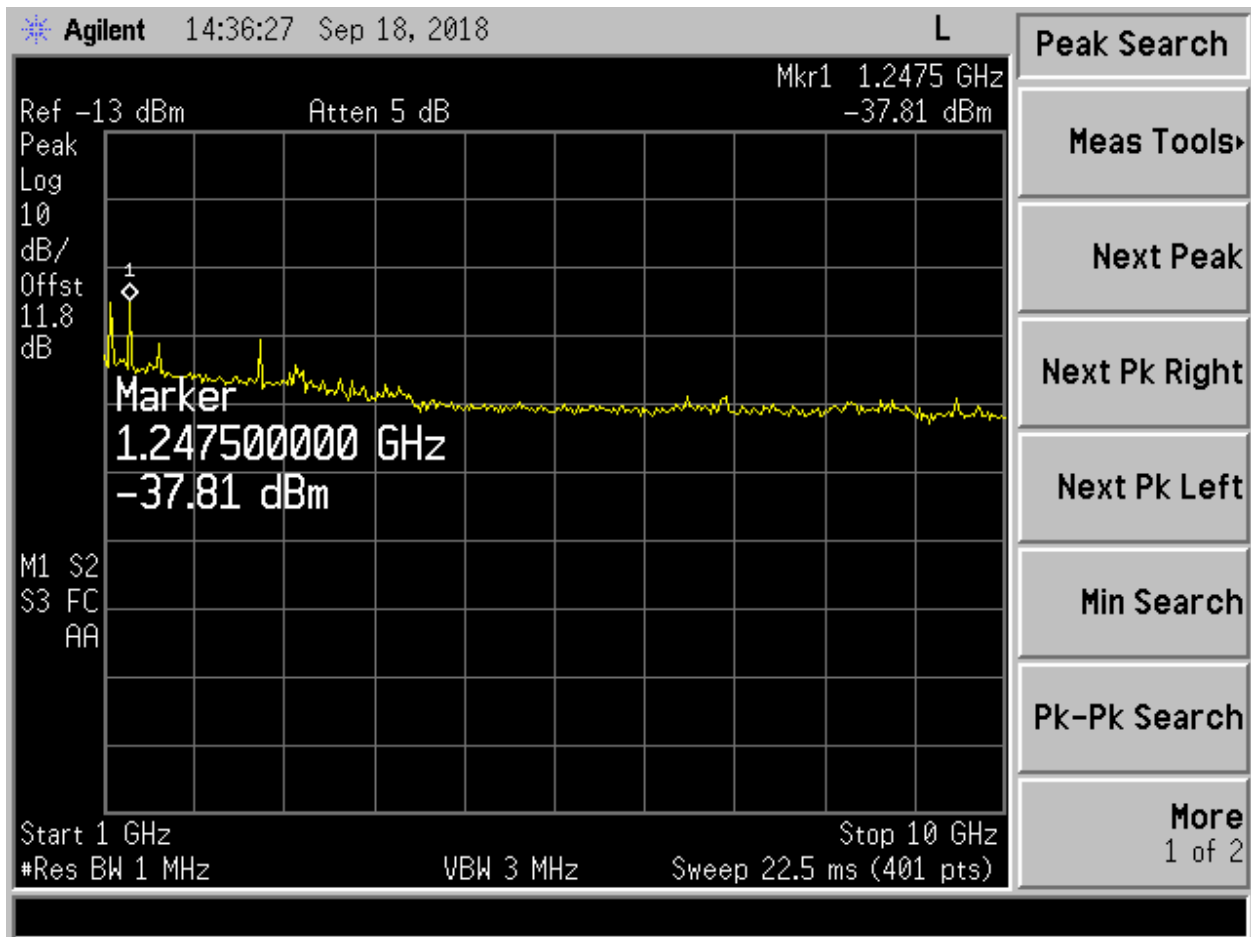


Figure 440. 145 MHz Vertical above 1 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

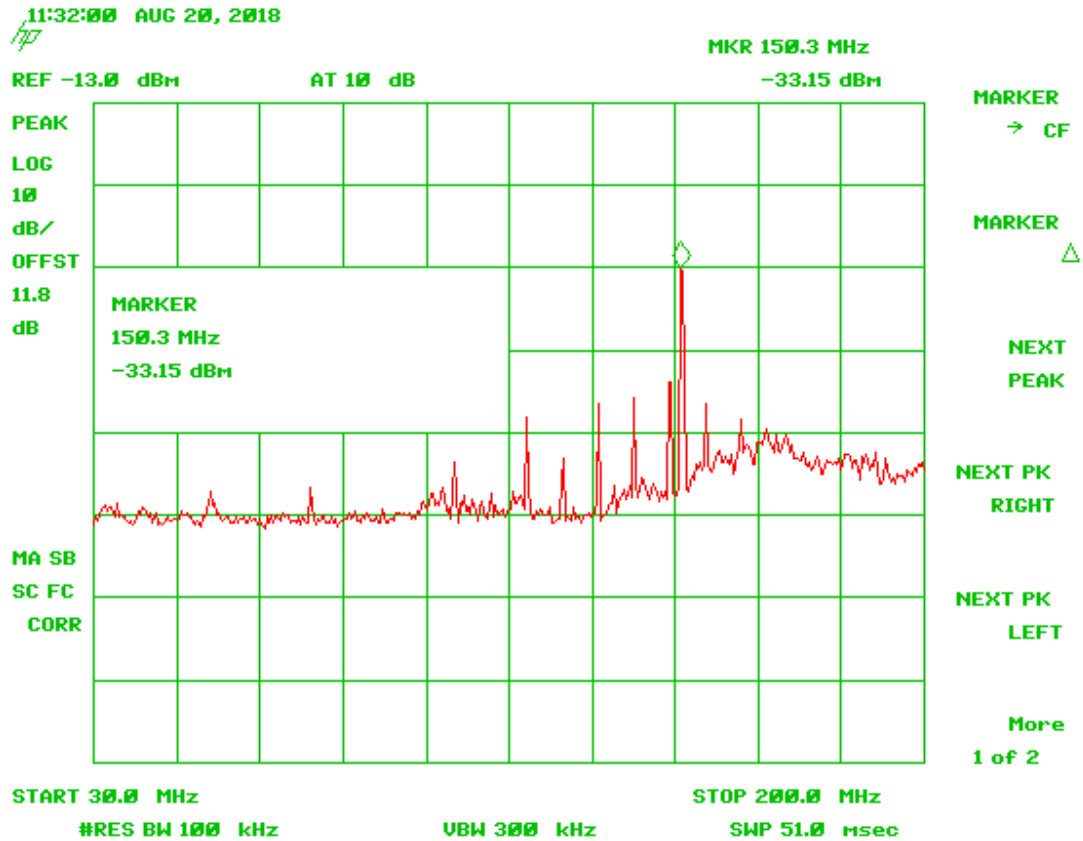


Figure 441. 150 MHz Horizontal, 30 – 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

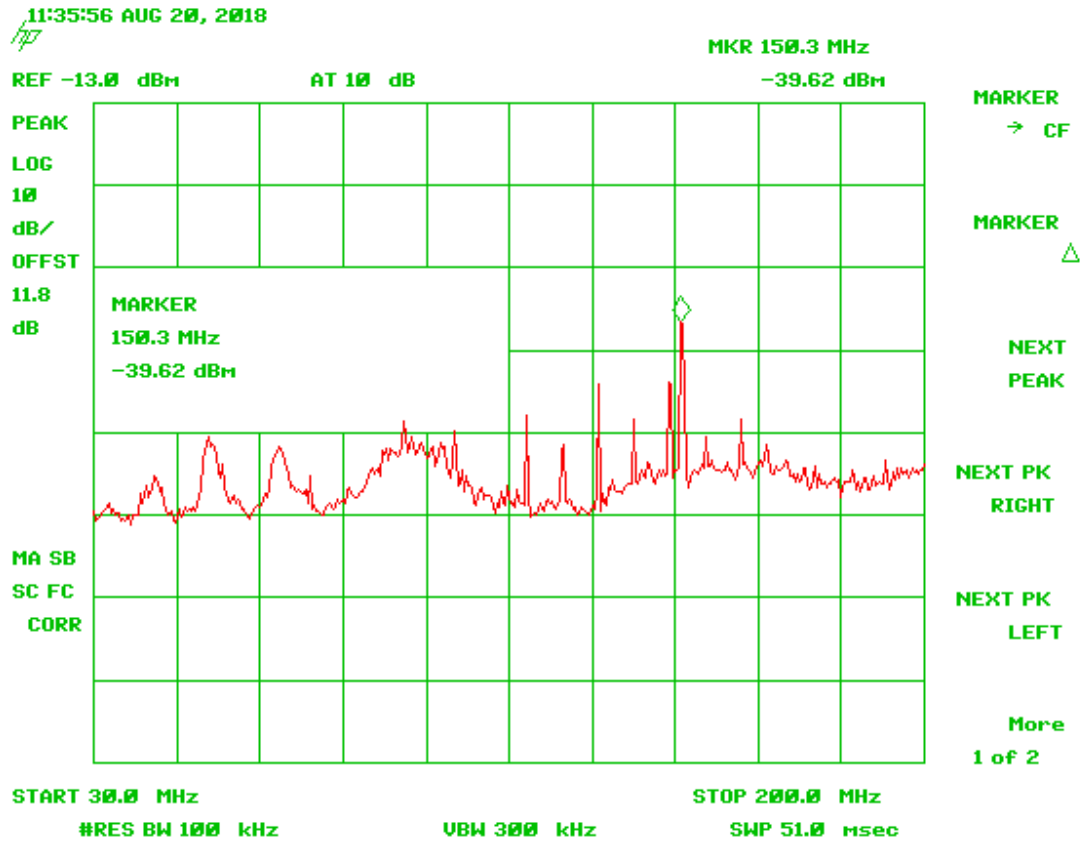


Figure 442. 150 MHz Vertical, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

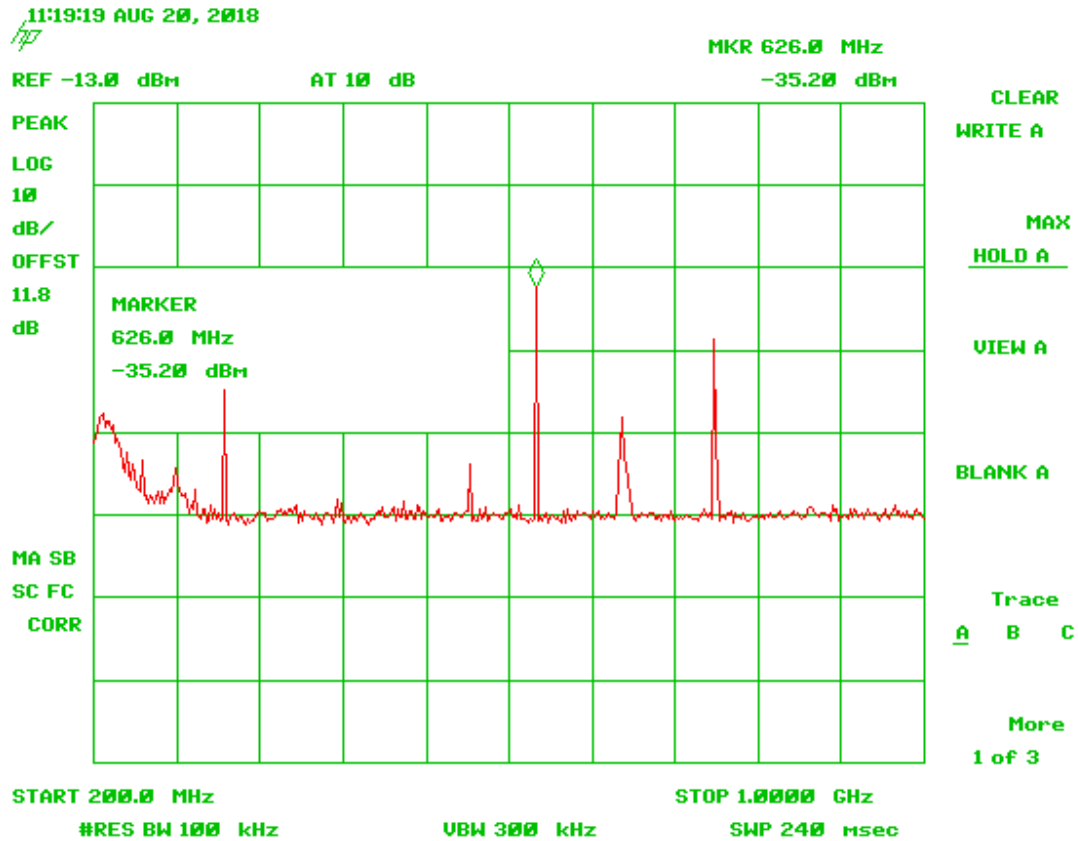


Figure 443. 150 MHz Horizontal 200 MHz - 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

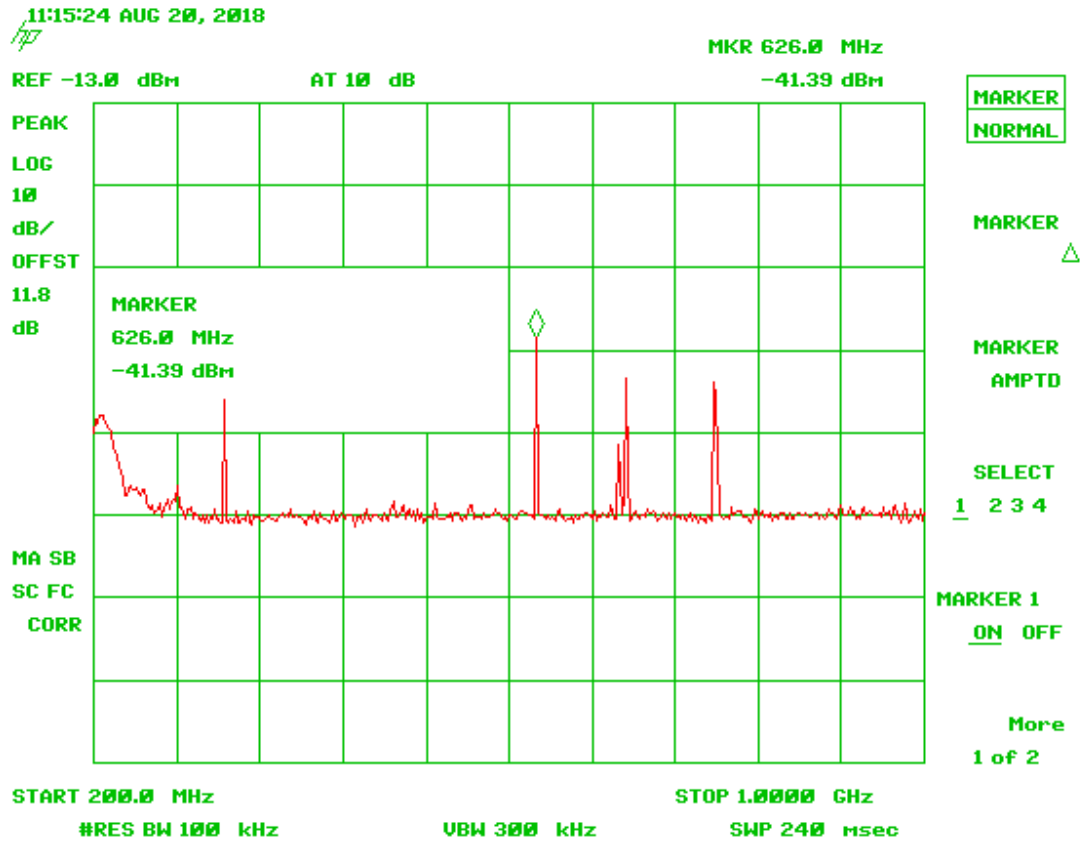


Figure 444. 150 MHz Vertical, 200 MHz – 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

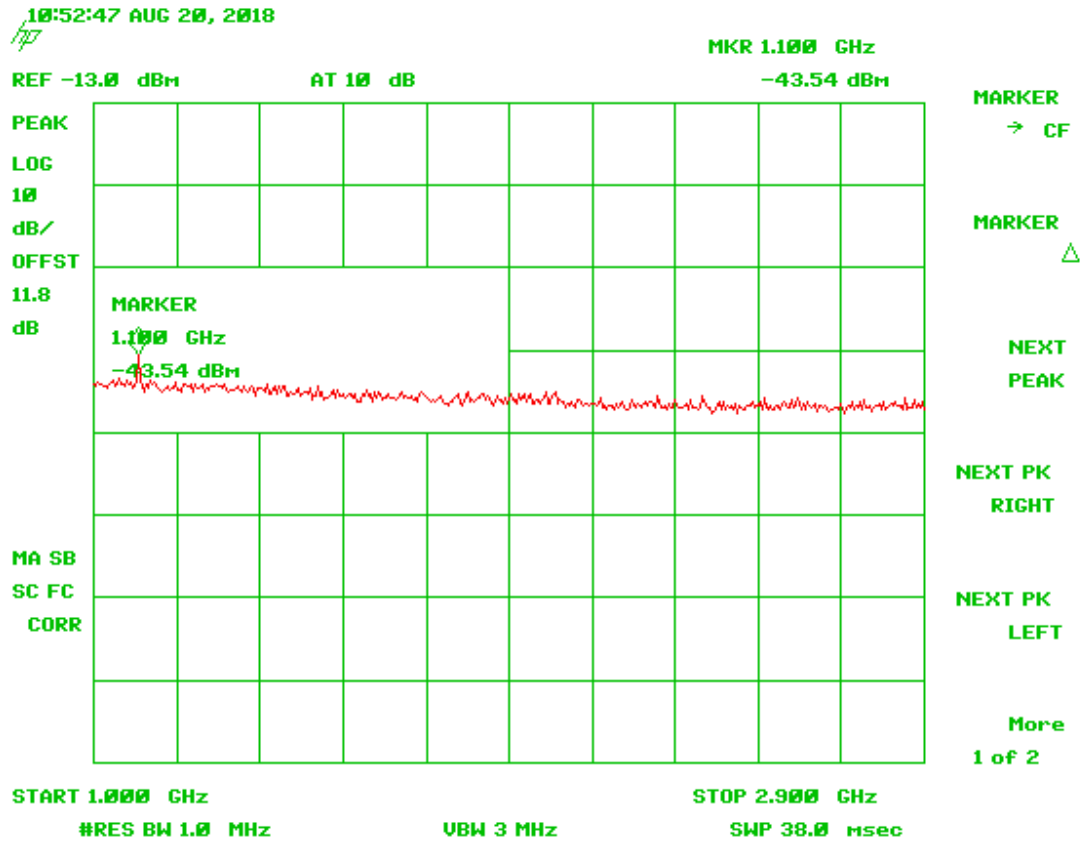


Figure 445. 150 MHz Horizontal, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

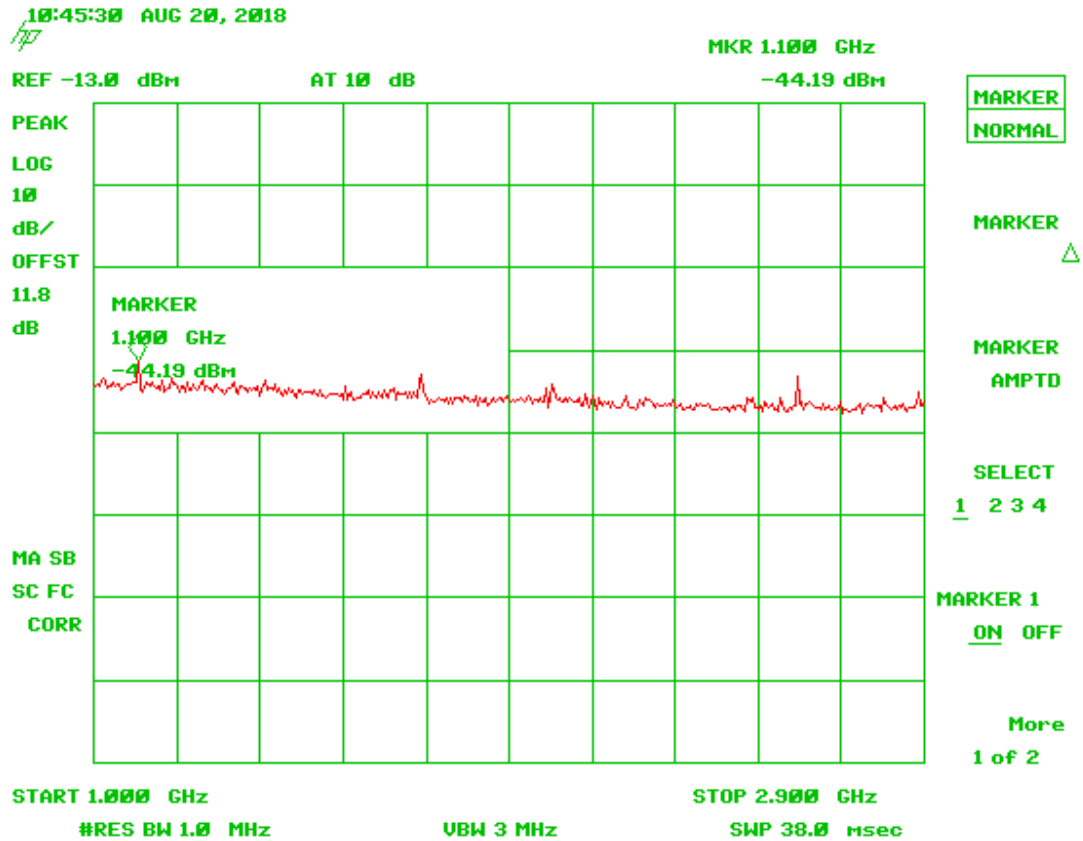


Figure 446. 150 MHz Vertical, 1 - 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

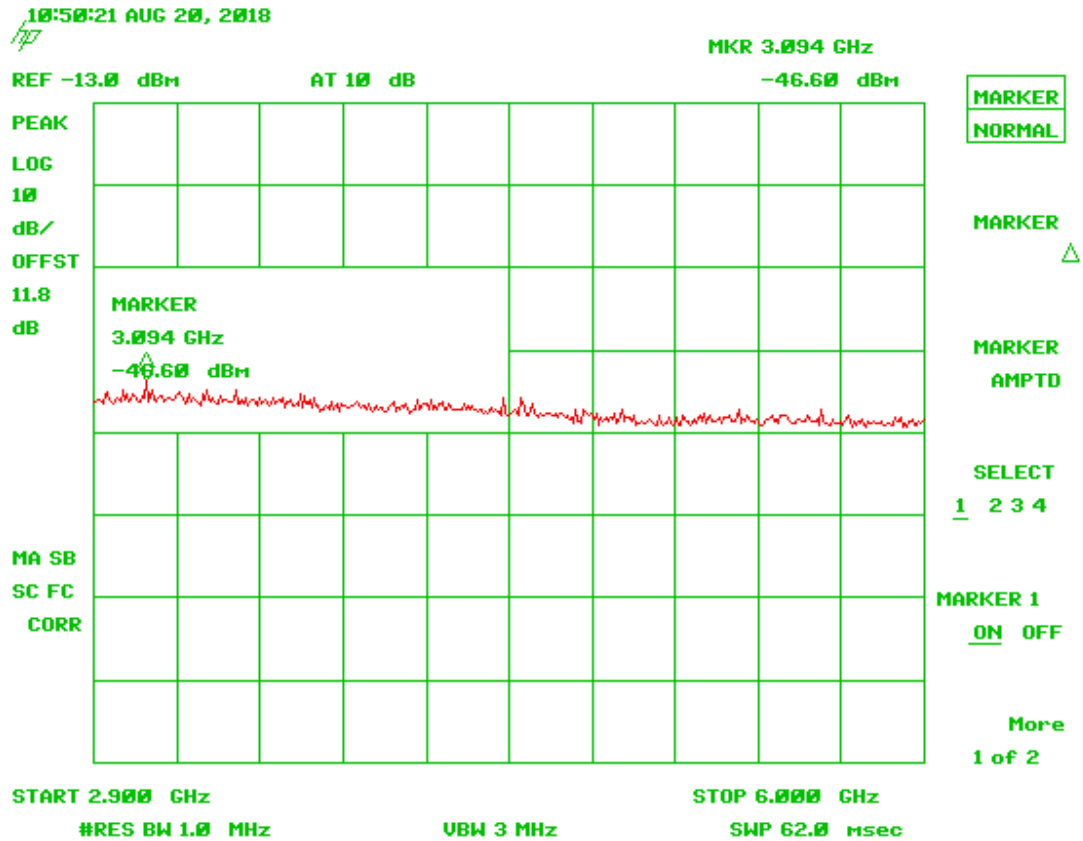


Figure 447. 150 MHz Horizontal, 2.9 – 6 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

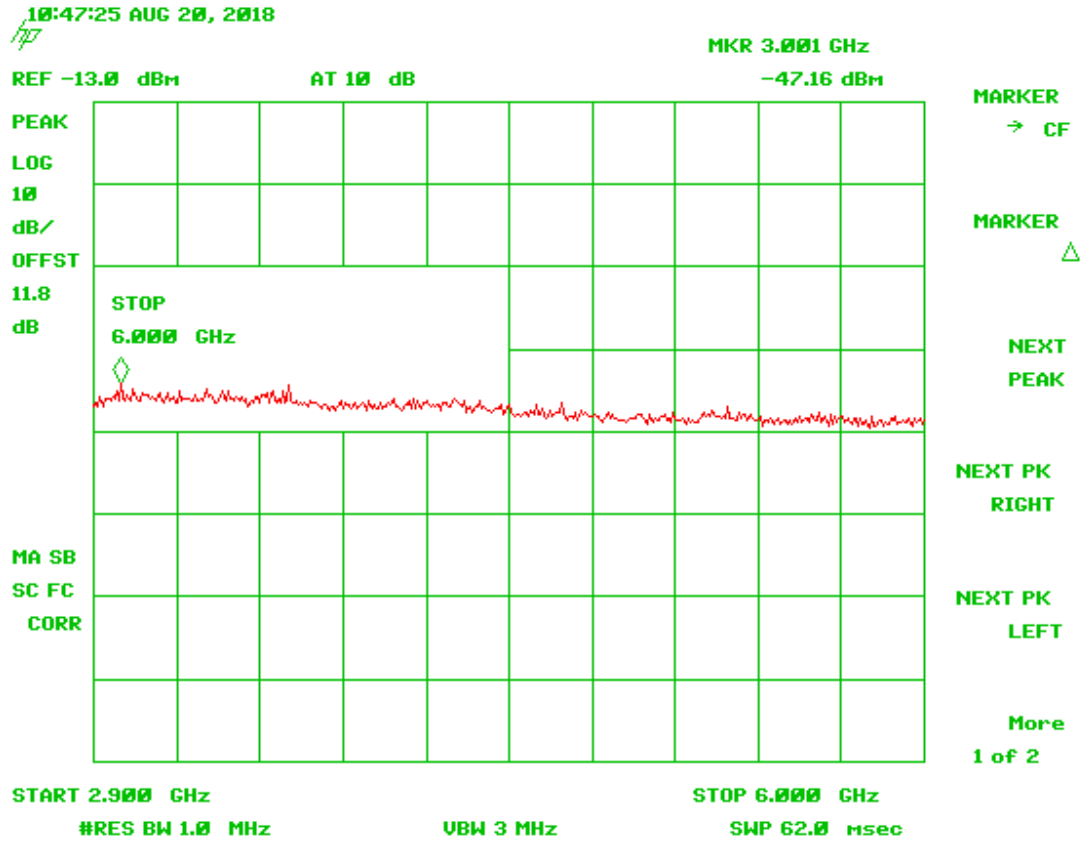


Figure 448. 150 MHz Vertical, 2.9 – 6 GHz



U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

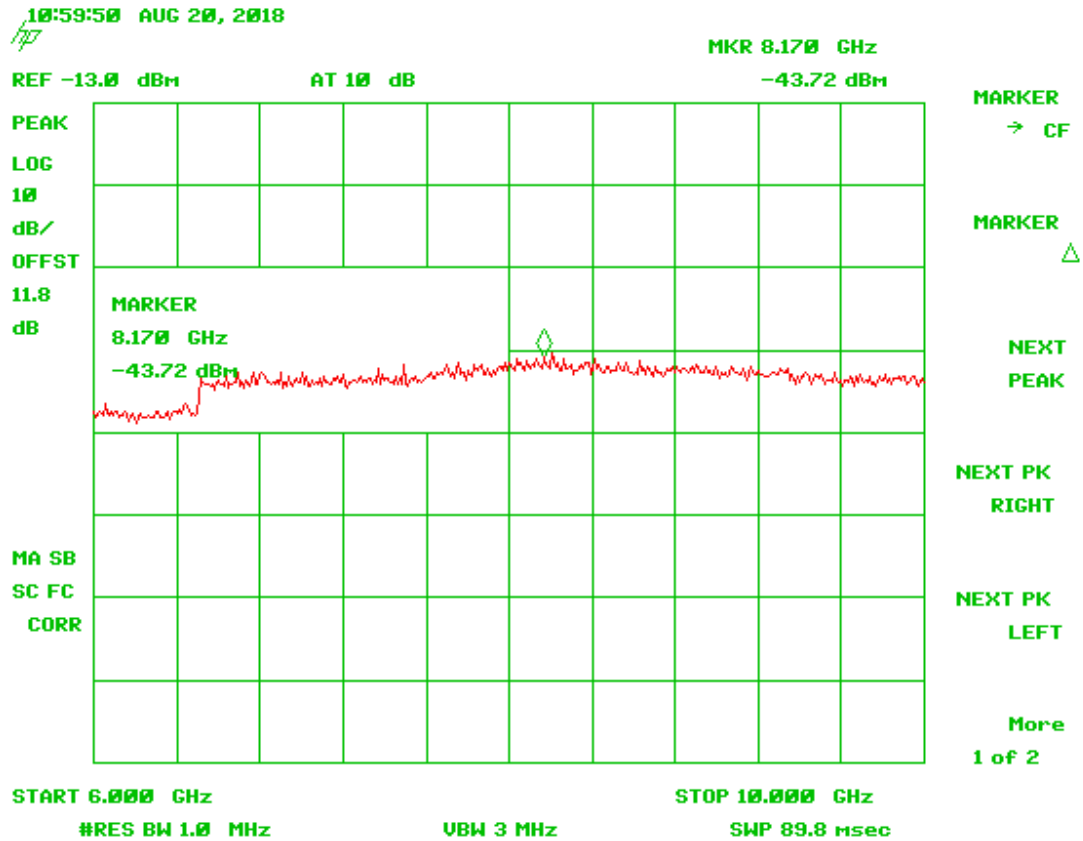


Figure 449. 150 MHz Horizontal, 6 - 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

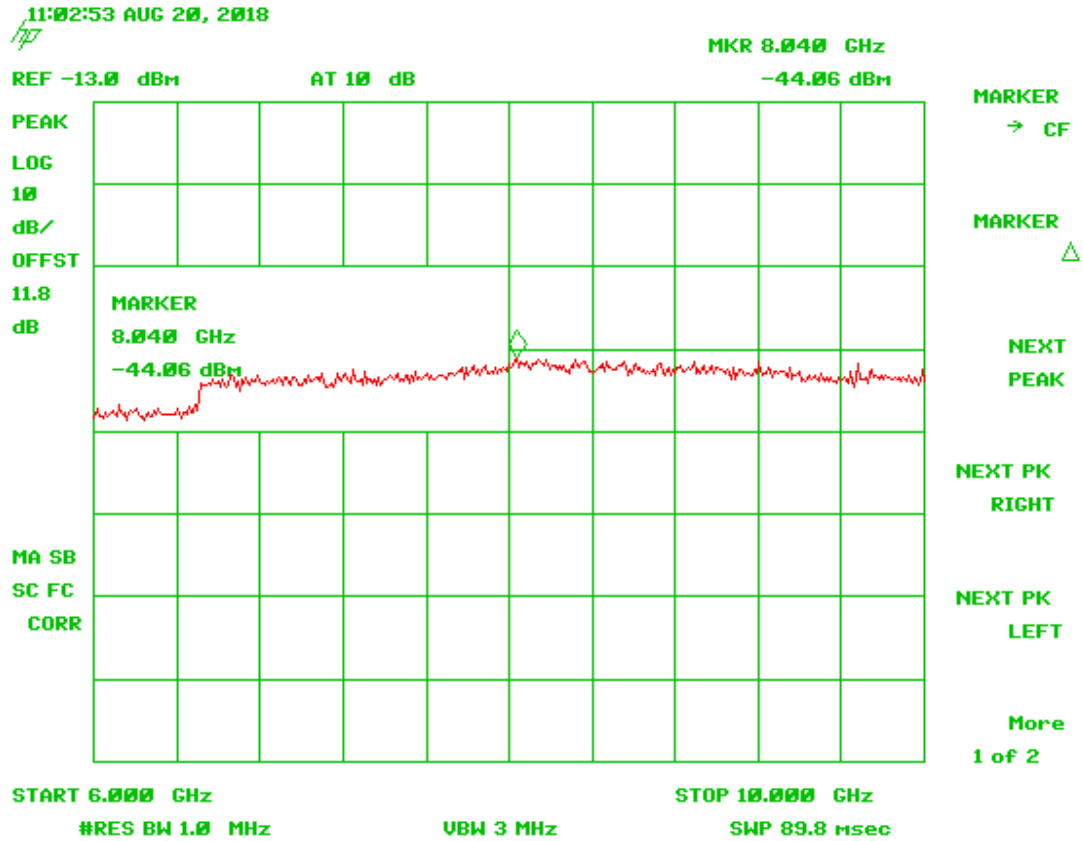
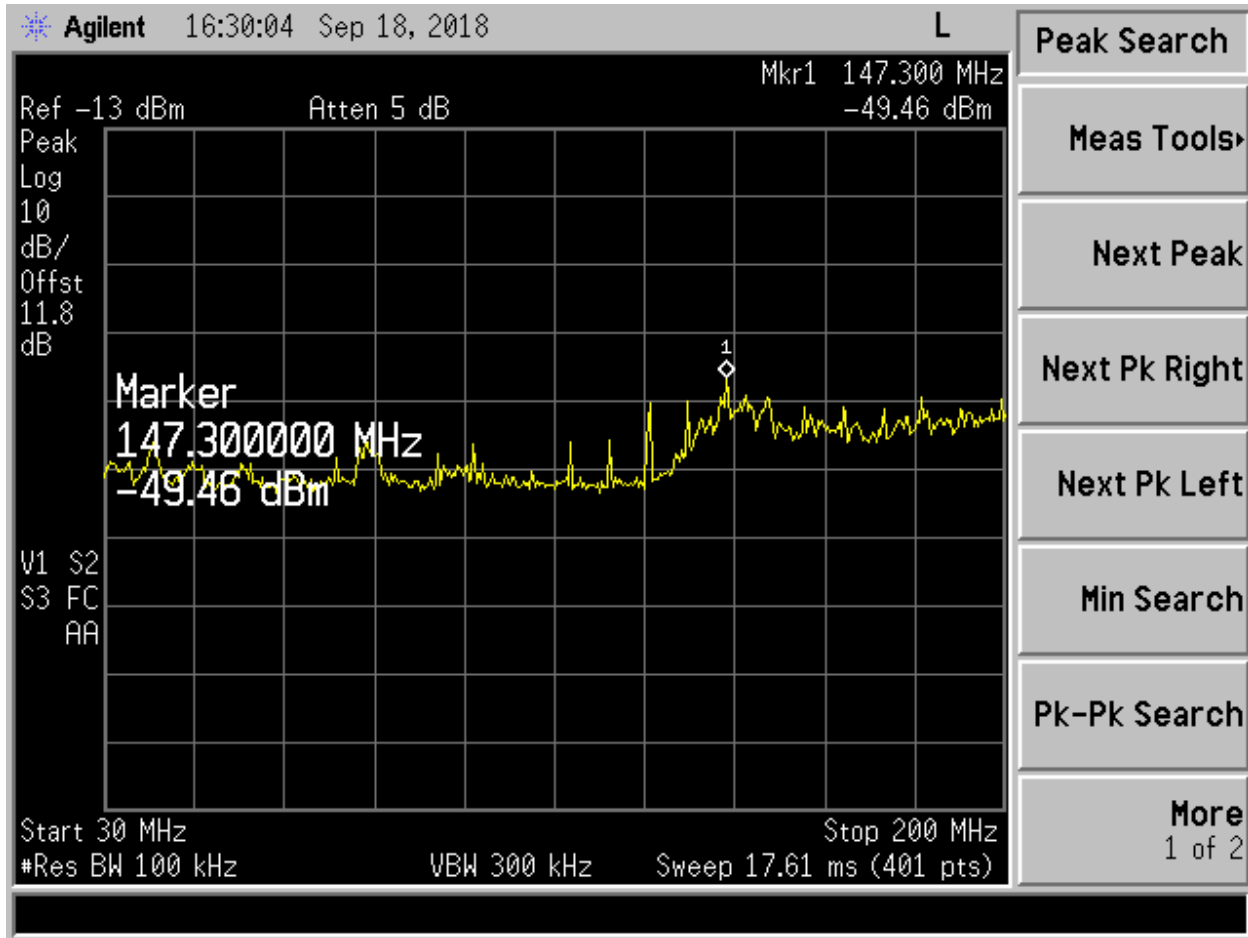


Figure 450. 150 MHz Vertical, 6 – 10 GHz

### 2.19.1.2 UHF Radiated Spurious Emissions Plots

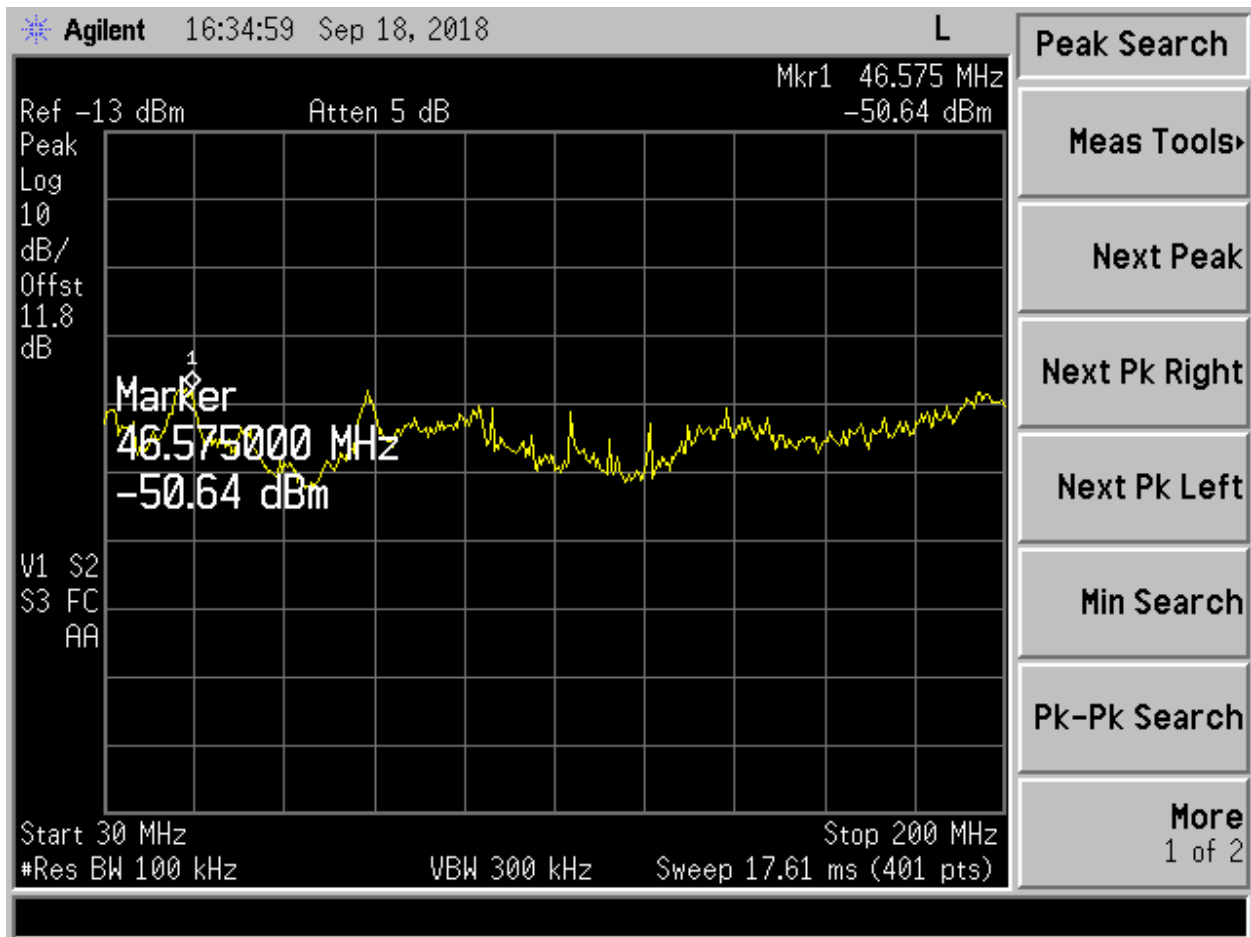


**Figure 451. 381 MHz Horizontal, 30 - 200 MHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

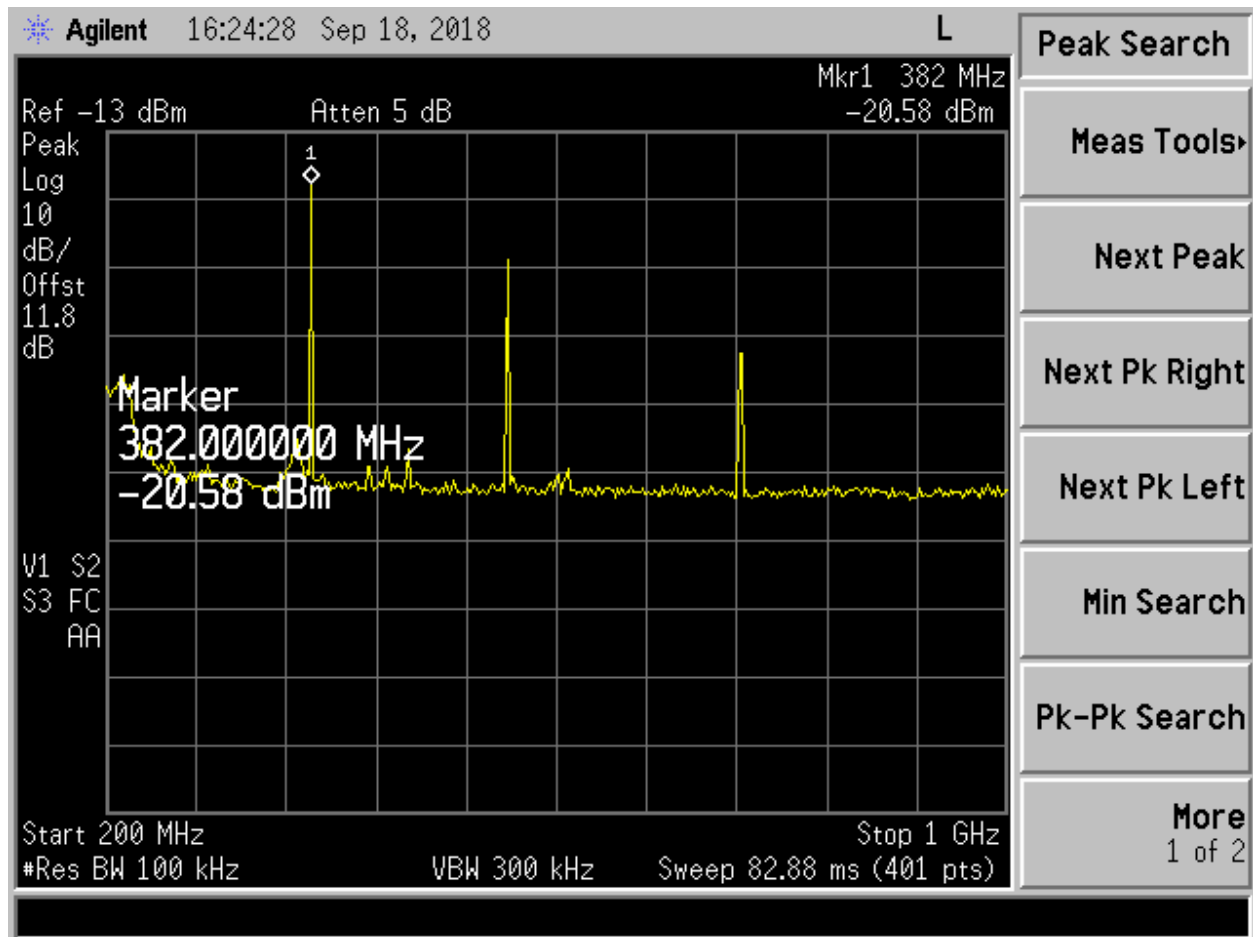


**Figure 452. 381 MHz Vertical, 30 - 200 MHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

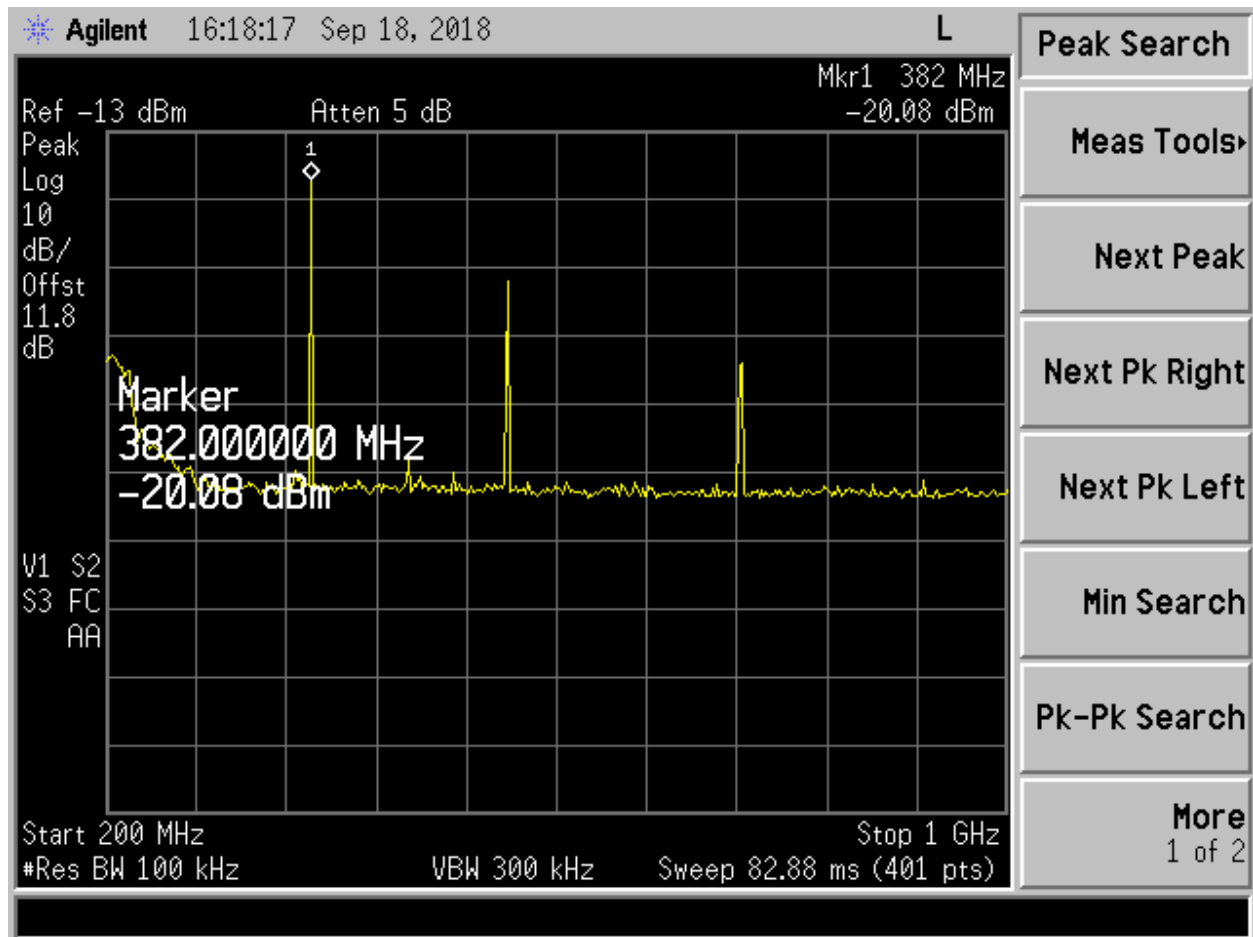


**Figure 453. 381 MHz Horizontal, 200 MHz – 1 GHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

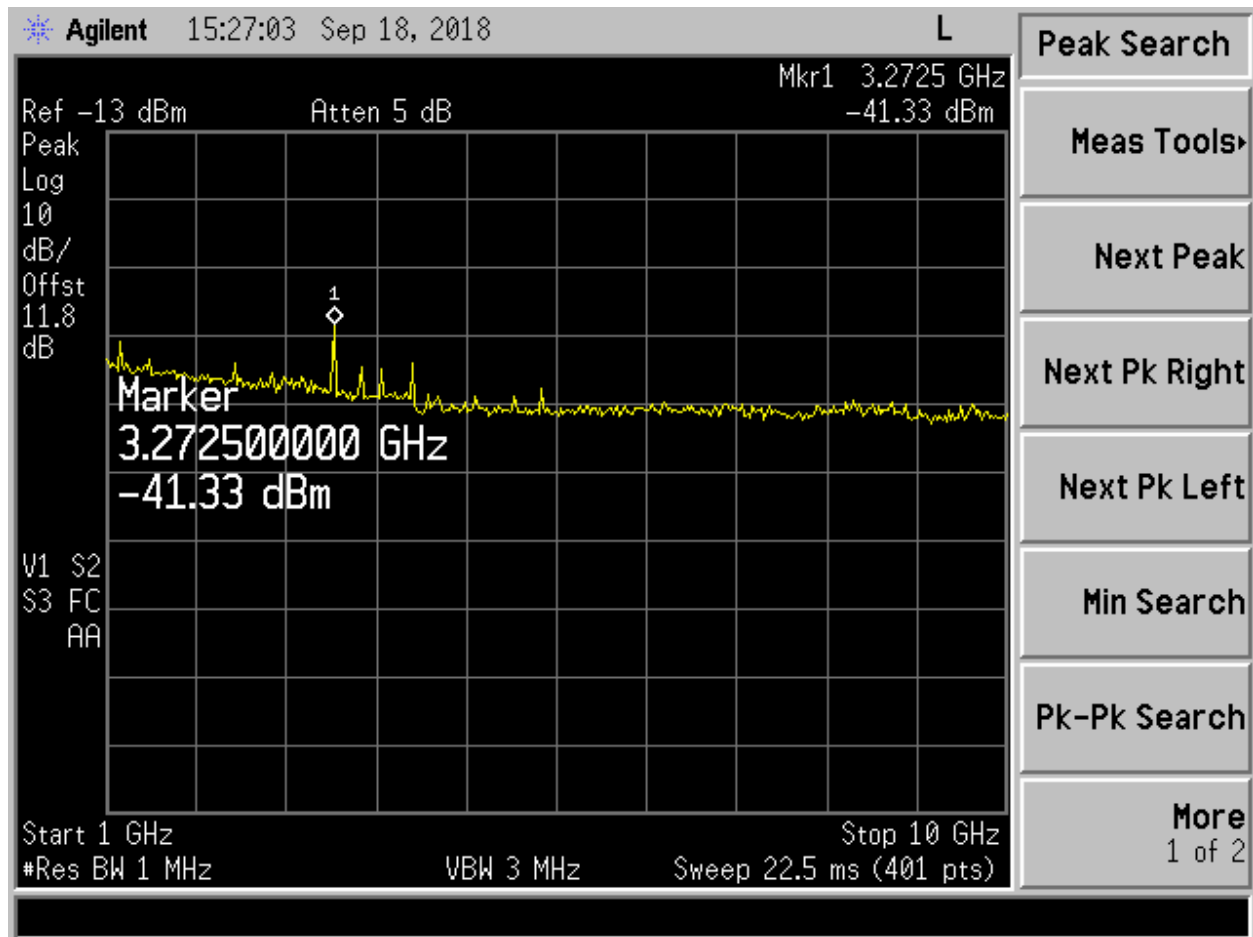


**Figure 454. 381 MHz Vertical 200 MHz – 1 GHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

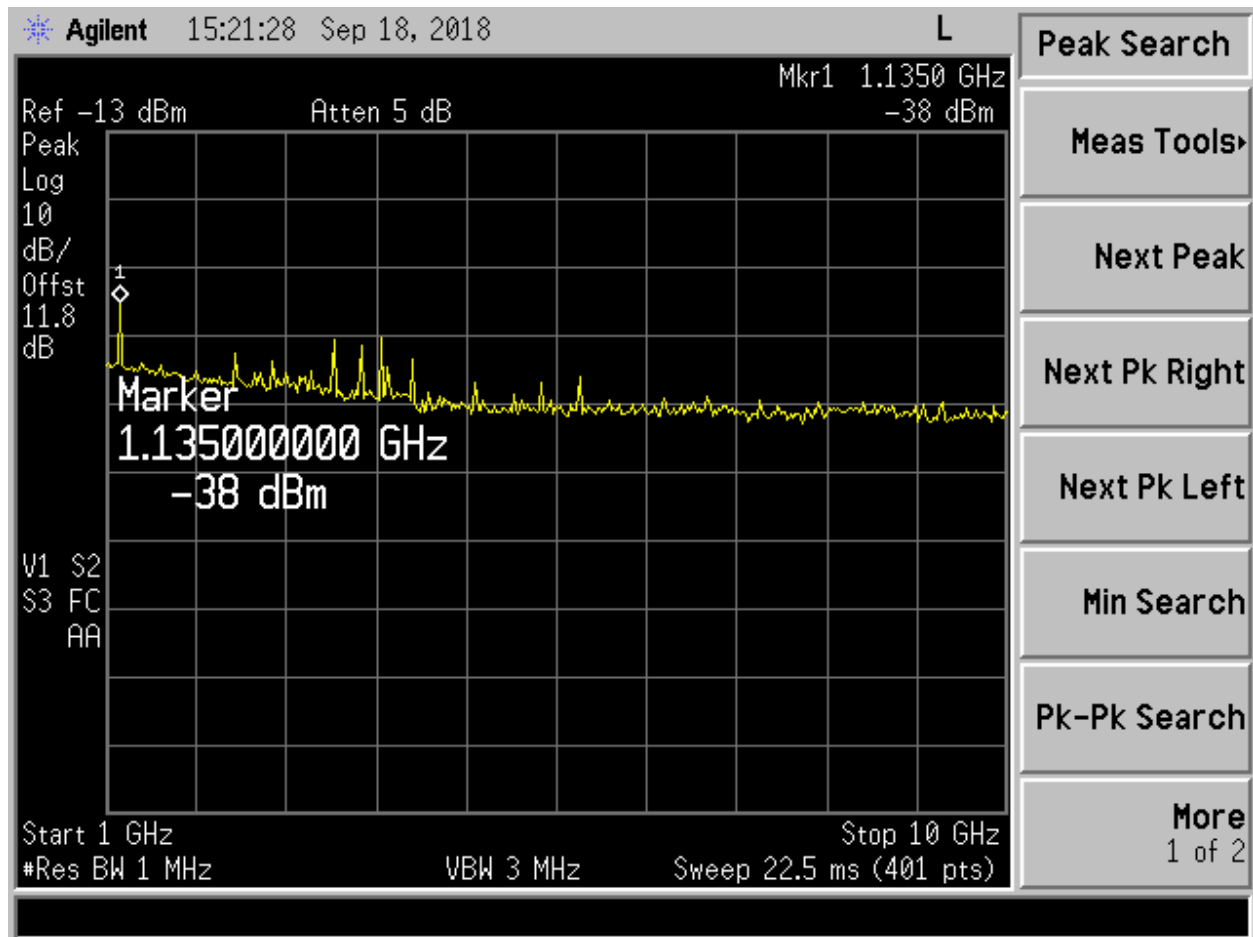


**Figure 455. 381 MHz Horizontal above 1 GHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 456. 381 MHz Vertical above 1 GHz**

Note: Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification



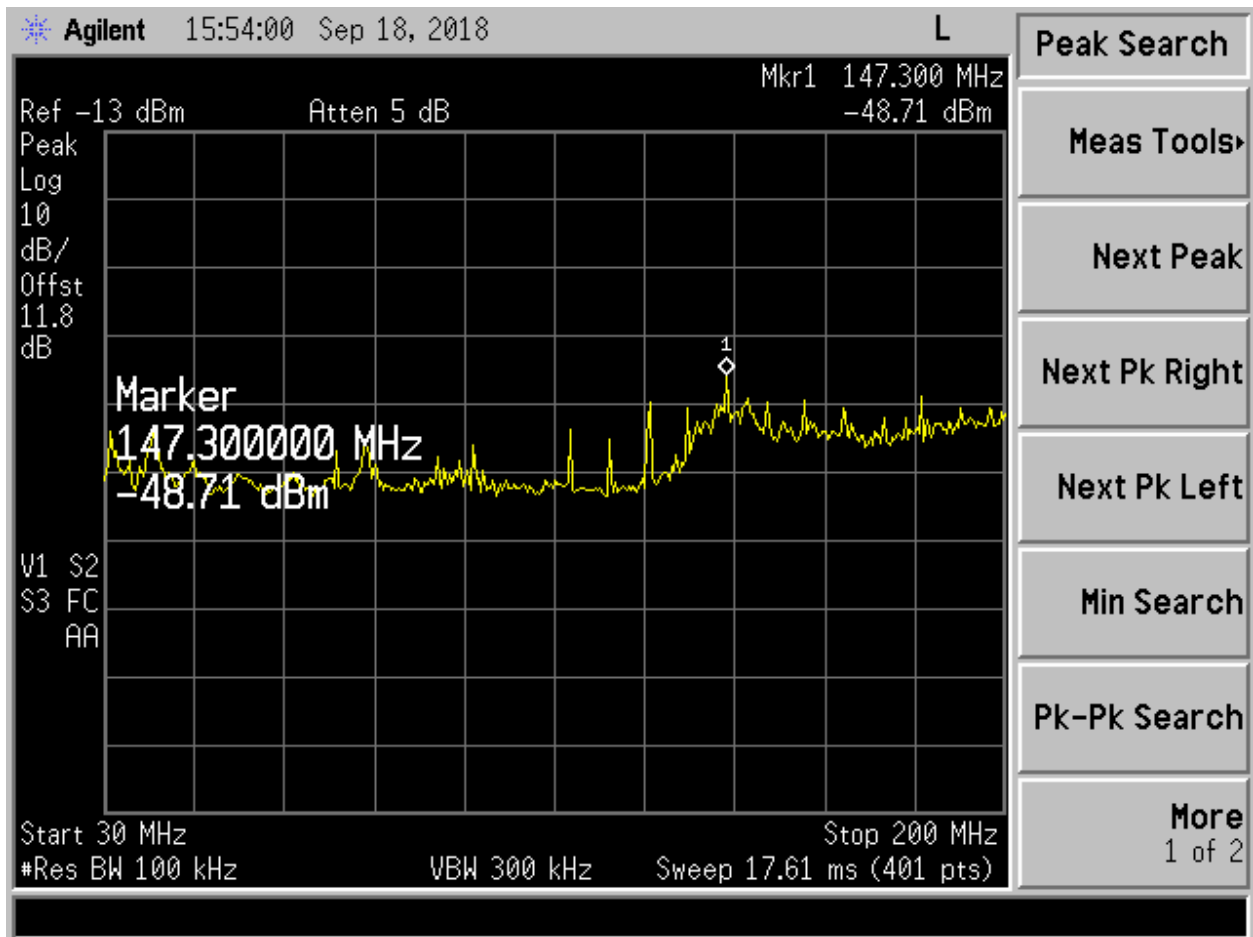


Figure 457. 420 MHz Horizontal, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

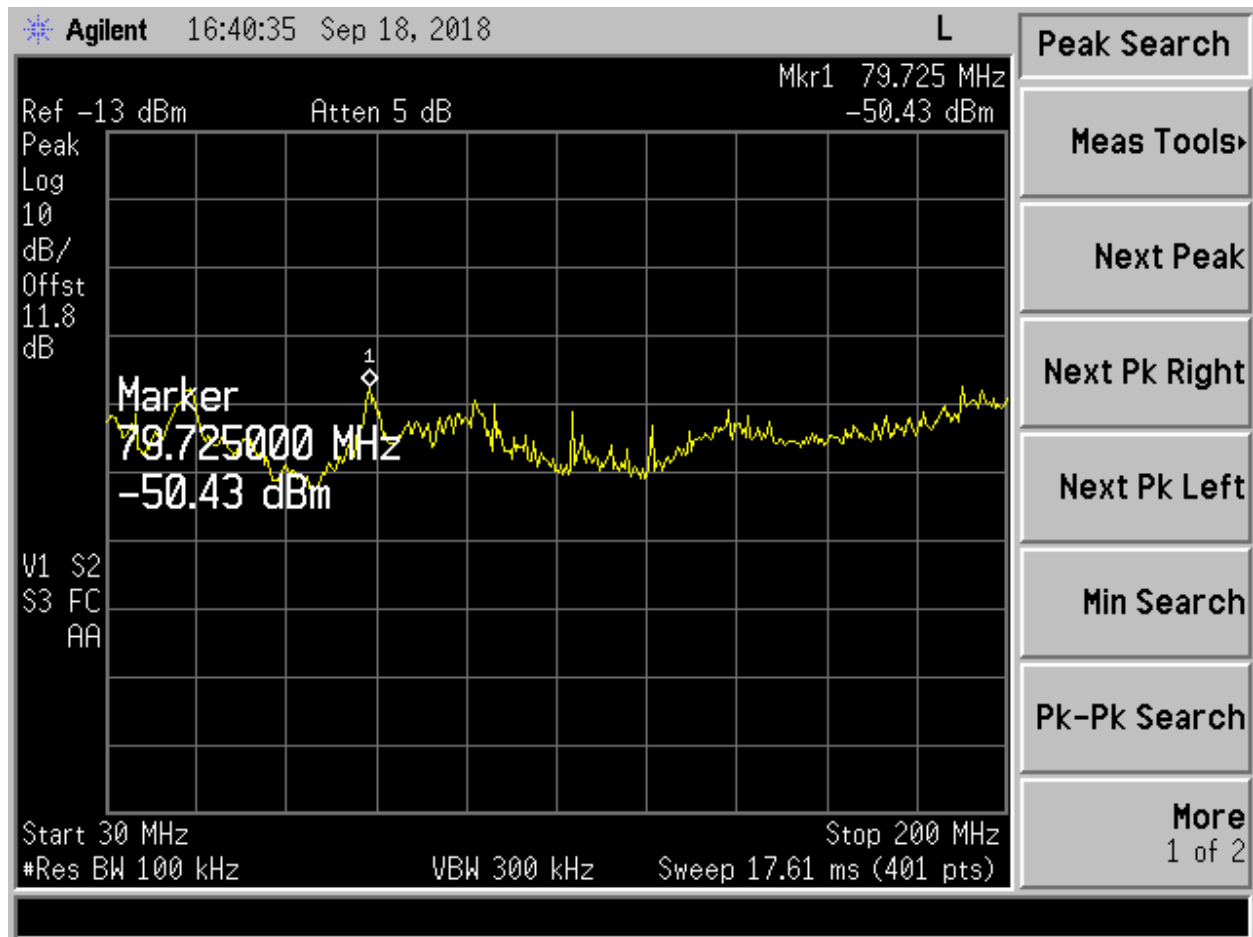


Figure 458. 420 MHz Vertical, 30 - 200 MHz

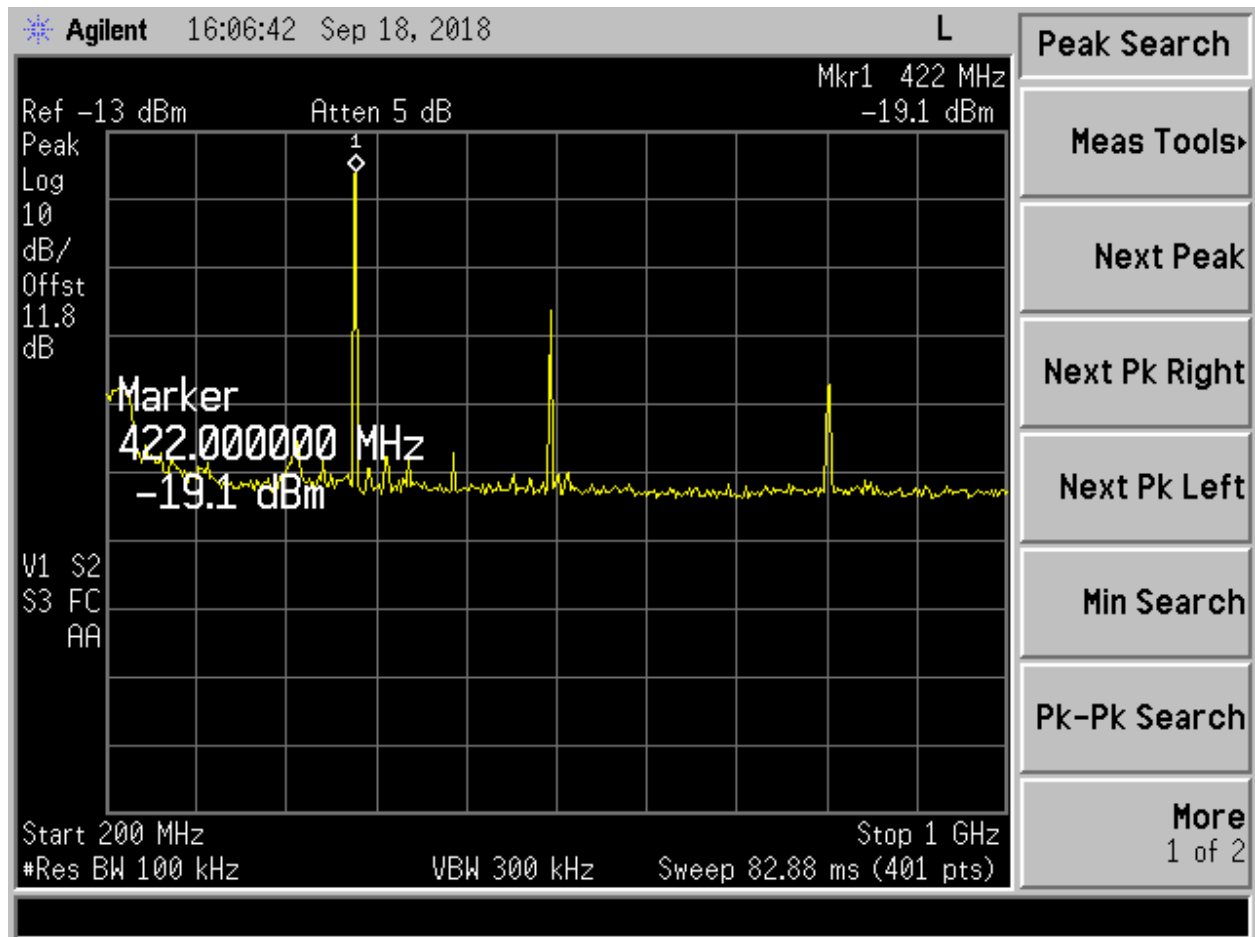


Figure 459. 420 MHz Horizontal, 200 MHz – 1 GHz

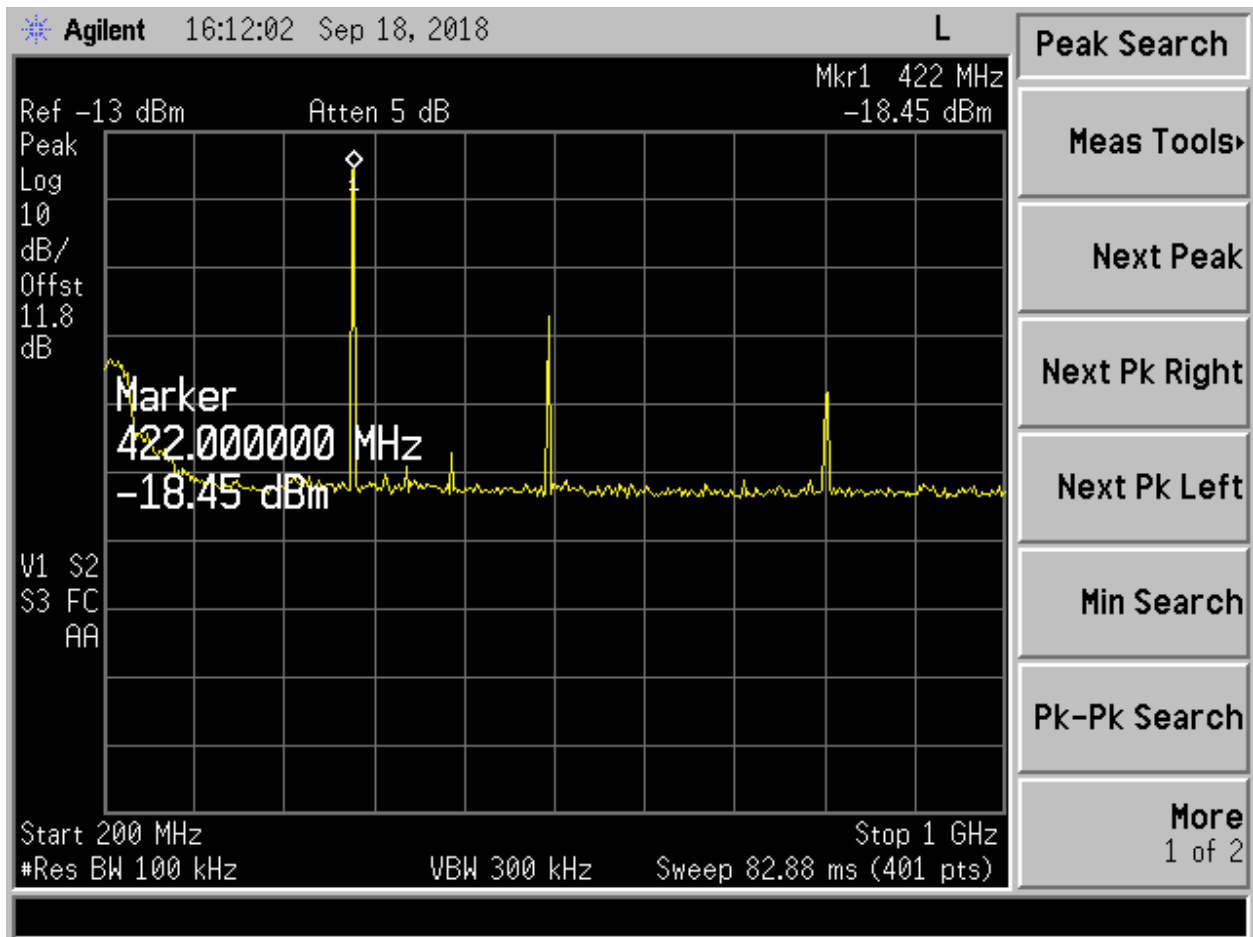


Figure 460. 420 MHz Vertical, 200 MHz – 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

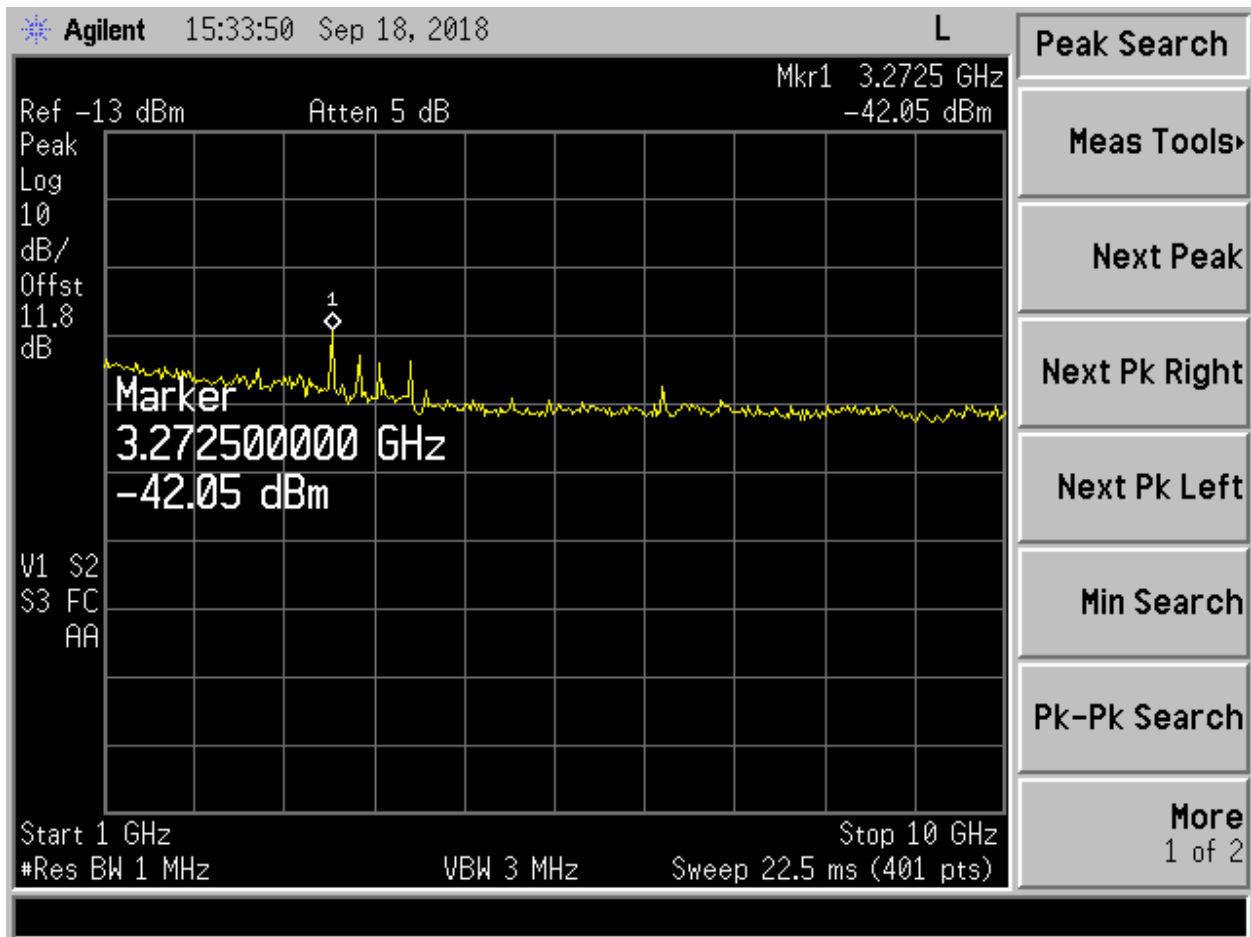


Figure 461. 420 MHz Horizontal above 1 GHz

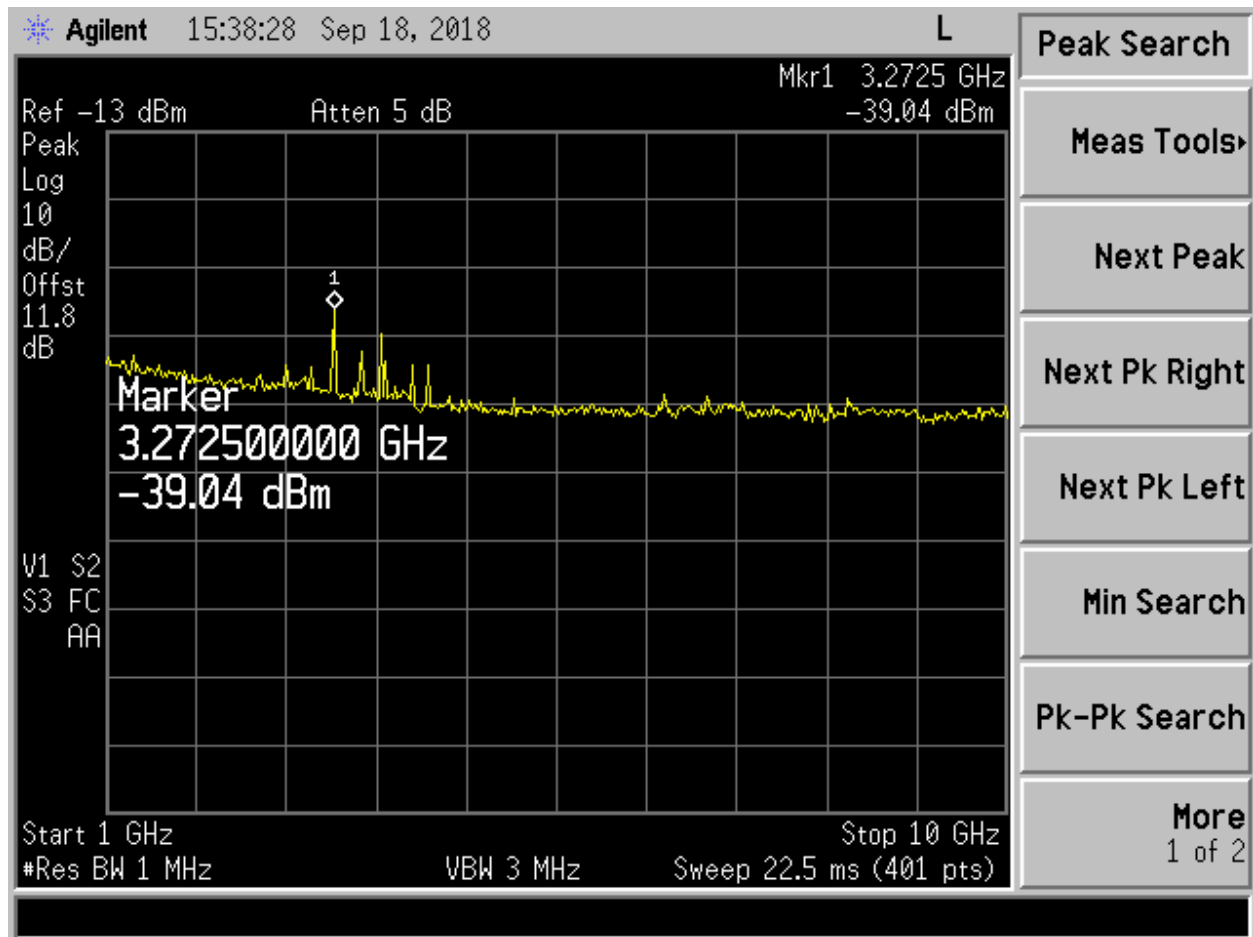


Figure 462. 420 MHz Vertical above 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

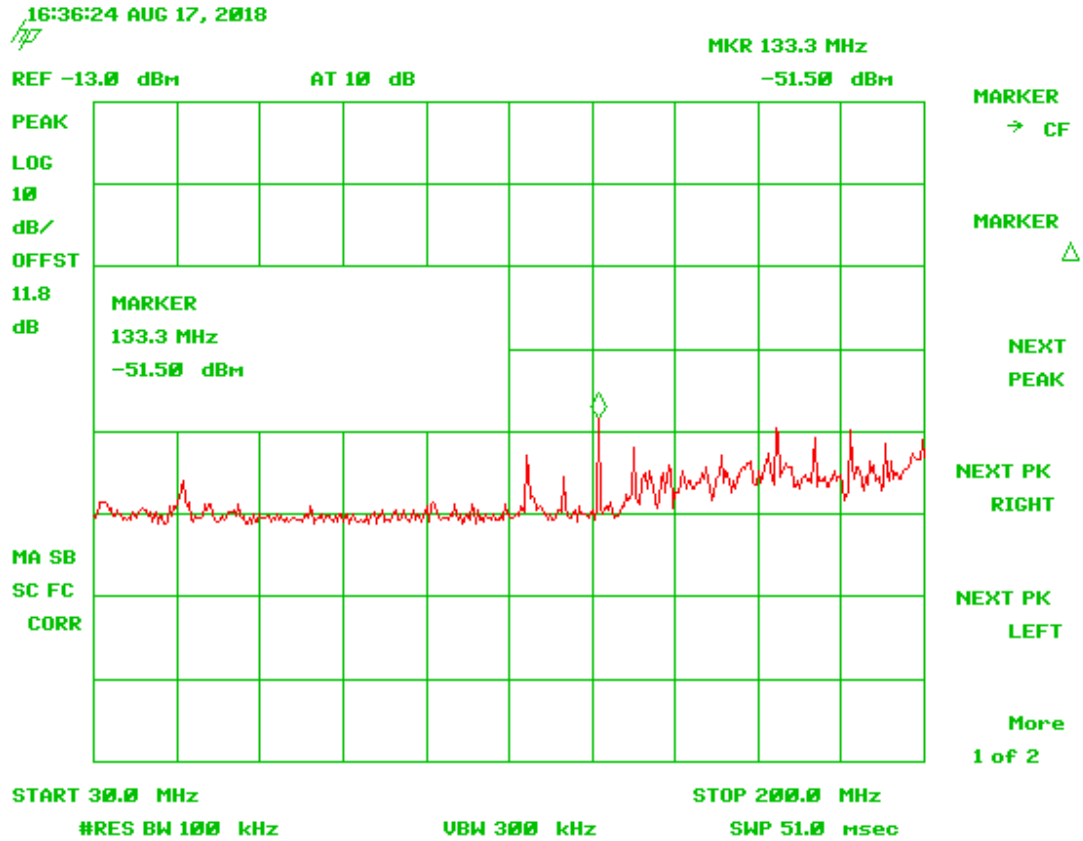


Figure 463. 451 MHz Horizontal, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

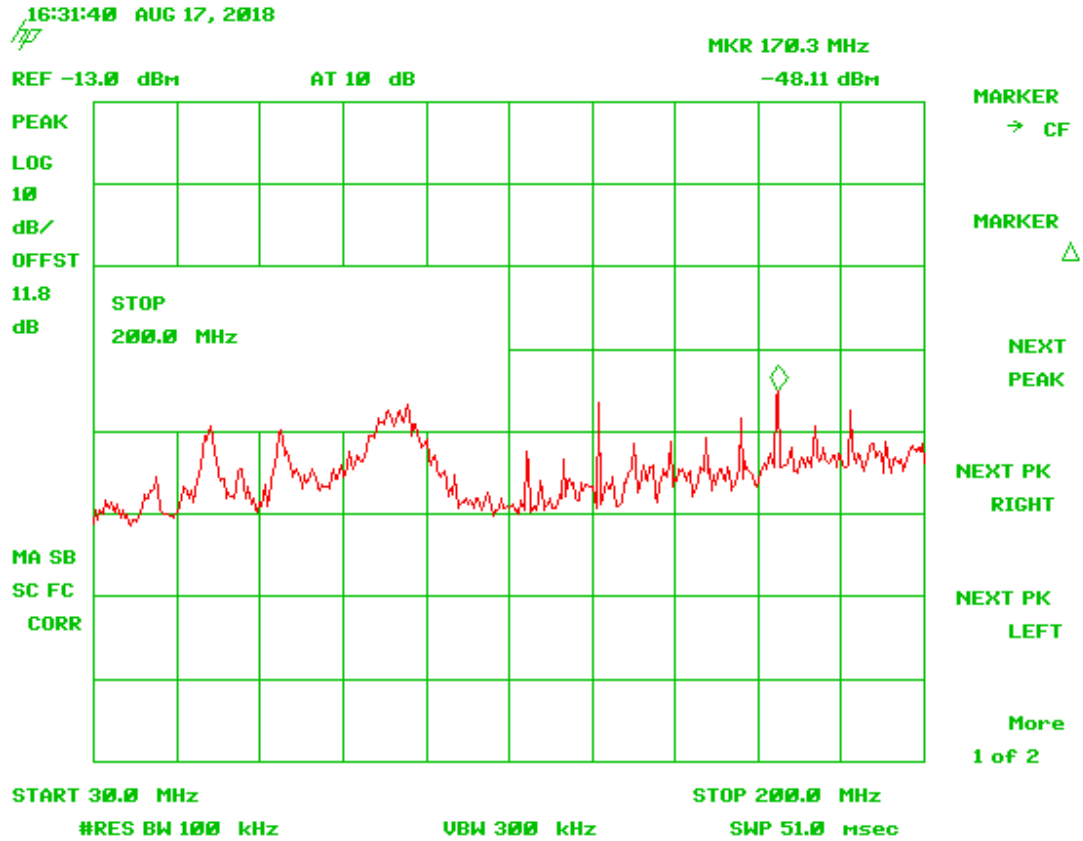


Figure 464. 451 MHz Vertical, 30 - 200 MHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

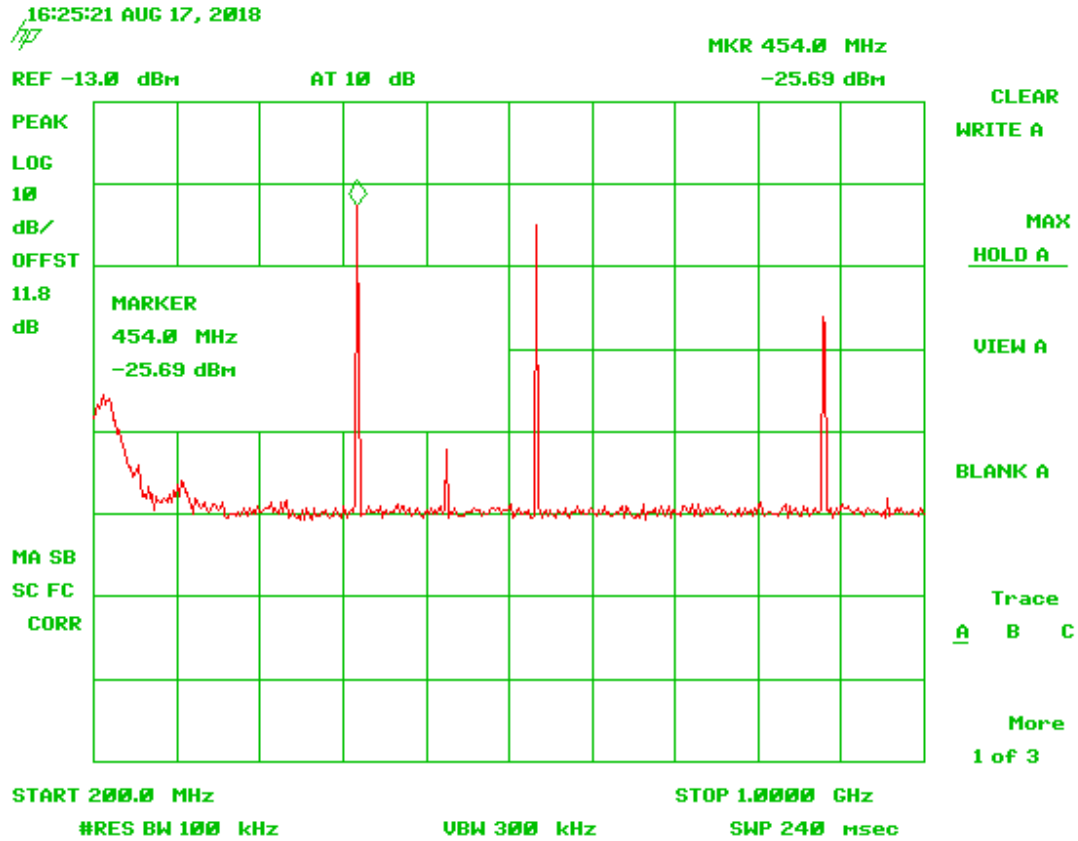


Figure 465. 451 MHz Horizontal, 200 MHz - 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

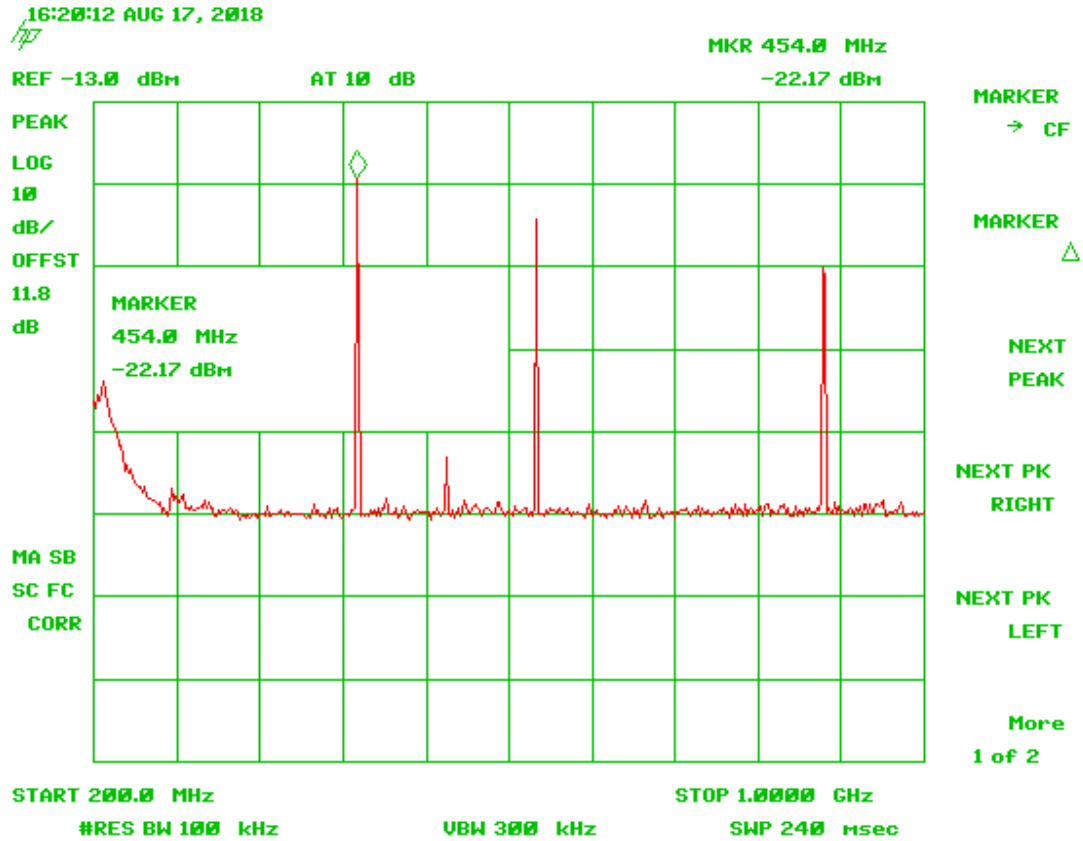


Figure 466. 451 MHz Vertical, 200 -1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

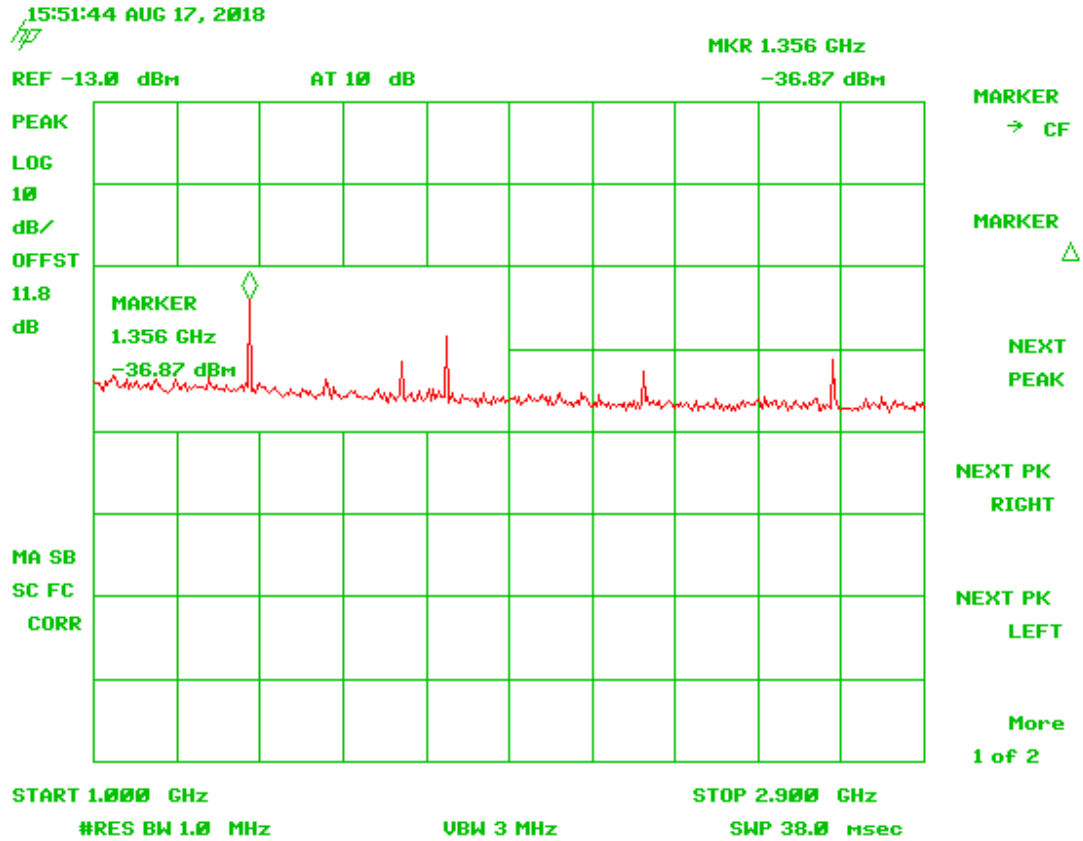


Figure 467. 451 MHz Horizontal, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

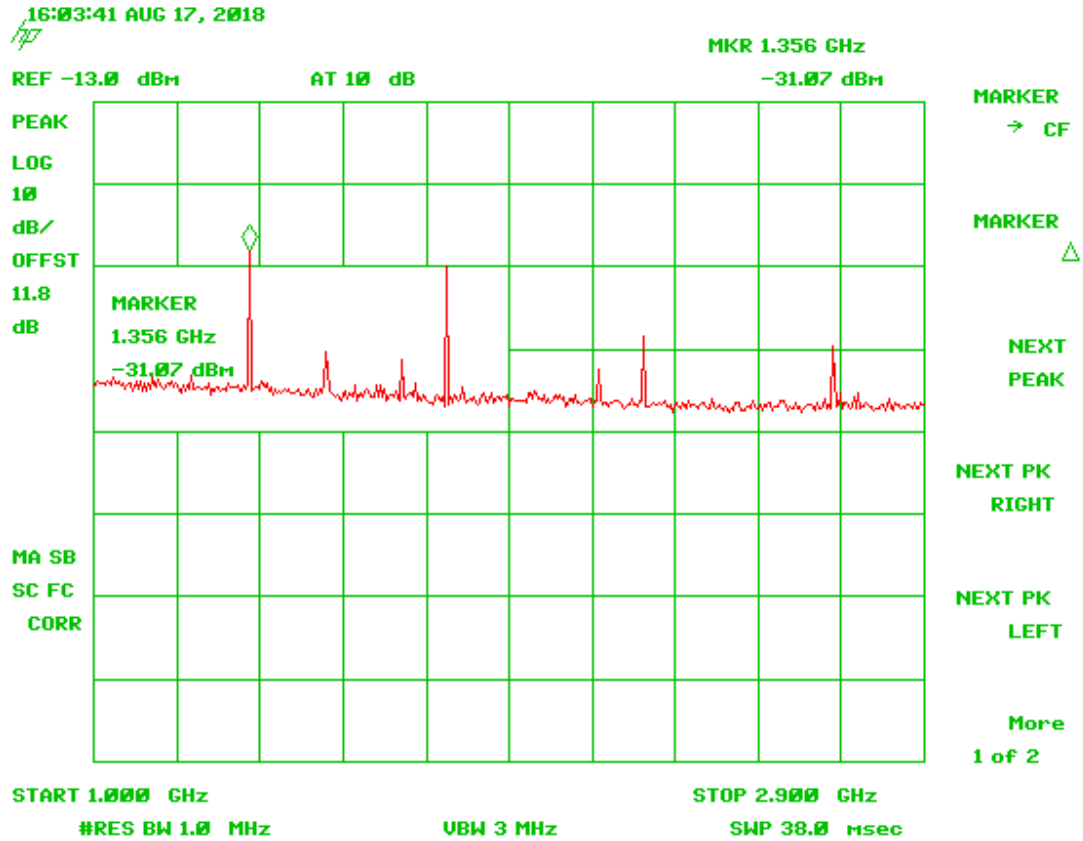


Figure 468. 451 MHz Vertical, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

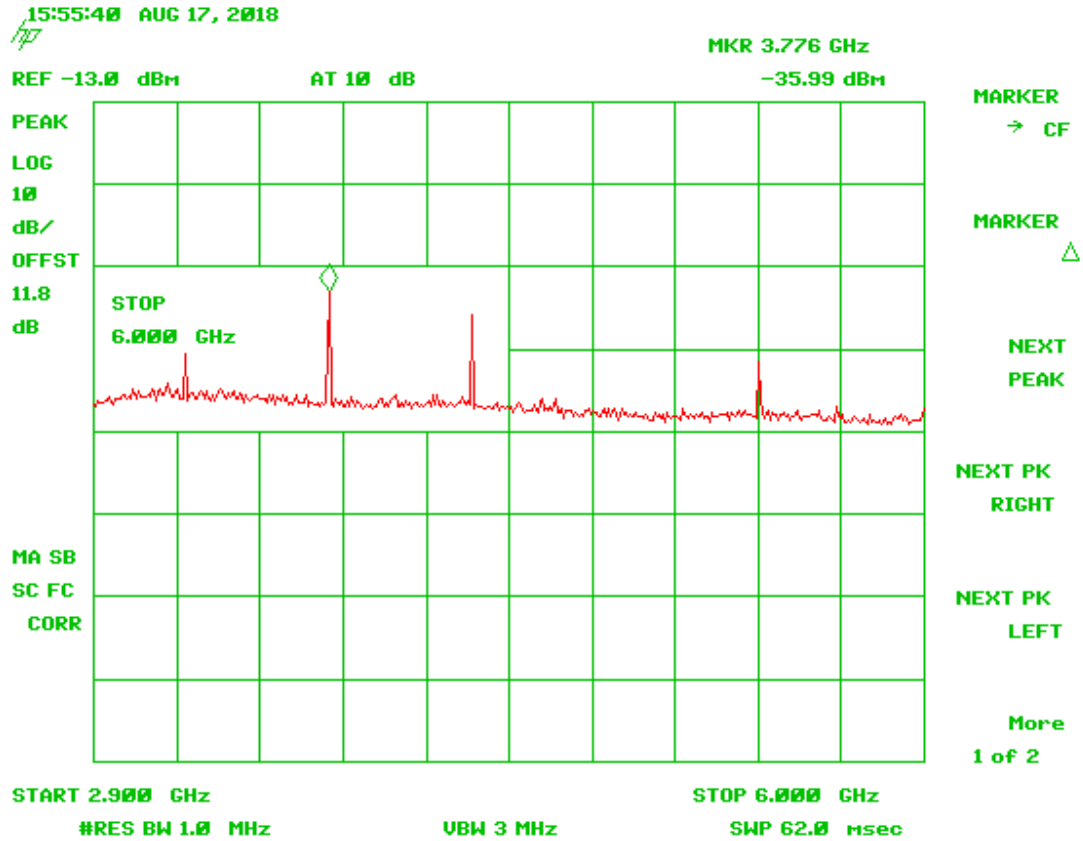


Figure 469. 451 MHz Horizontal, 2.9 - 6 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

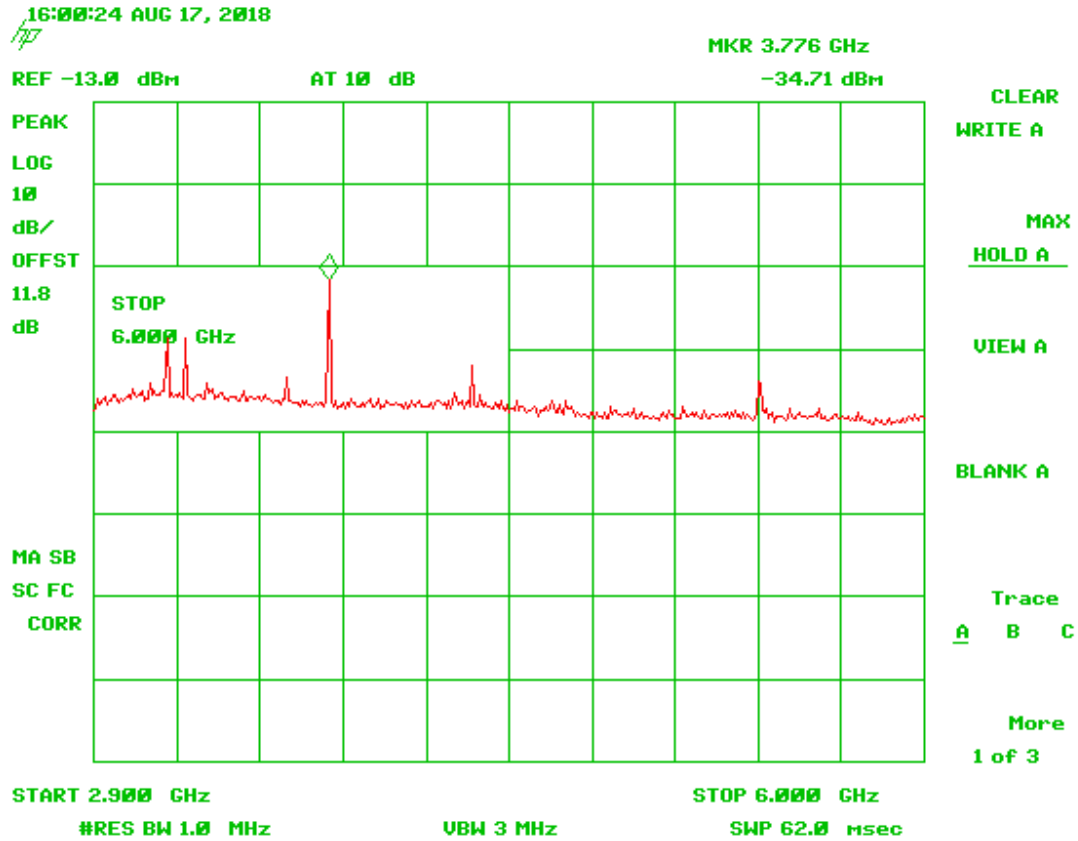


Figure 470. 451 MHz Vertical 2.9 – 6 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

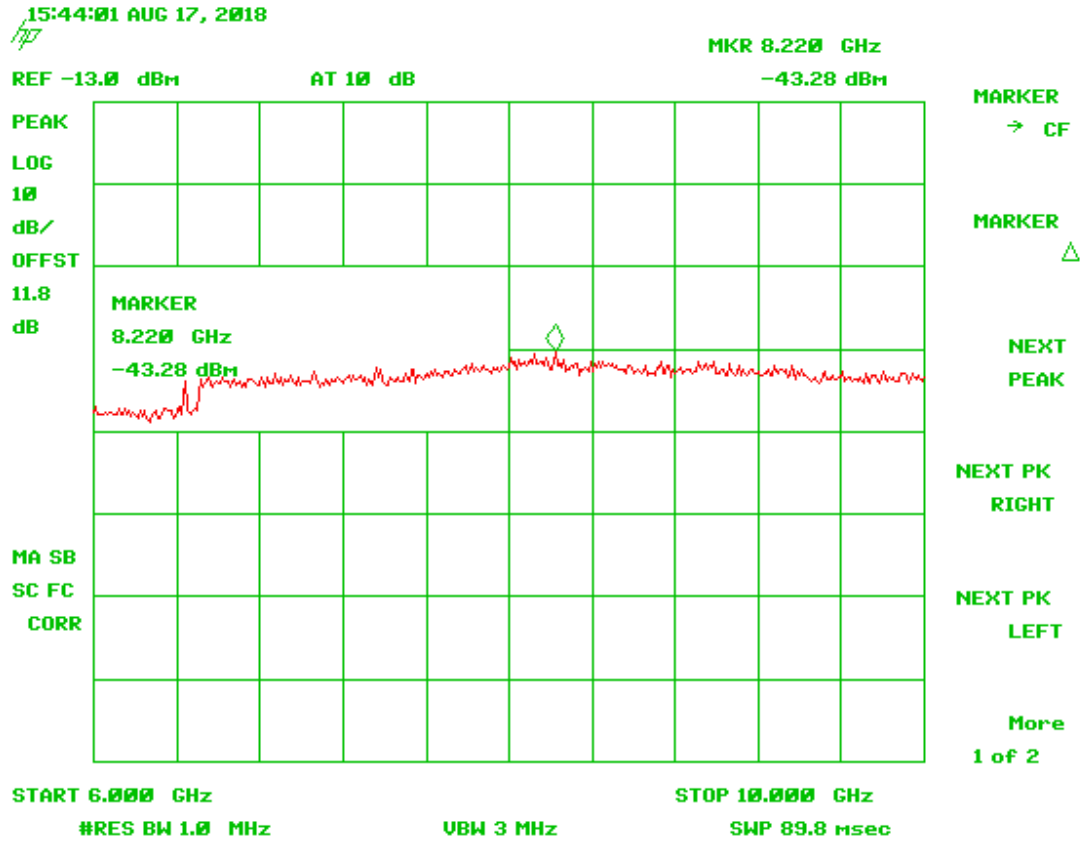


Figure 471. 451 MHz Horizontal, 6 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

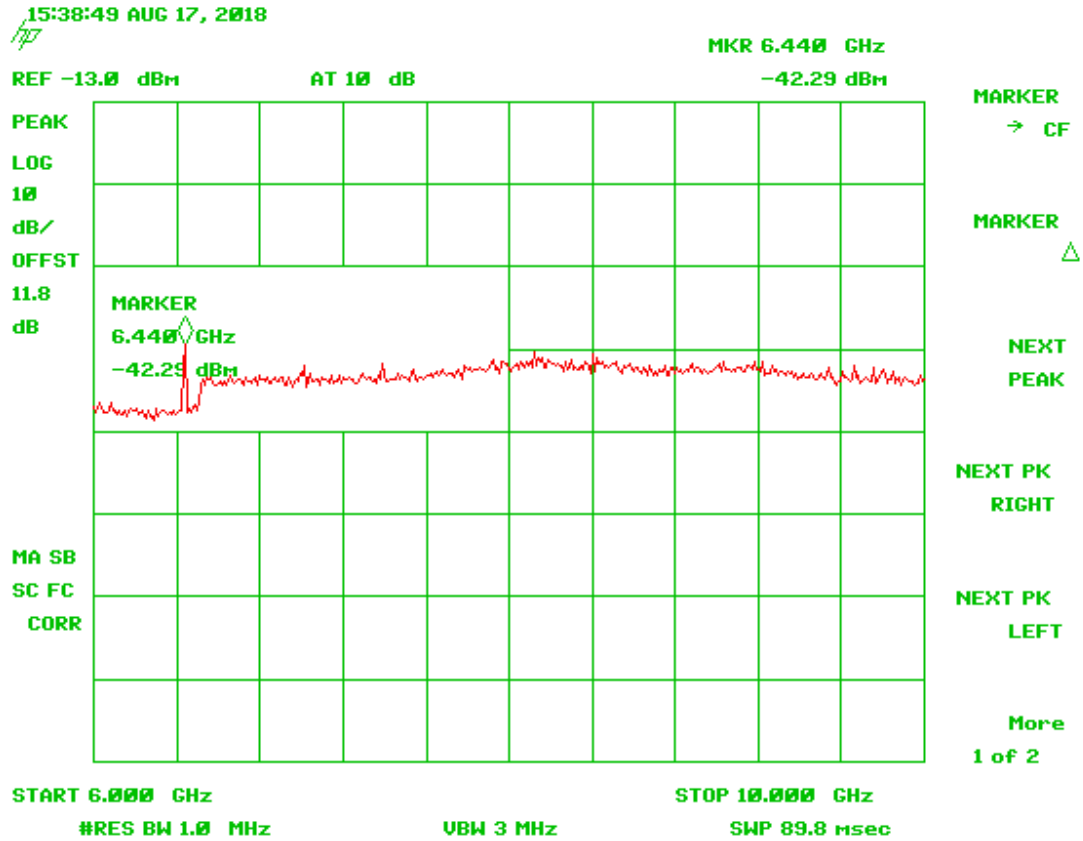


Figure 472. 451 MHz Vertical, 6 – 10 GHz



### 2.19.1.3 700 MHz Radiated Spurious Emissions Plots

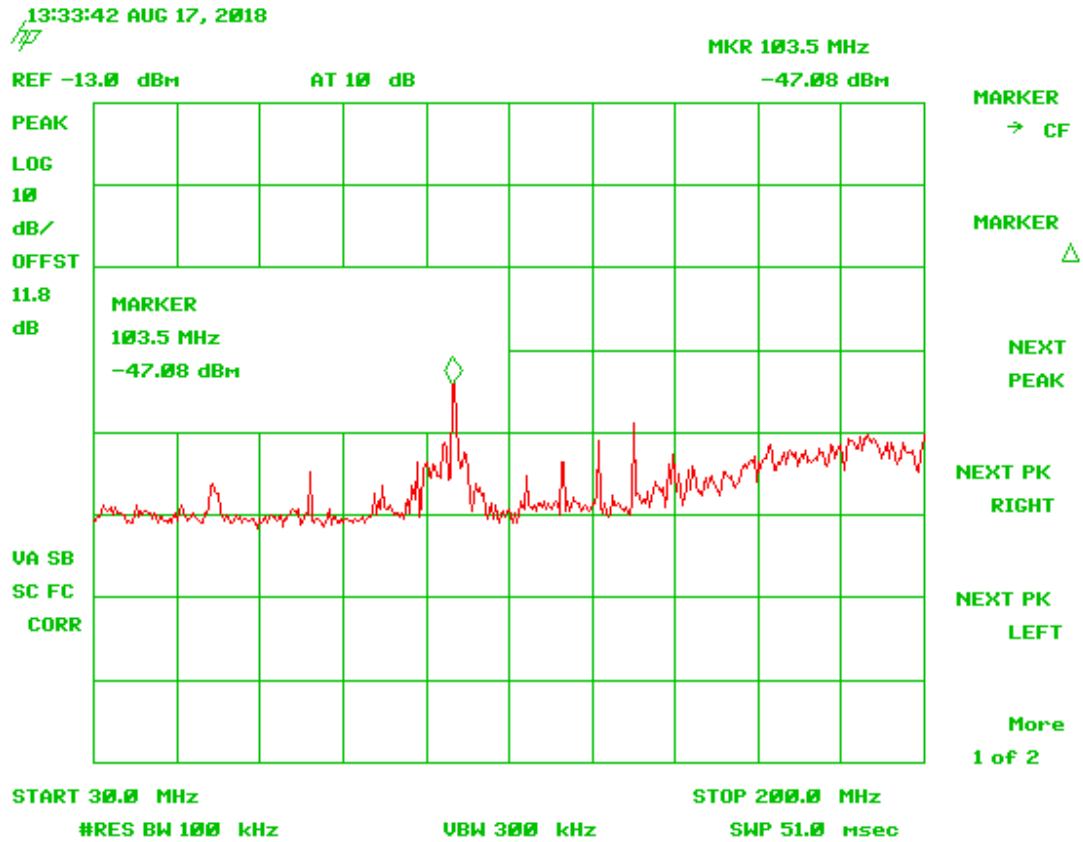


Figure 473. 775 MHz Horizontal, 30 – 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

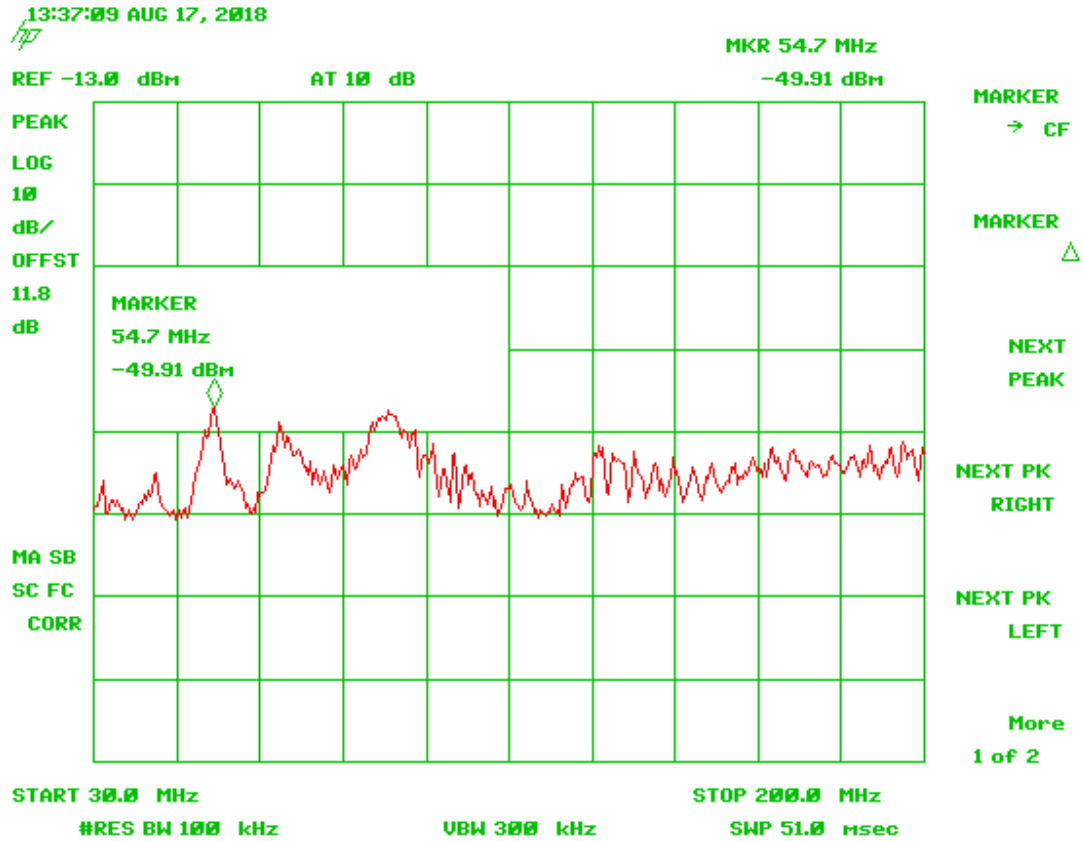


Figure 474. 775 MHz Vertical, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

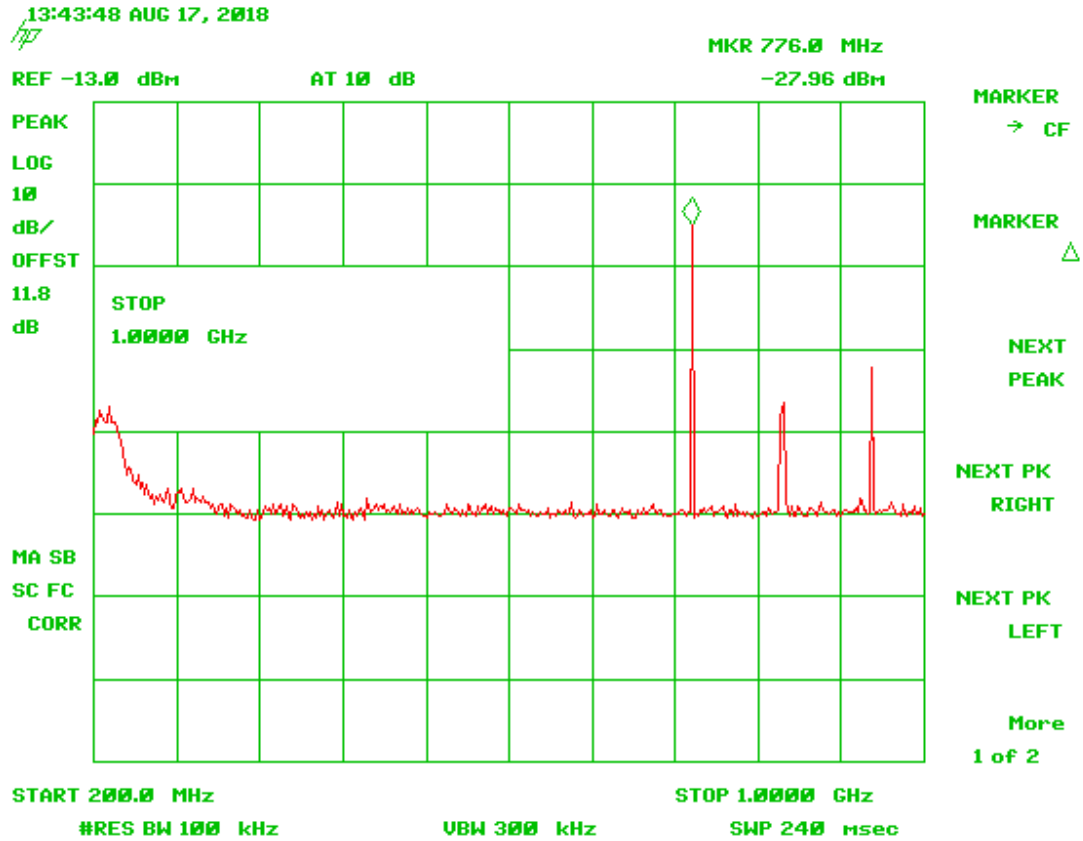


Figure 475. 775 MHz Horizontal, 200 MHz - 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

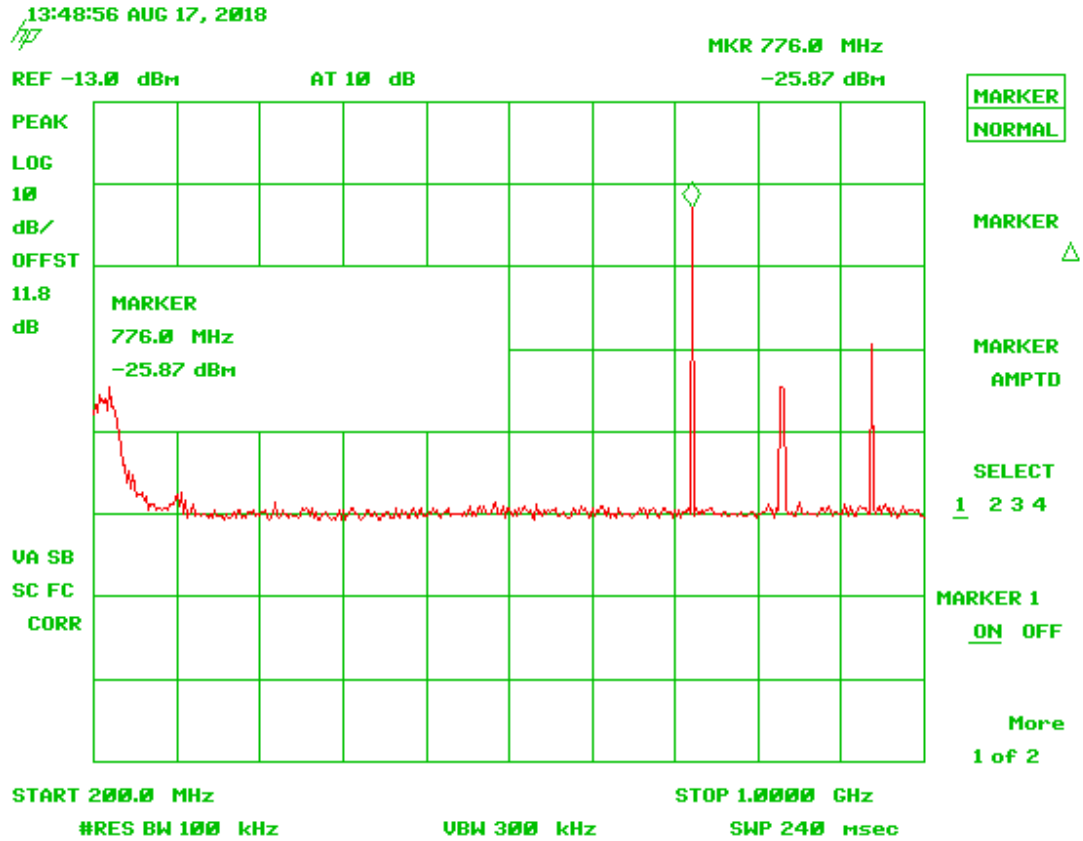


Figure 476. 775 MHz Vertical, 200 MHz - 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

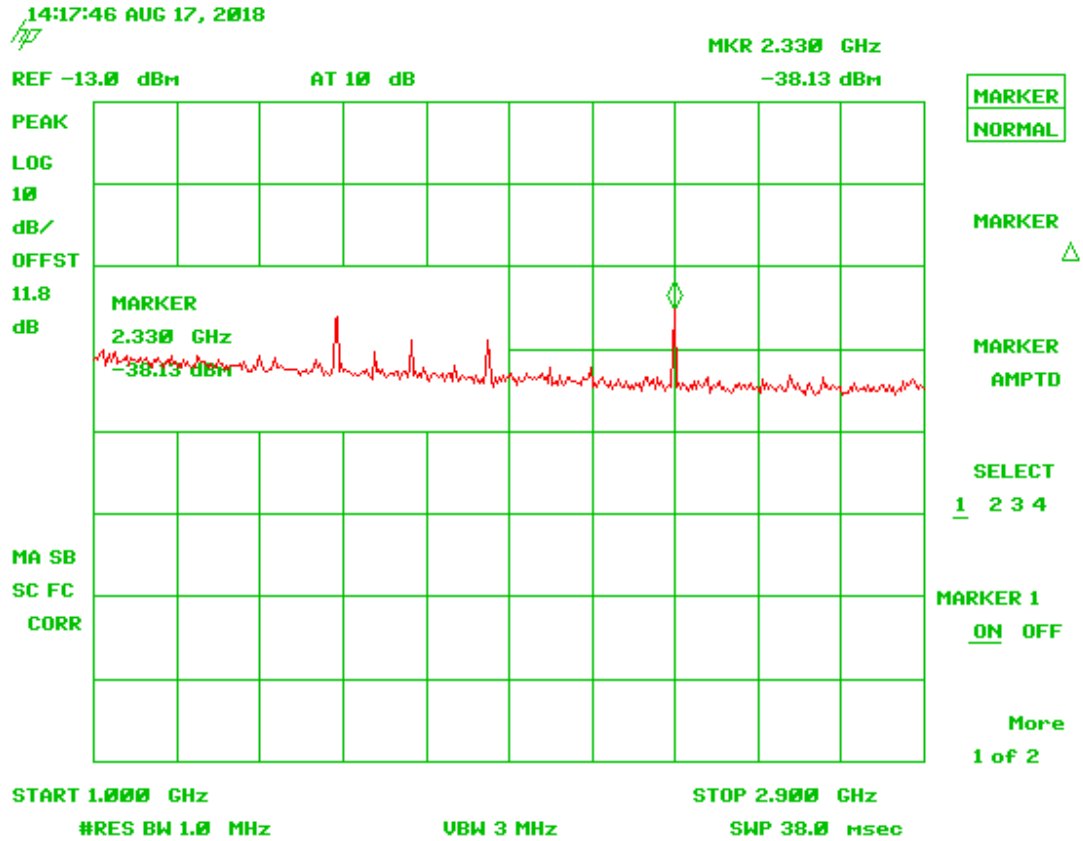


Figure 477. 775 MHz Horizontal, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

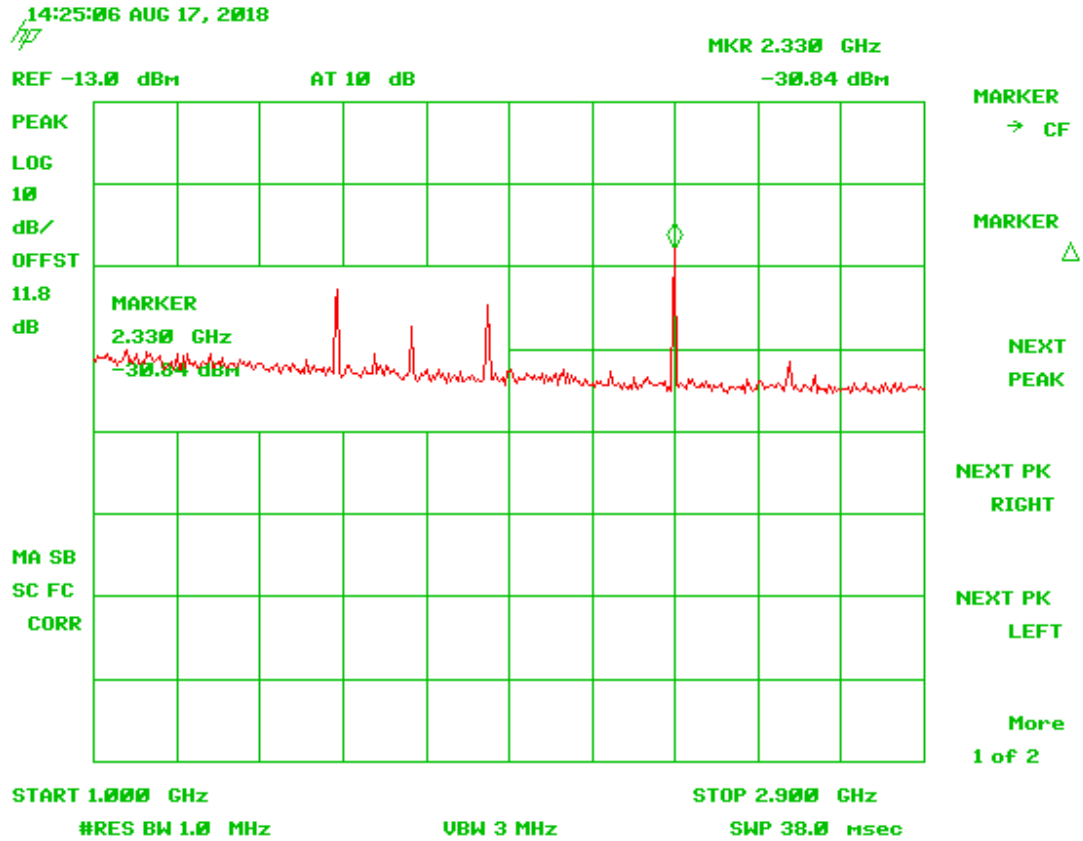


Figure 478. 775 MHz Vertical, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

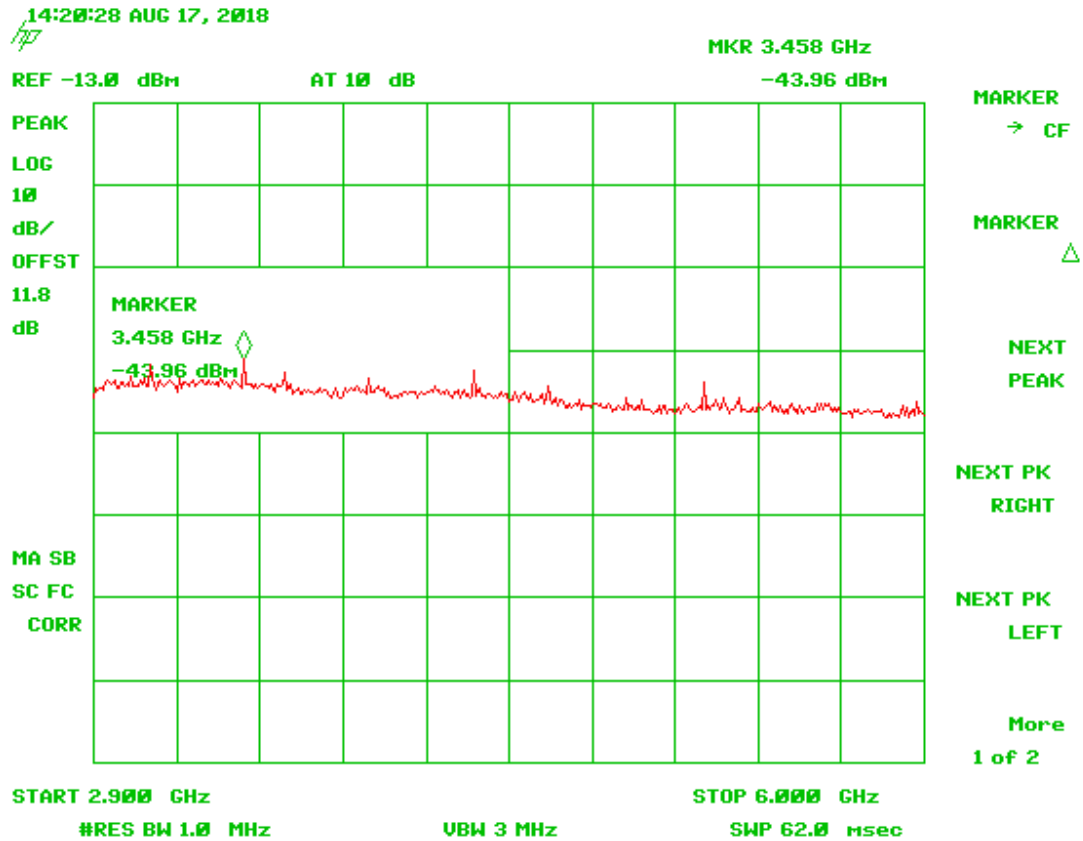


Figure 479. 775 MHz Horizontal, 2.9 - 6 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

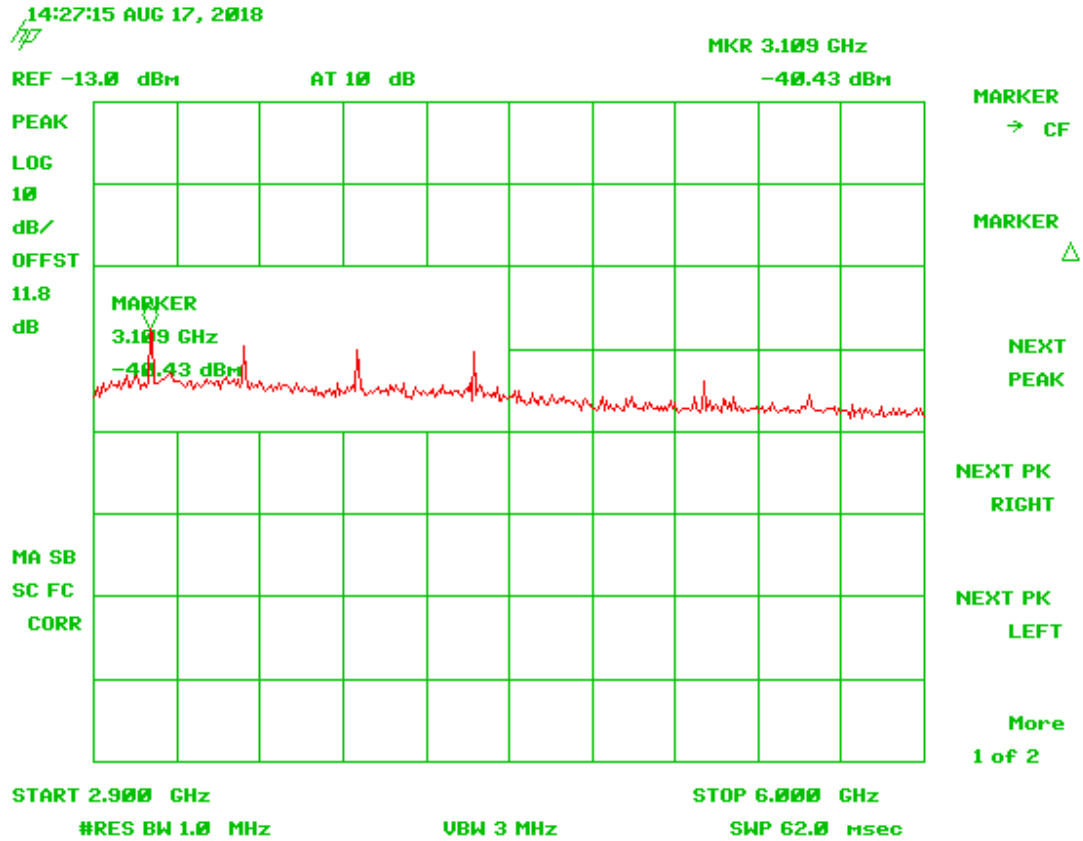


Figure 480. 775 MHz Vertical, 2.9 – 6 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

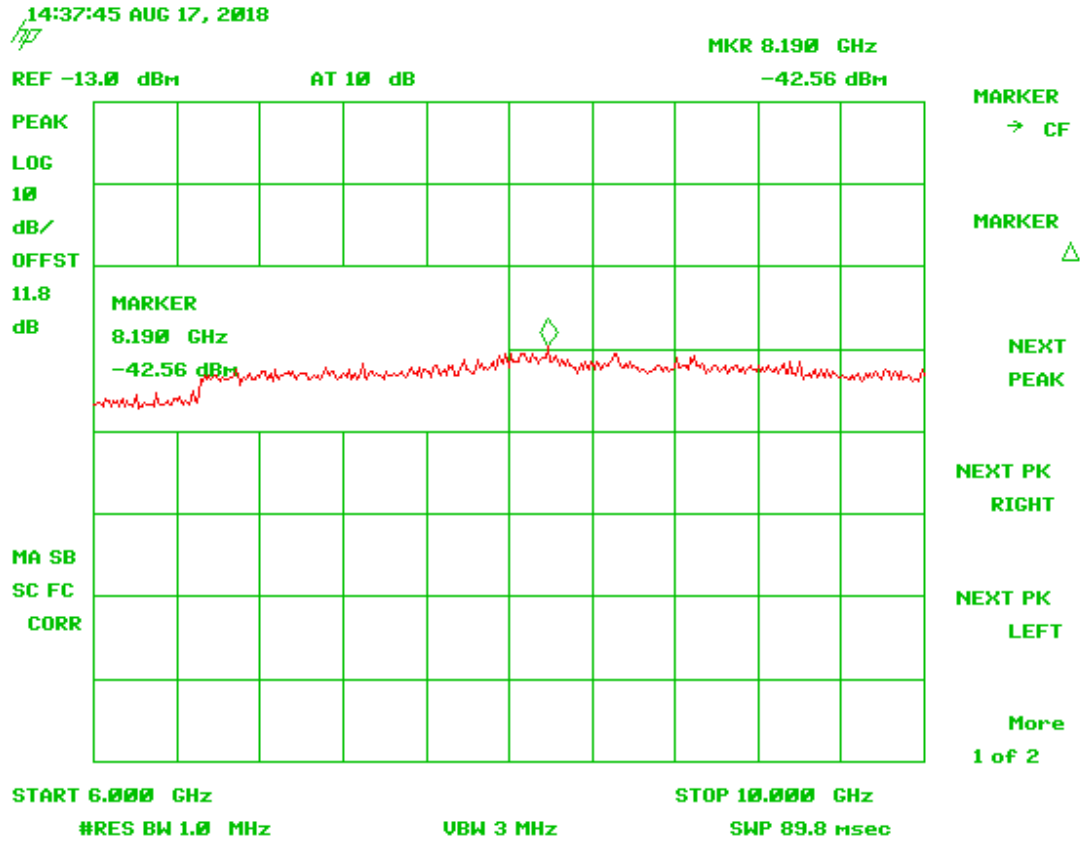


Figure 481. 775 MHz Horizontal, 6 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

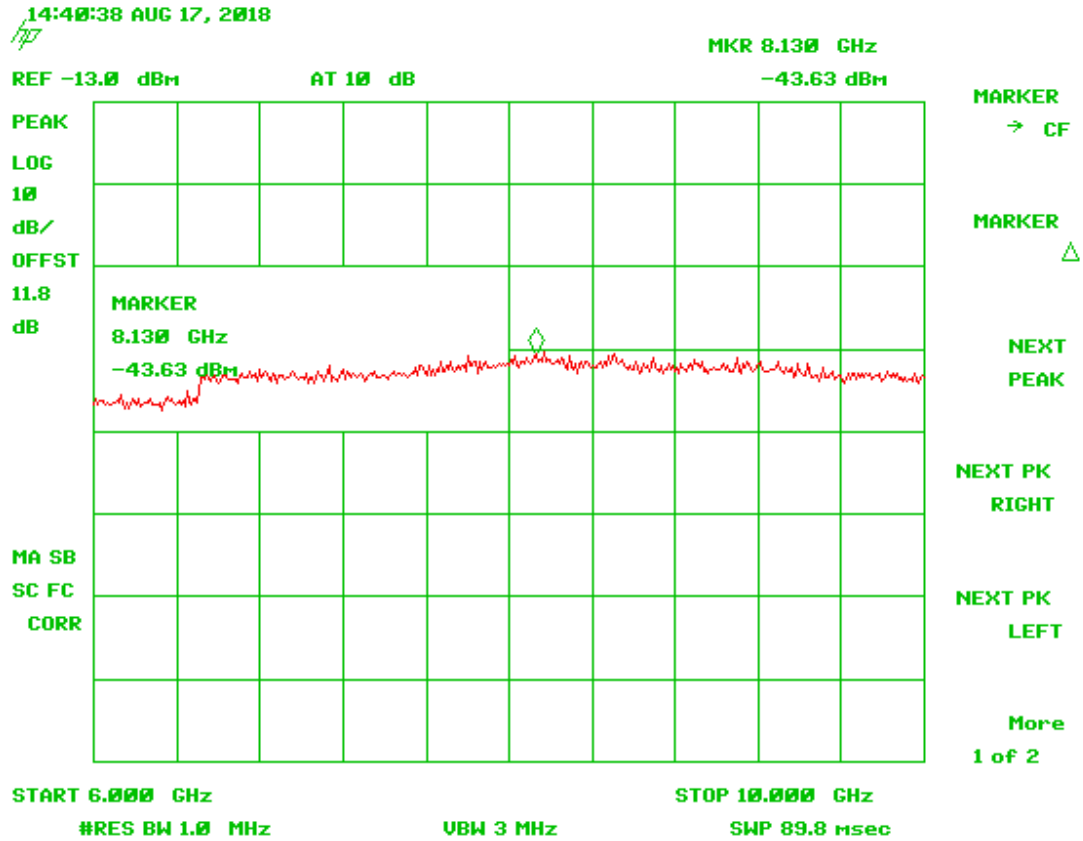


Figure 482. 775 MHz Vertical, 6 – 10 GHz

## 2.19.1.4 800 MHz Radiated Spurious Emissions Plots

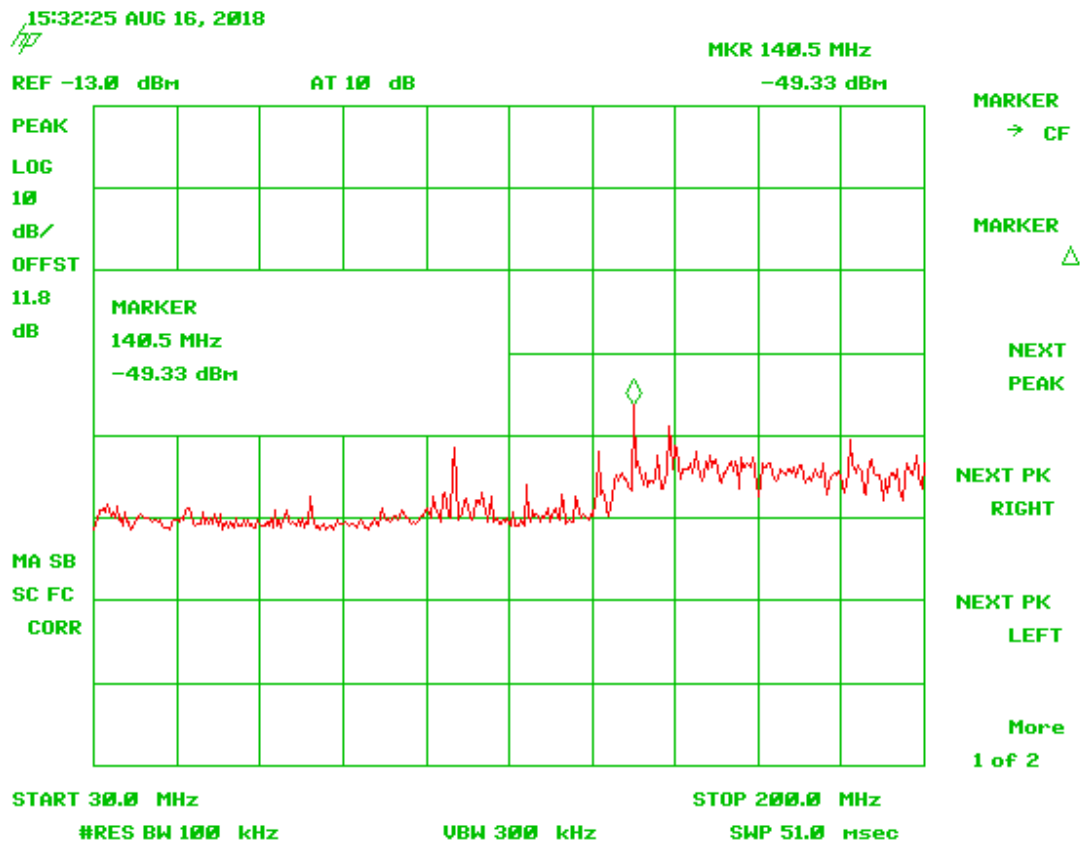


Figure 483. 868 MHz Horizontal, 30 – 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

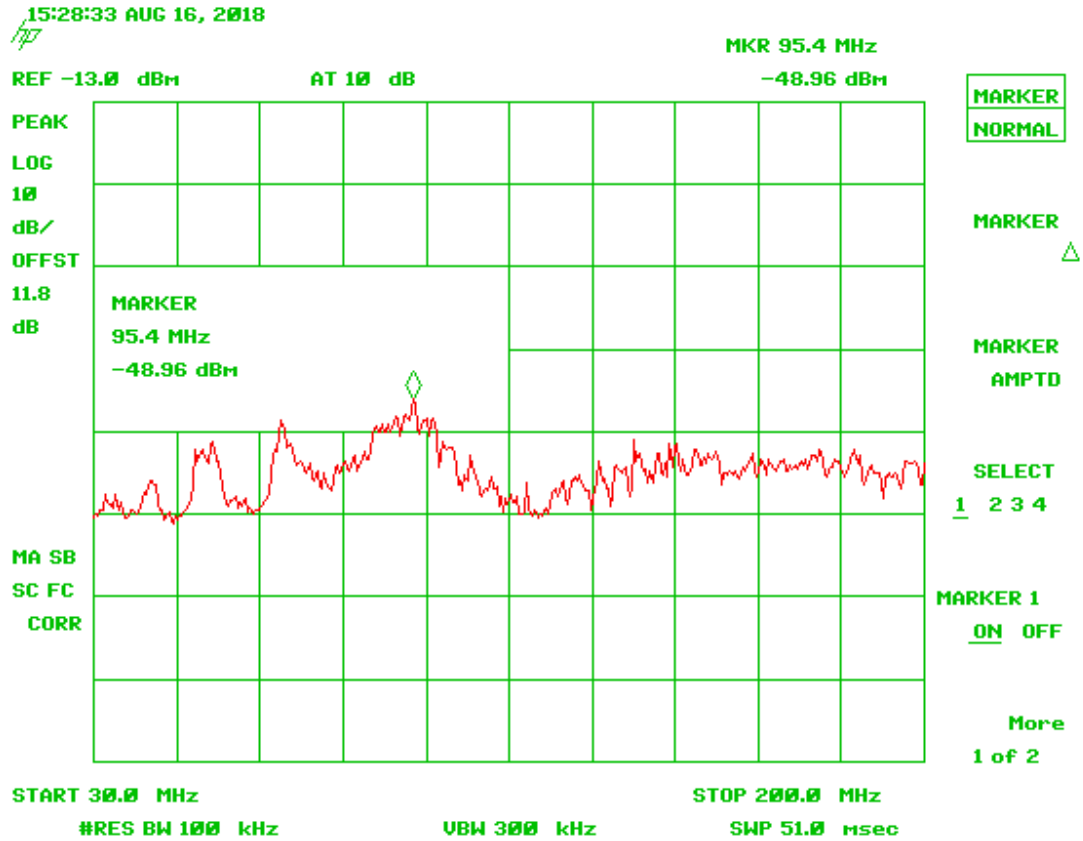


Figure 484. 868 MHz Vertical, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

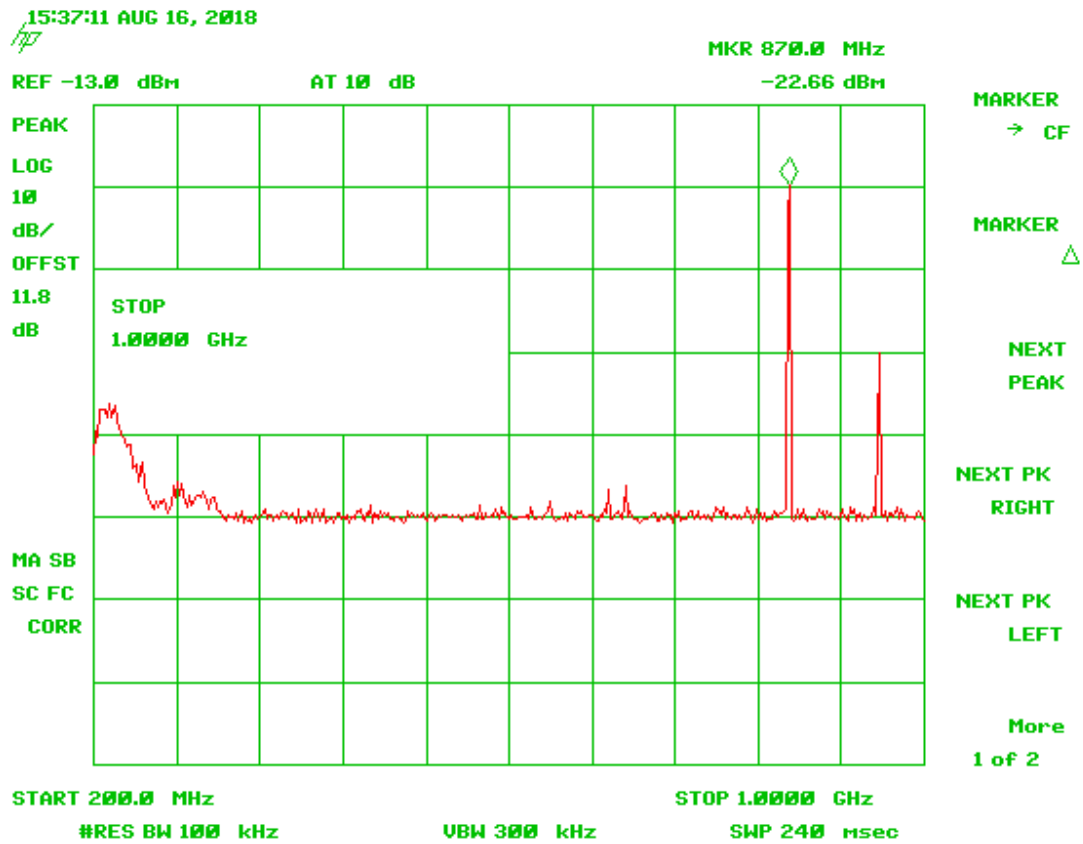


Figure 485. 868 MHz Horizontal, 200 MHz - 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

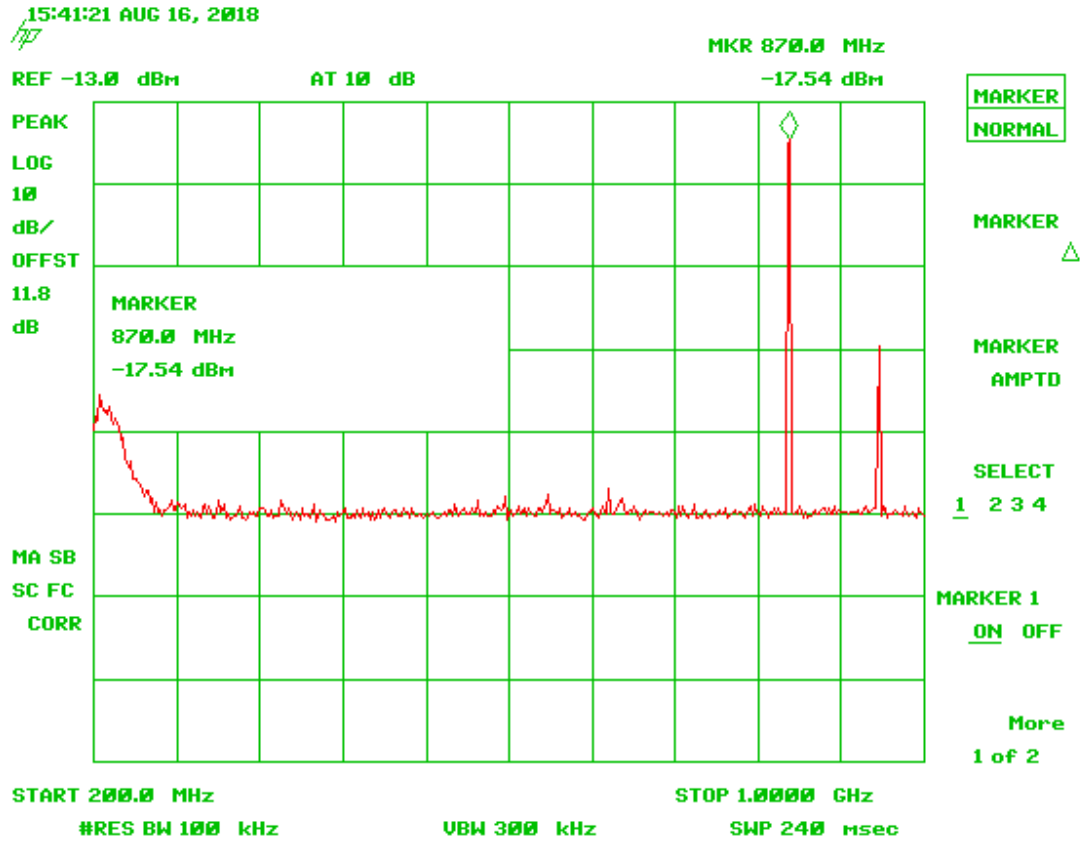


Figure 486. 868 MHz Vertical, 200 – 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

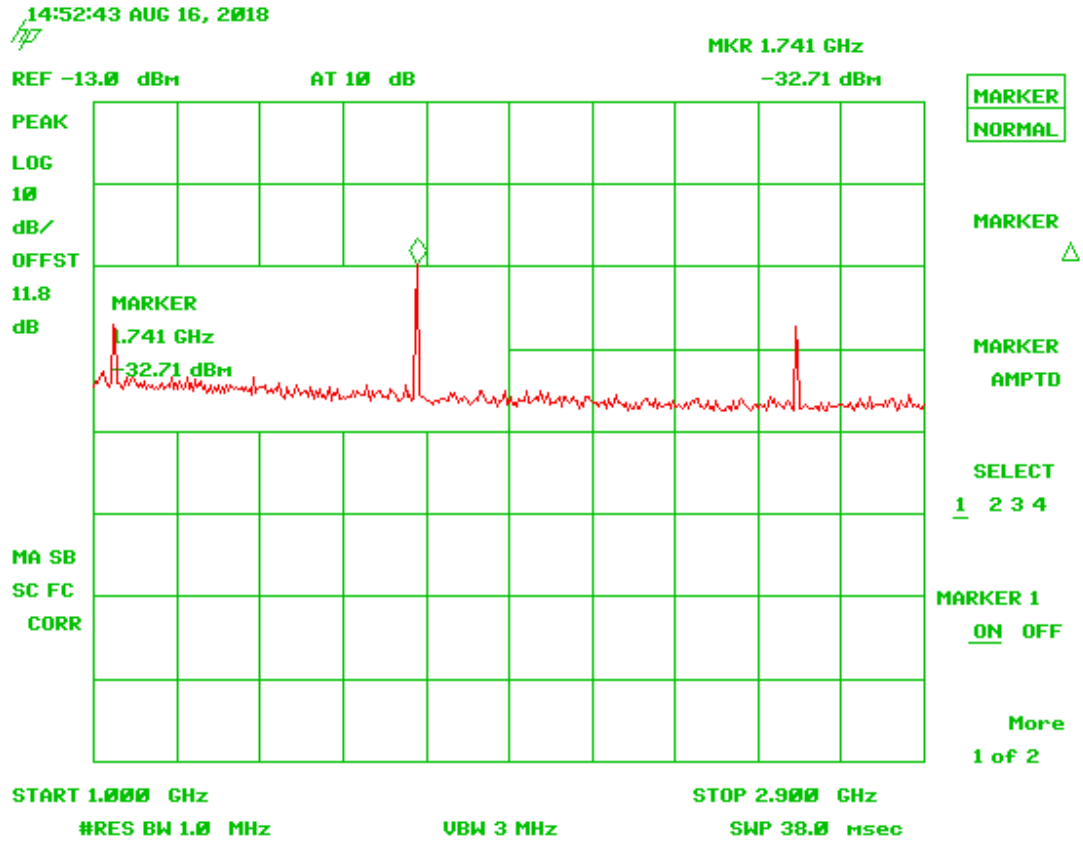


Figure 487. 868 MHz Horizontal, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

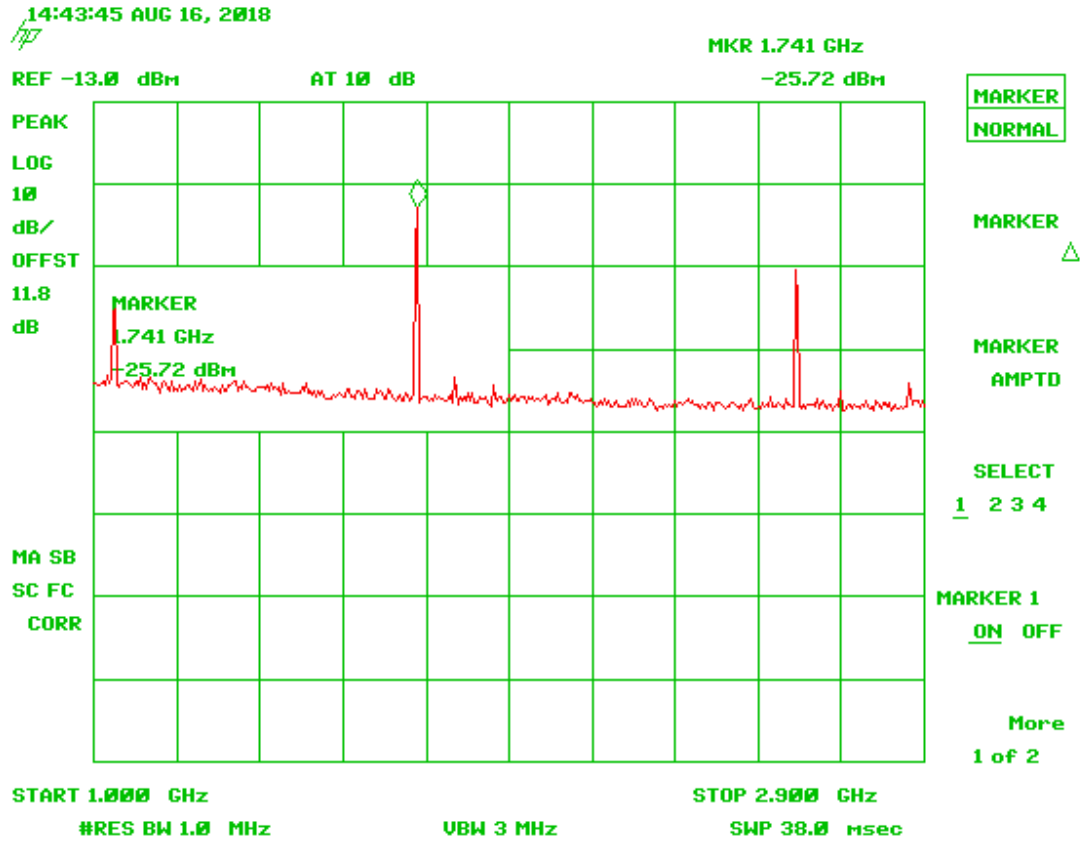


Figure 488. 868 MHz Vertical, 1 – 2.9 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

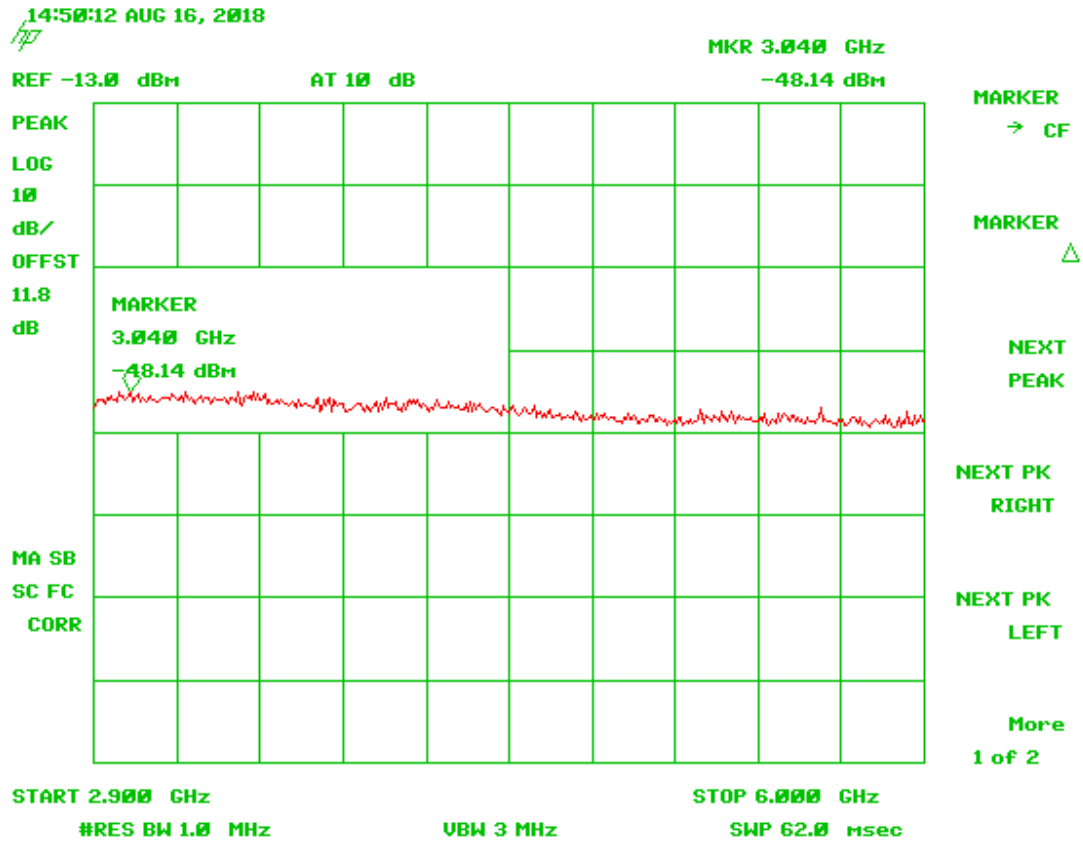


Figure 489. 868 MHz Horizontal, 2.9 - 6 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

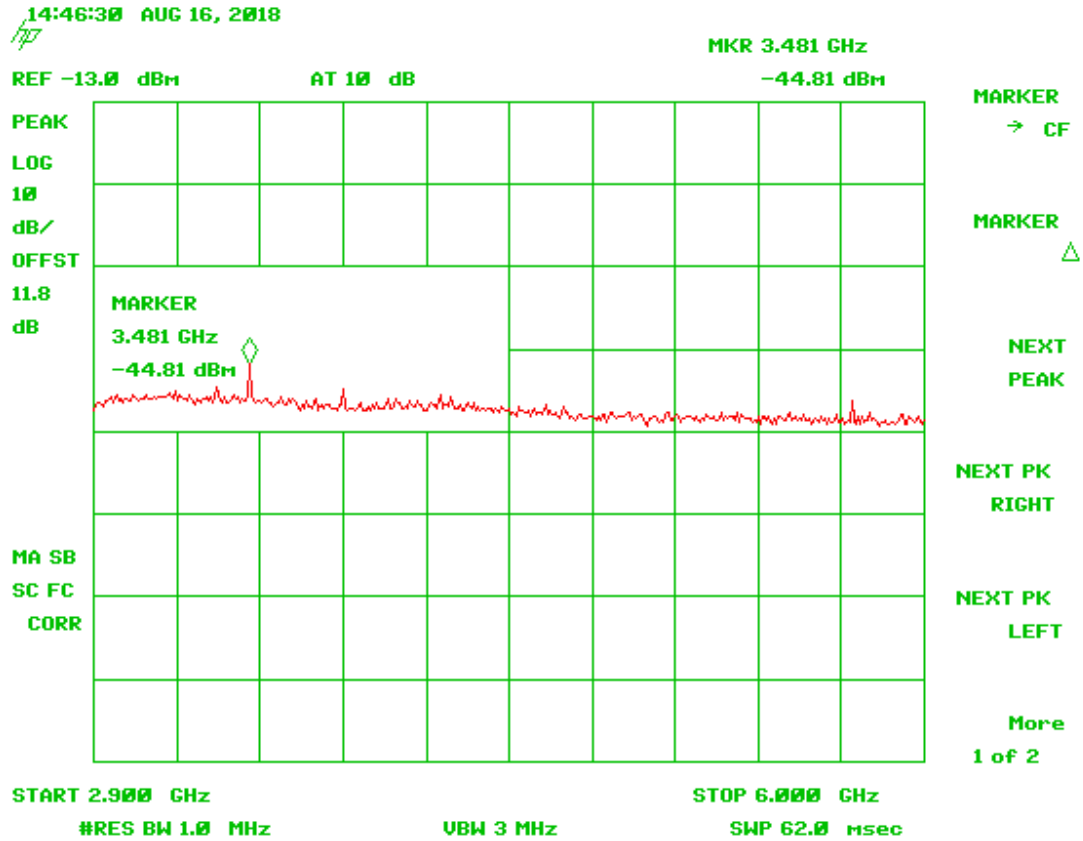


Figure 490. 868 MHz Vertical, 2.9 - 6 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

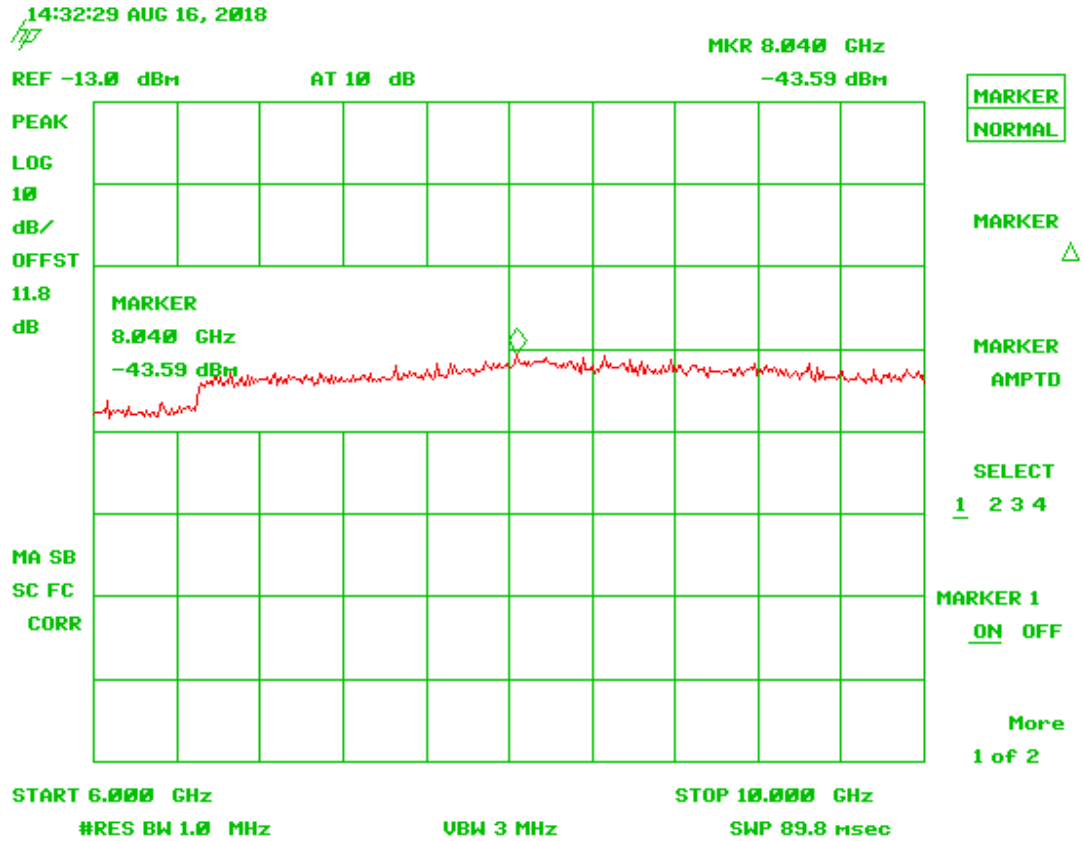


Figure 491. 868 MHz Horizontal, 6 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

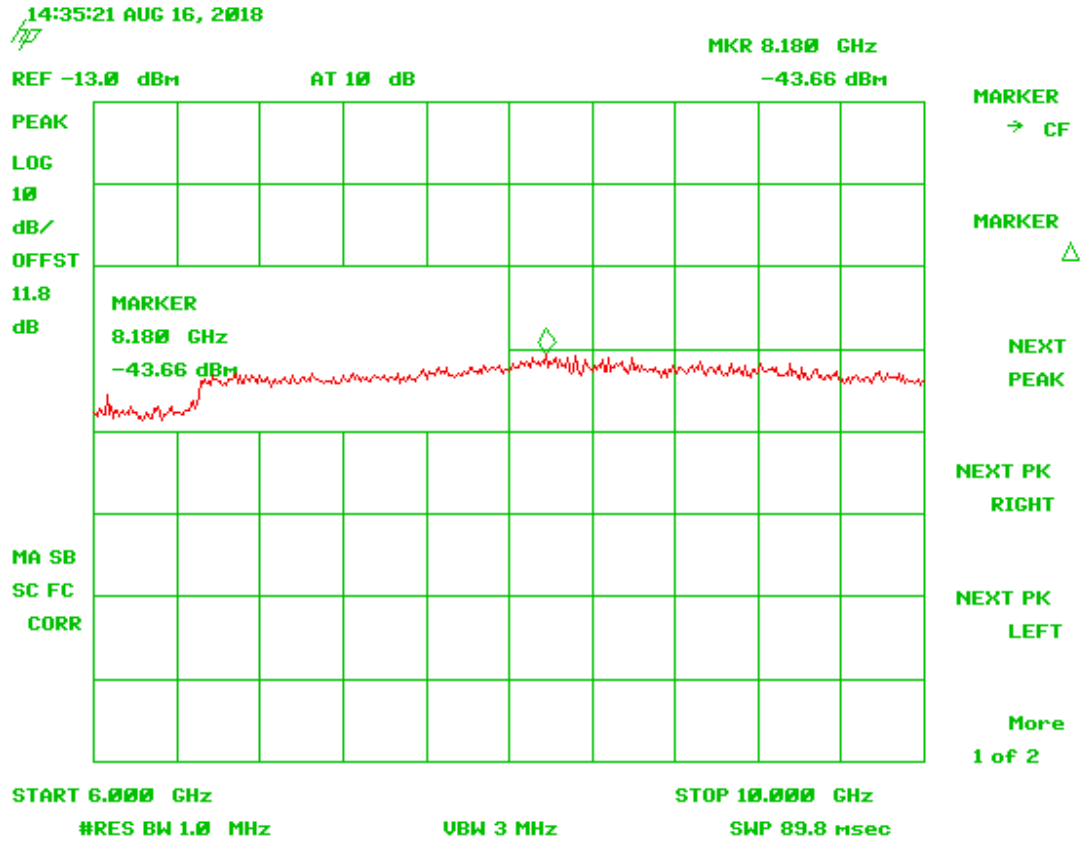


Figure 492. 868 MHz Vertical, 6 – 10 GHz

## 2.19.1.5 900 MHz Radiated Spurious Emissions Plots

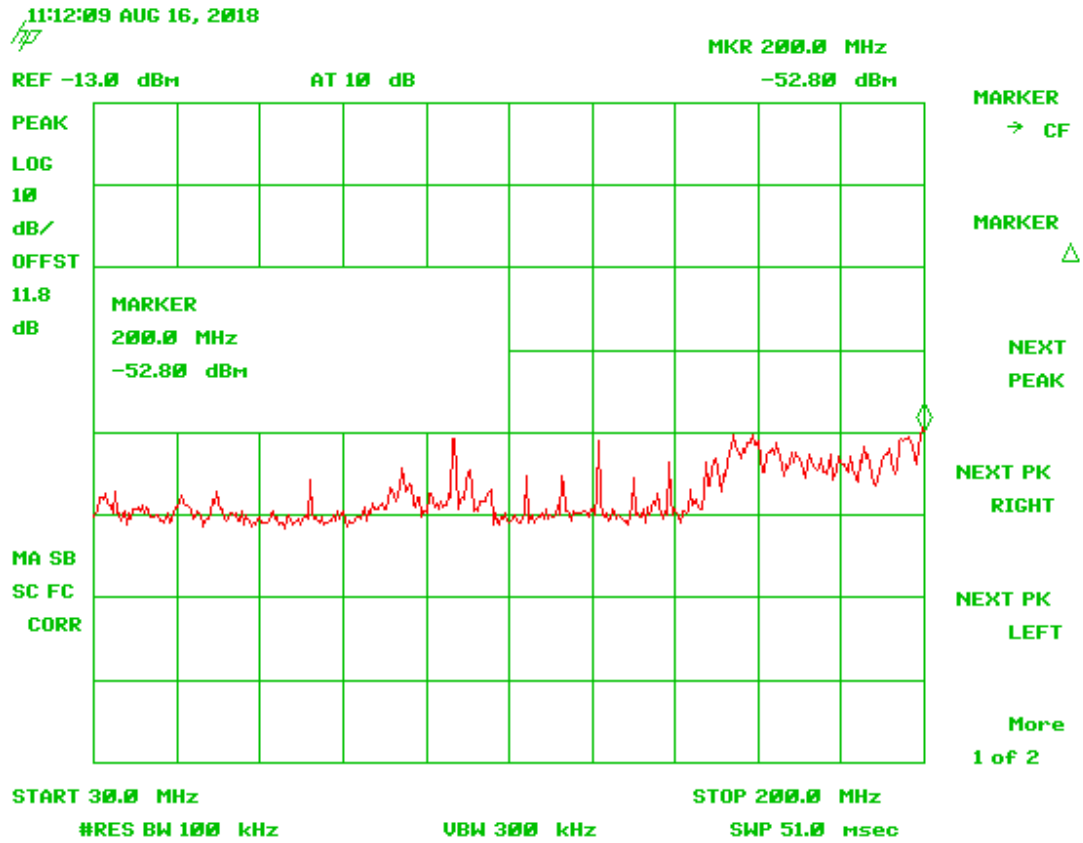


Figure 493. 939 MHz Horizontal, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

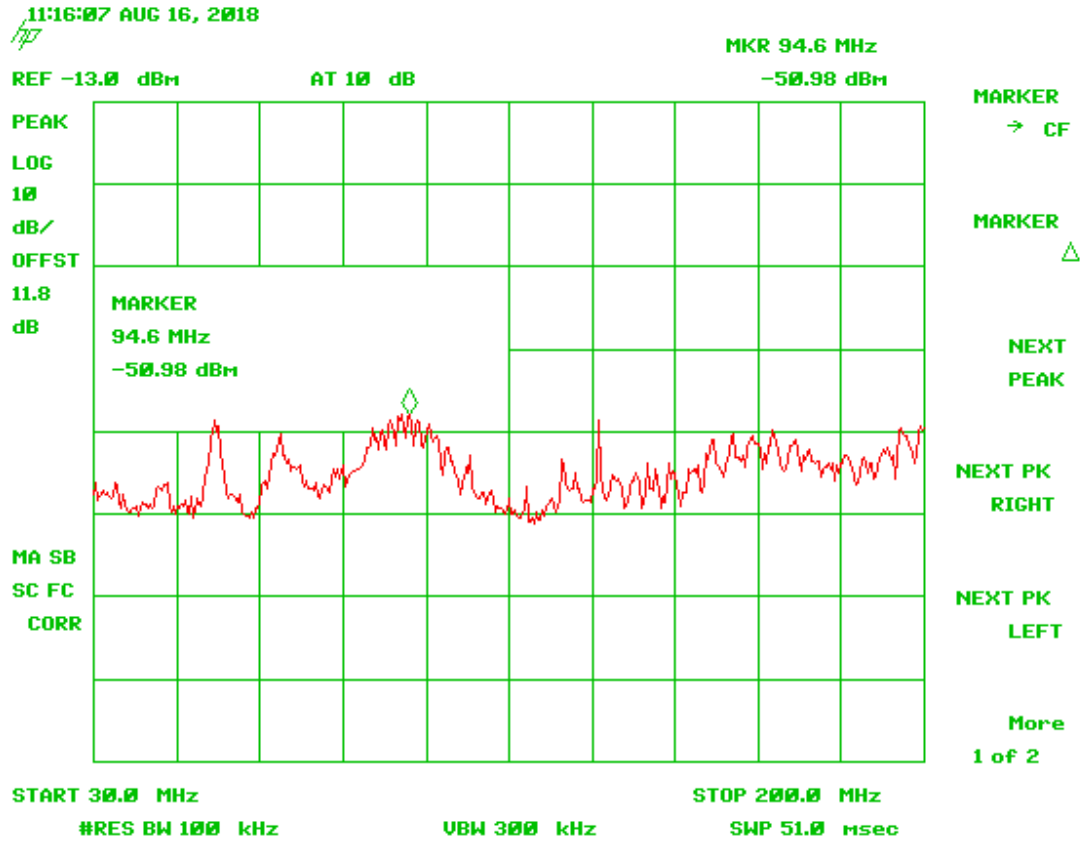


Figure 494. 939 MHz Vertical, 30 - 200 MHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

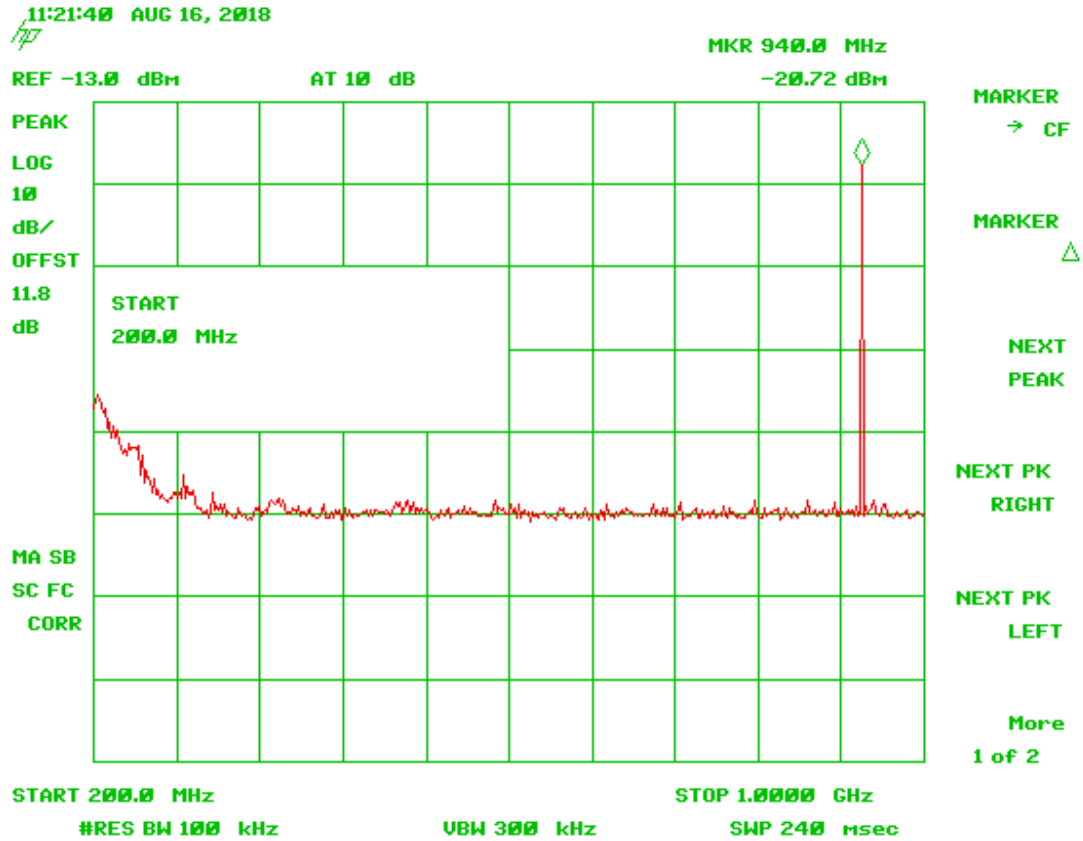


Figure 495. 939 MHz Horizontal, 200 MHz - 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

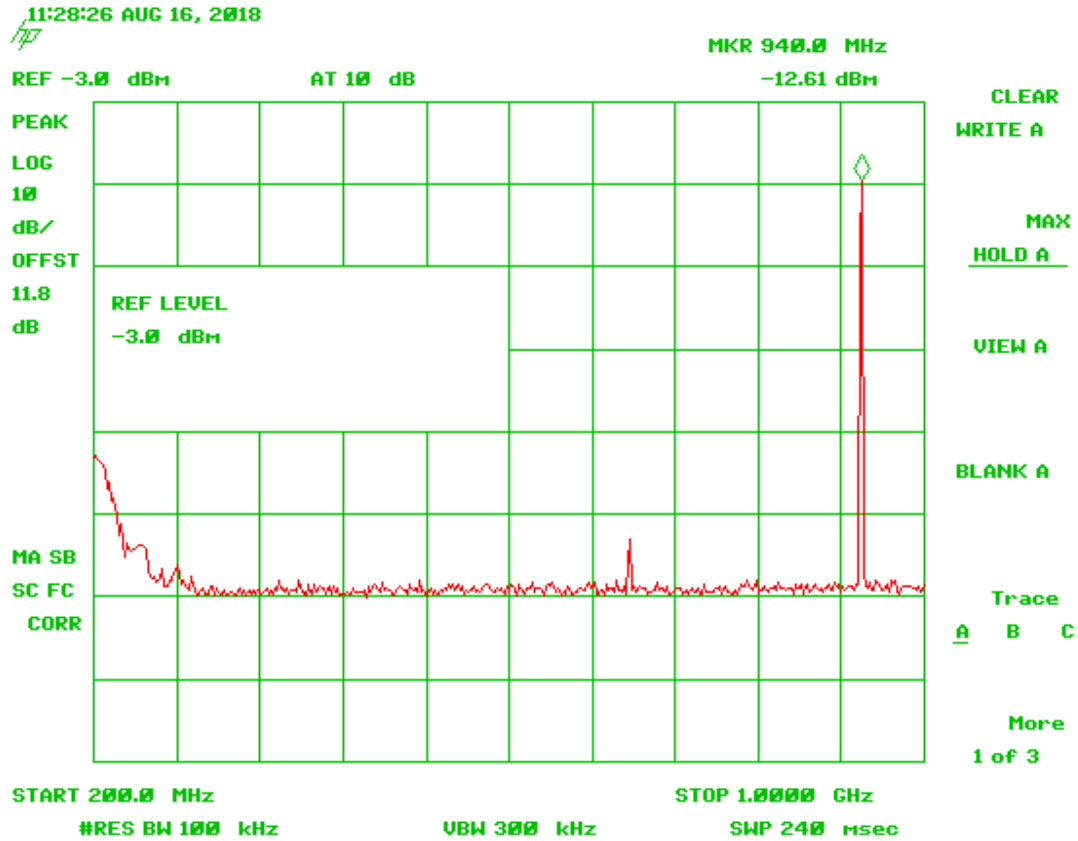


Figure 496. 939 MHz Vertical, 200 MHz - 1 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

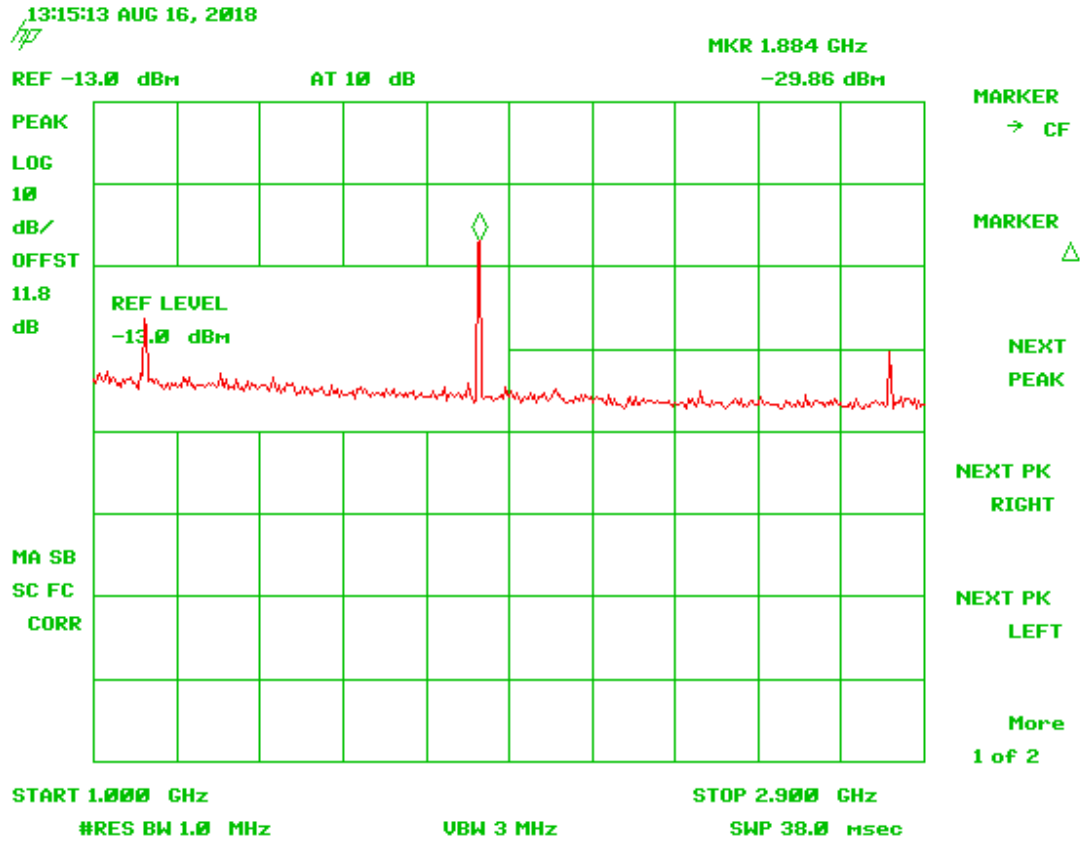


Figure 497. 939 MHz Horizontal, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

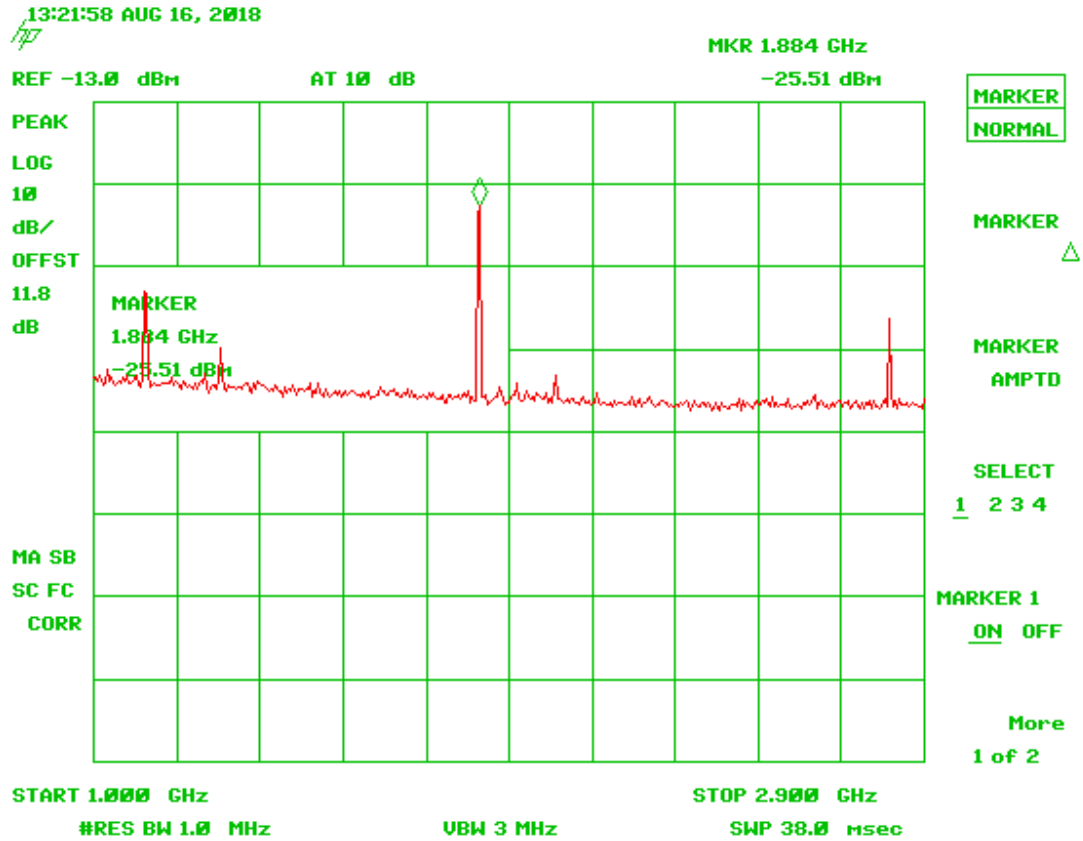


Figure 498. 937 MHz Vertical, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

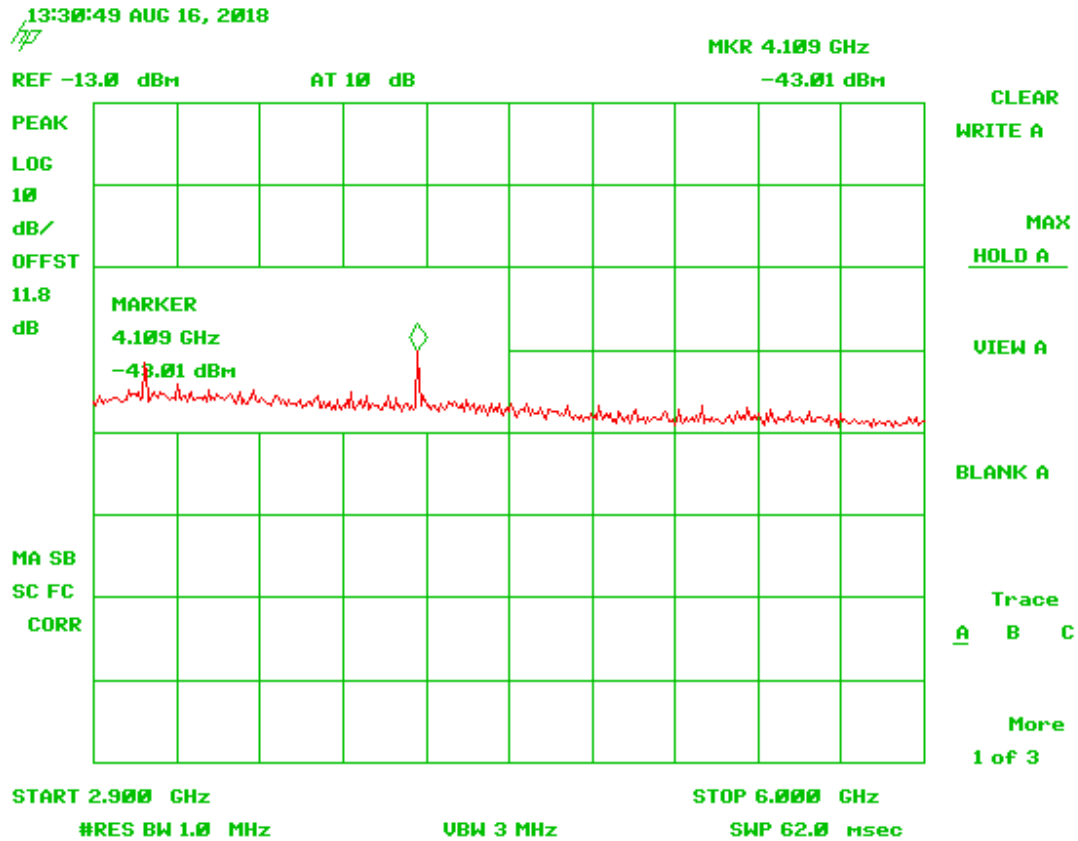


Figure 499. 937 MHz Horizontal, 2.9 - 6 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

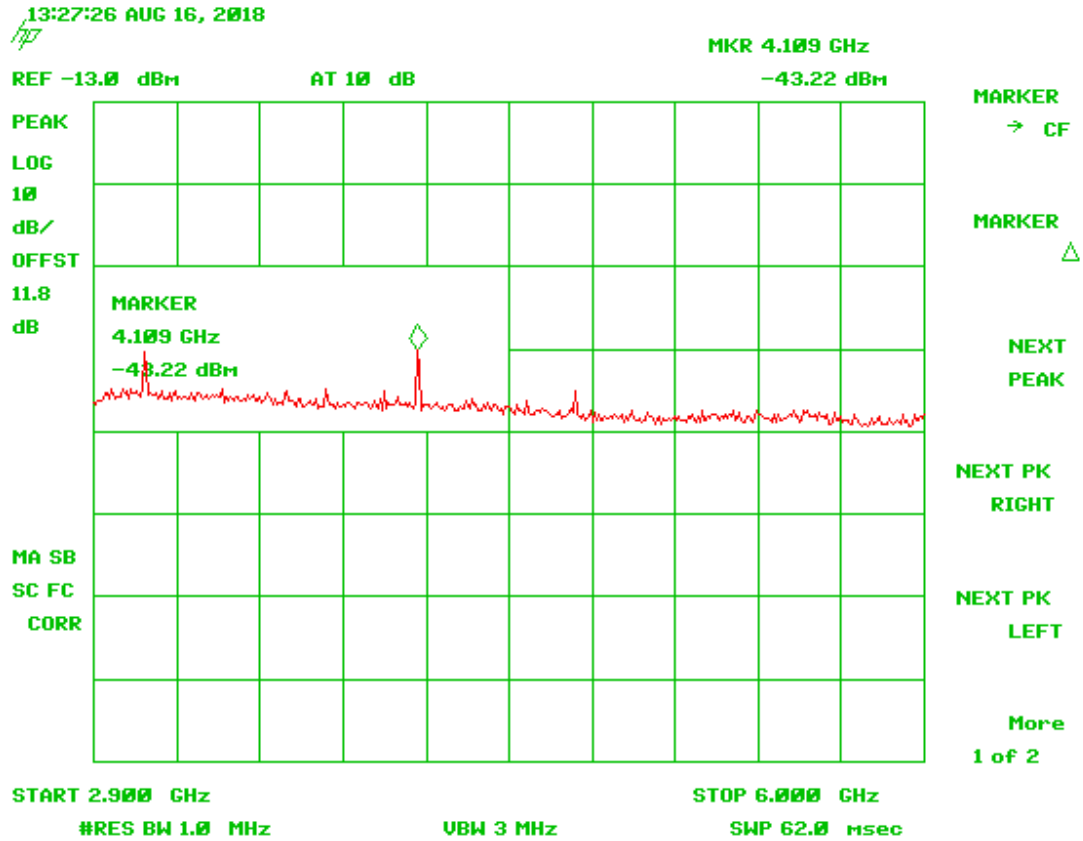


Figure 500. 939 MHz Vertical, 2.9 - 6 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

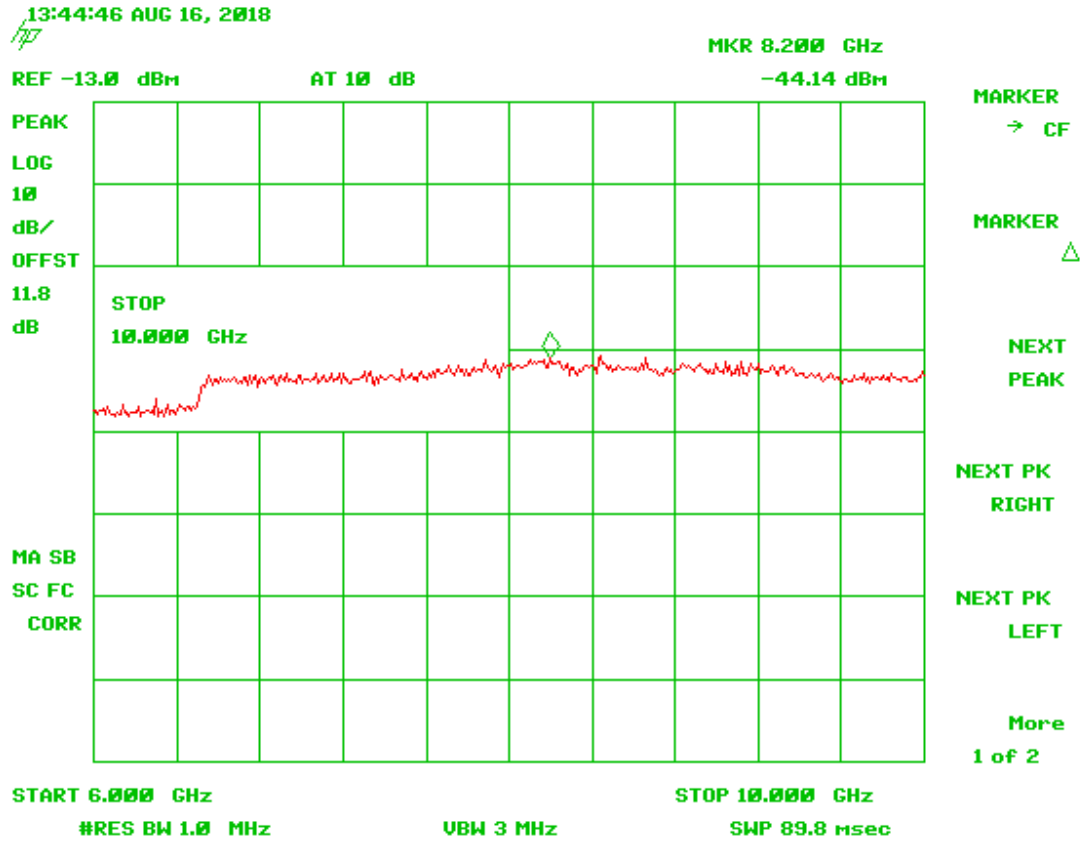


Figure 501. 939 MHz Horizontal, 6 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

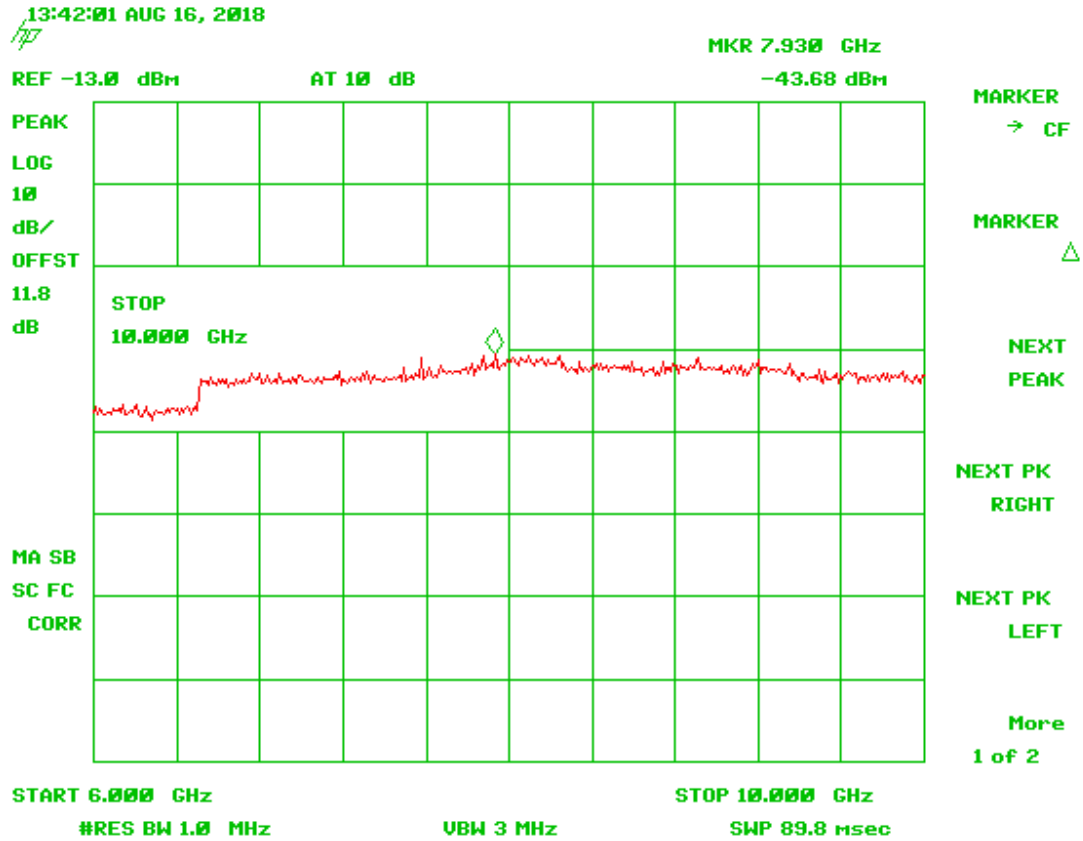


Figure 502. 939 MHz Vertical, 6 – 10 GHz

## 2.19.2 Conducted Spurious Emissions Measurement

The EUT was connected to a spectrum analyzer through a 20 dB attenuator. All cable and attenuator losses were input into the spectrum analyzer as a combination of reference level offset and correction factors as needed to ensure the accuracy of the readings obtained.

A CW signal was used to set the center frequency of the transmitter. The RF input signal level was set to at least 0.2 dB below the ACG threshold.

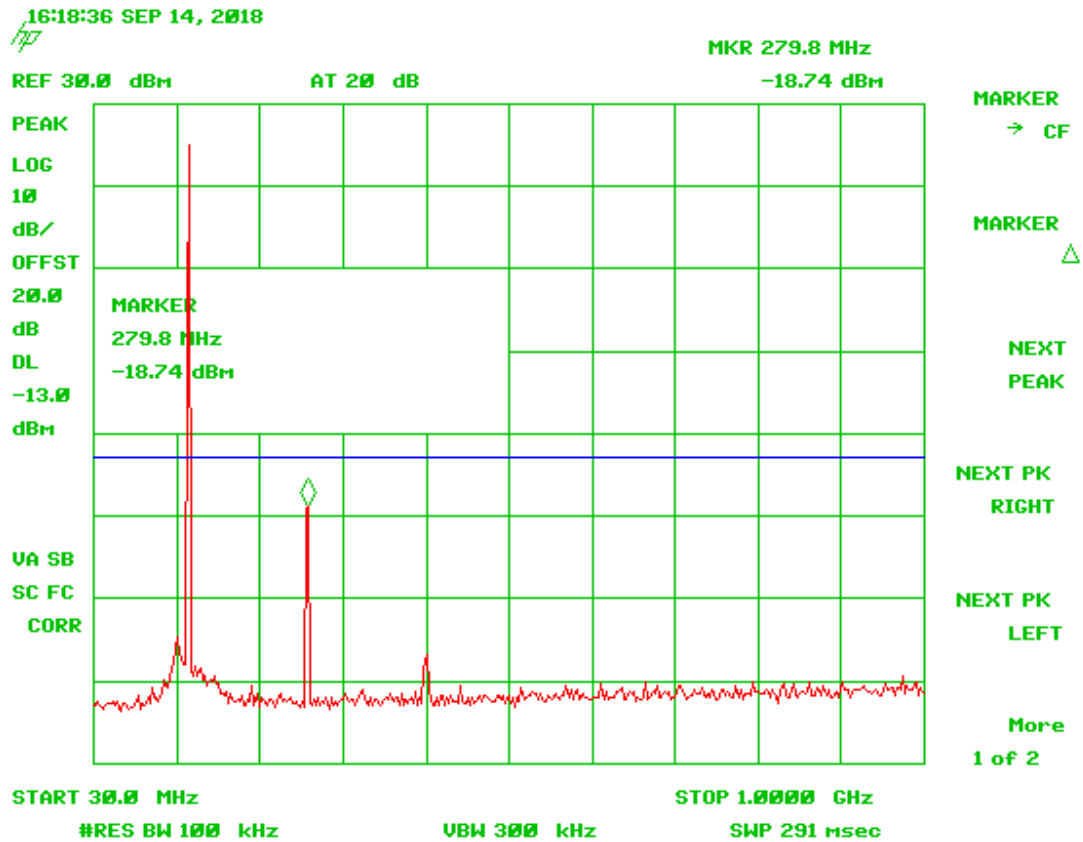
The RBW was set to 100 KHz for measurements below 1 GHz and 1 MHz for measurements above 1 GHz. The VBW was 3 times the RBW.

Limit = -13 dBm

Emissions were investigated from 30 MHz to the 10<sup>th</sup> harmonic of the applicable frequency band of concern.

The following plots show the worst-case measurements.

## 2.19.2.1 VHF Conducted Spurious Emissions



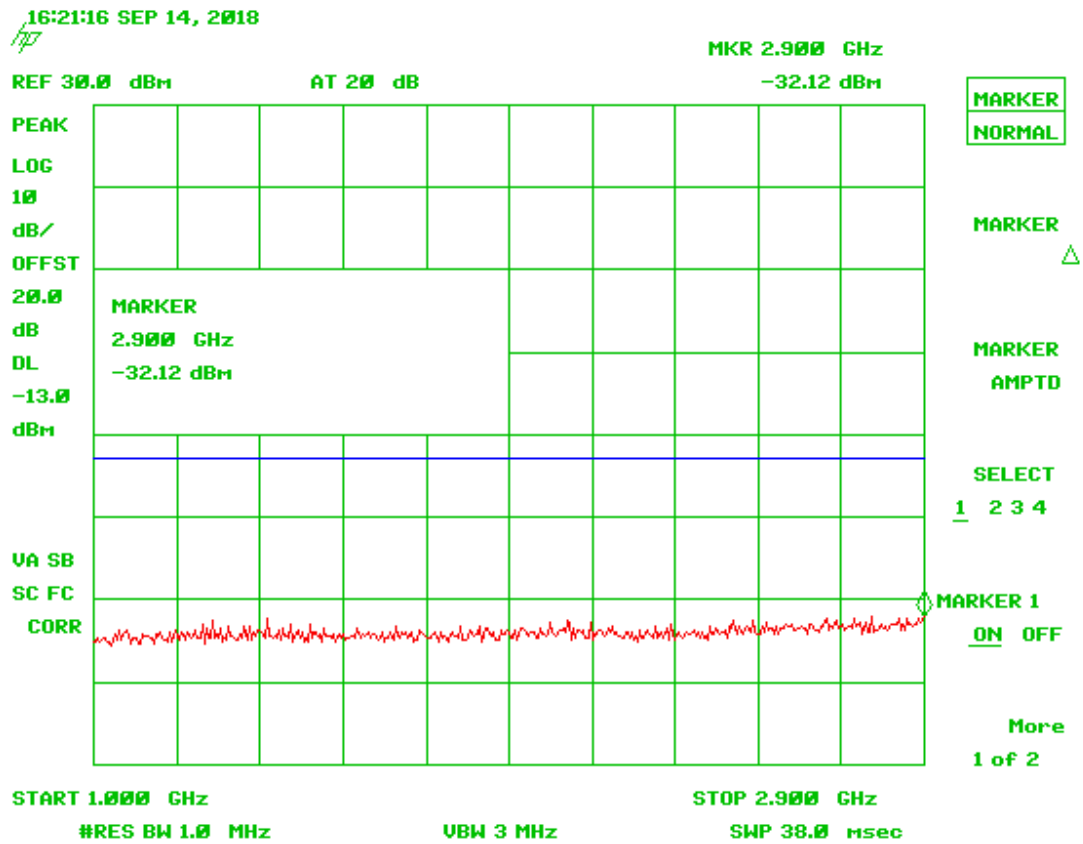
**Figure 503. 138 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.  
(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 504. 138 MHz above 1 GHz**

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

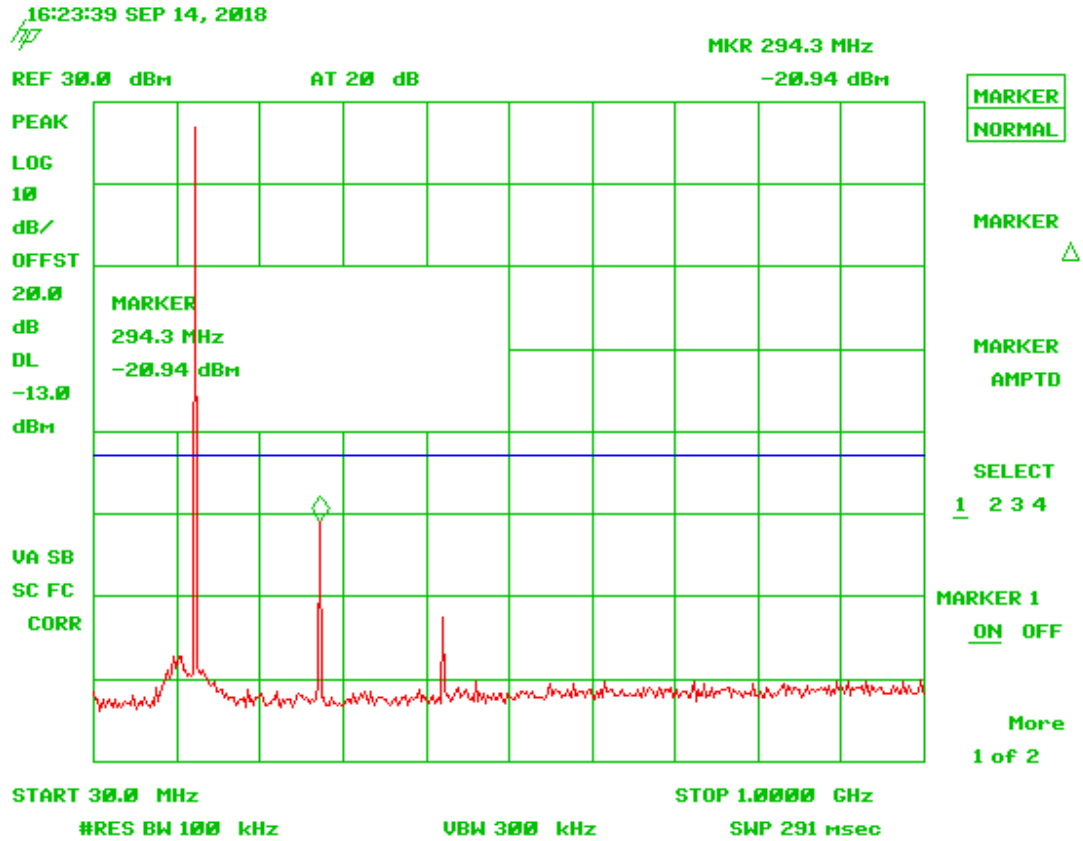


Figure 505. 145 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

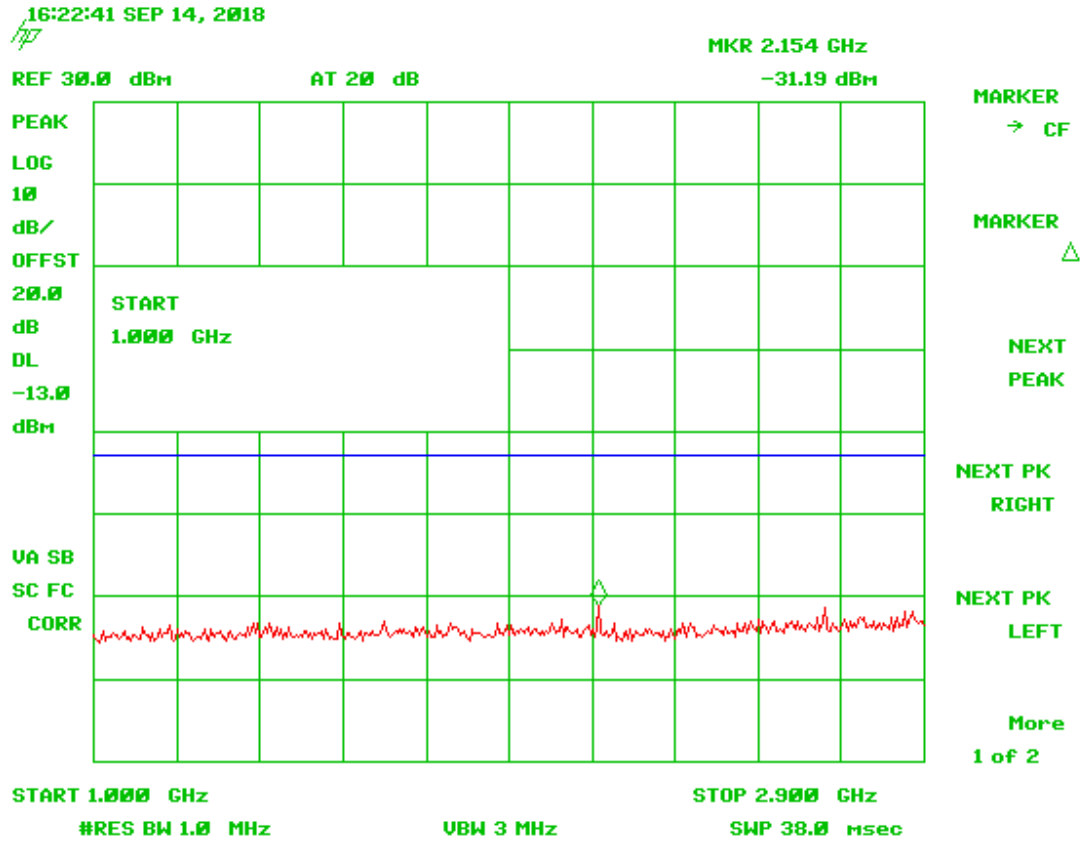
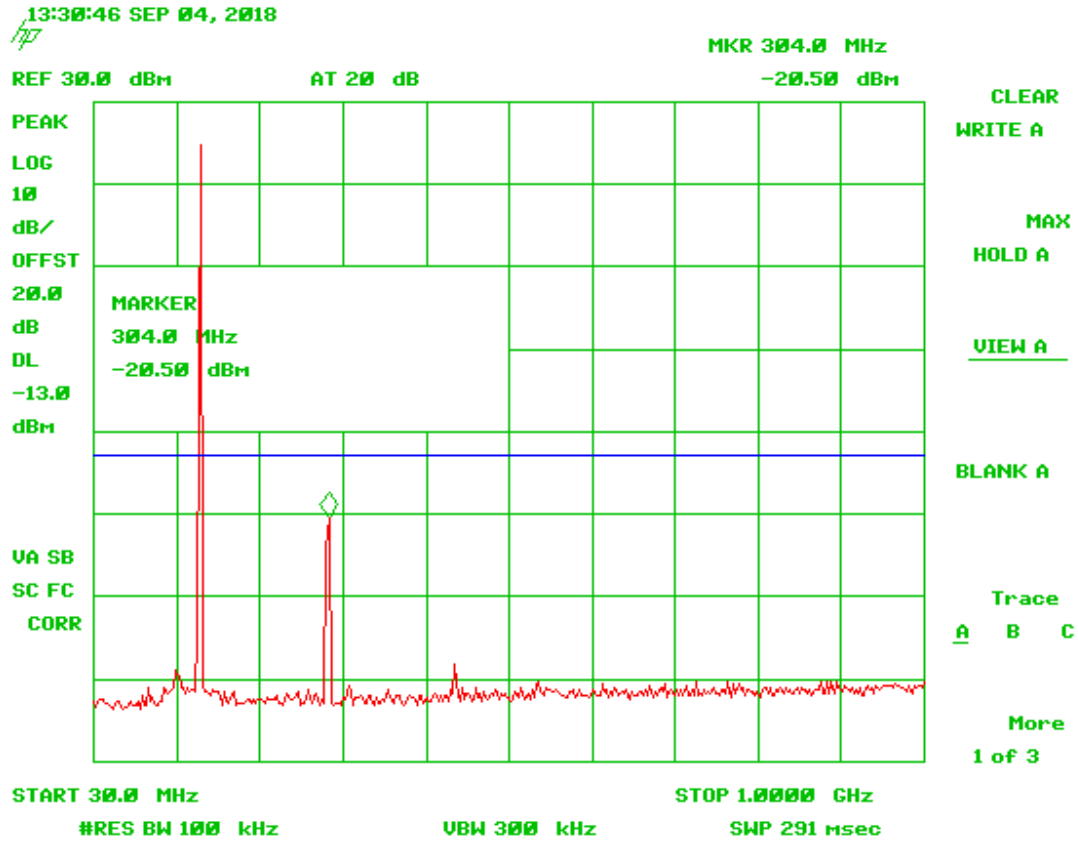


Figure 506. 145 MHz above 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 507. 150 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

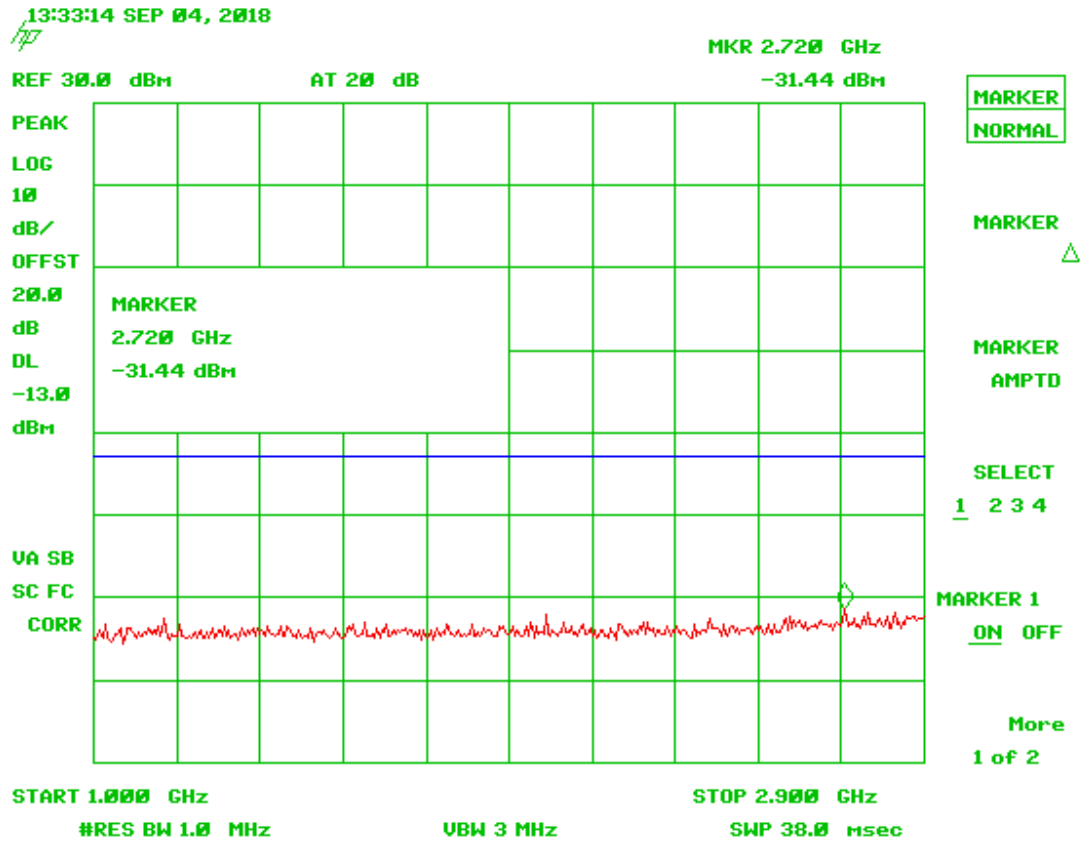
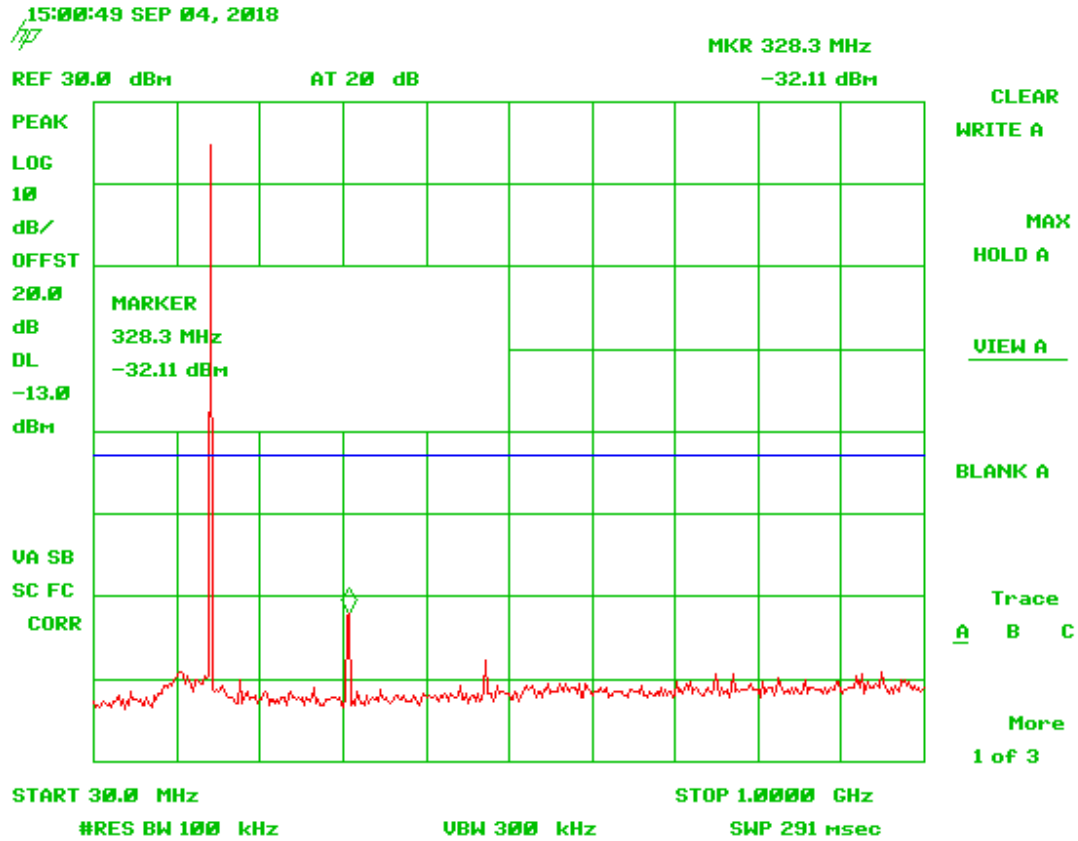


Figure 508. 150 MHz above 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 509. 162 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

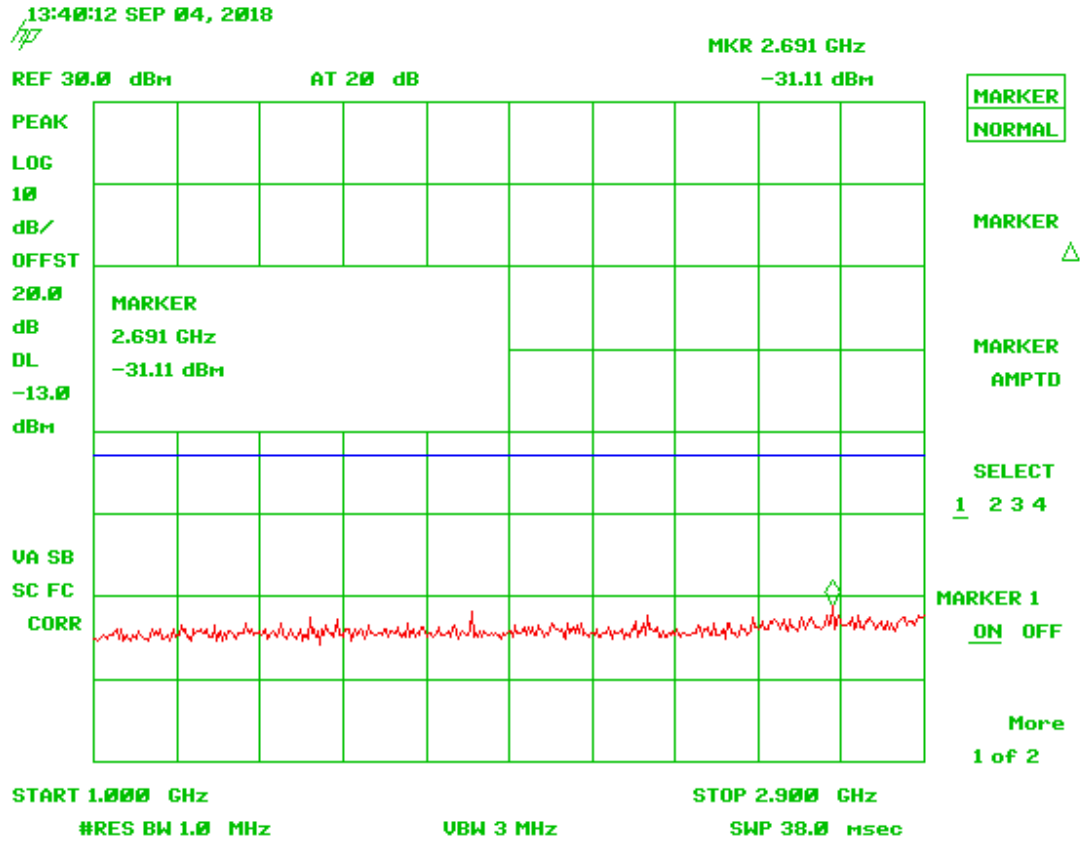


Figure 510. 162 MHz above 1 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

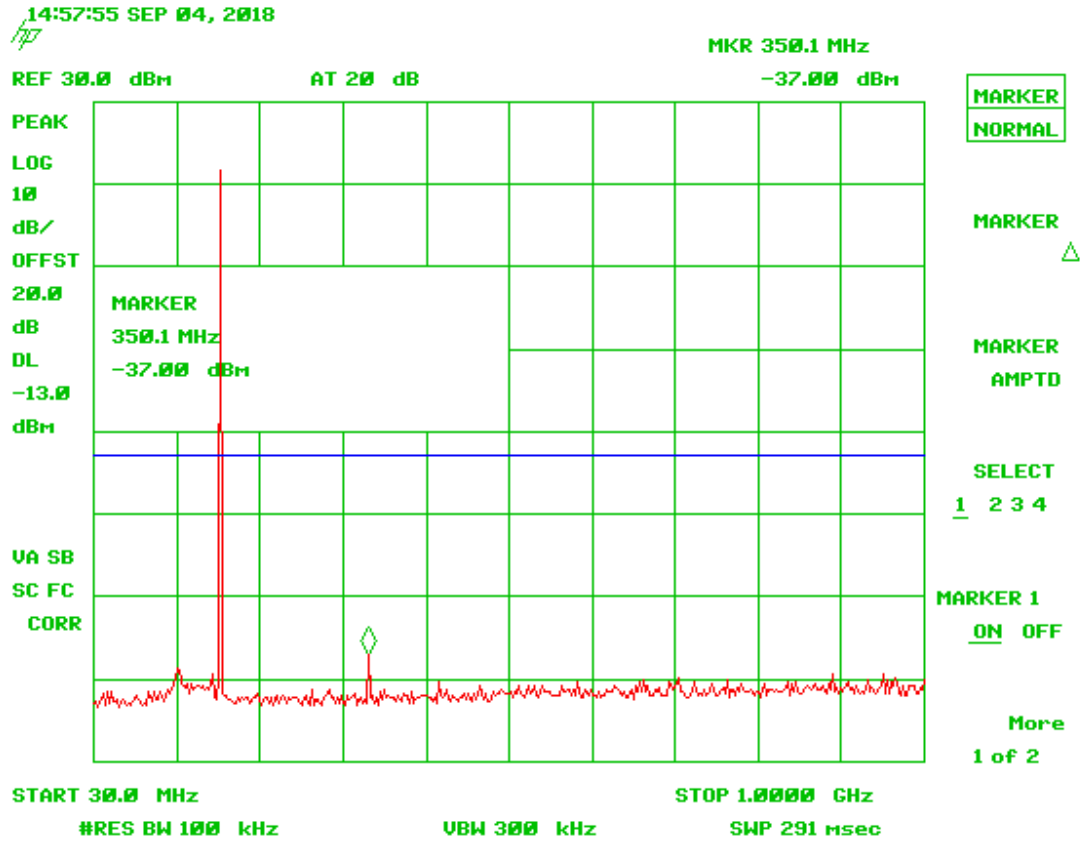


Figure 511. 174 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

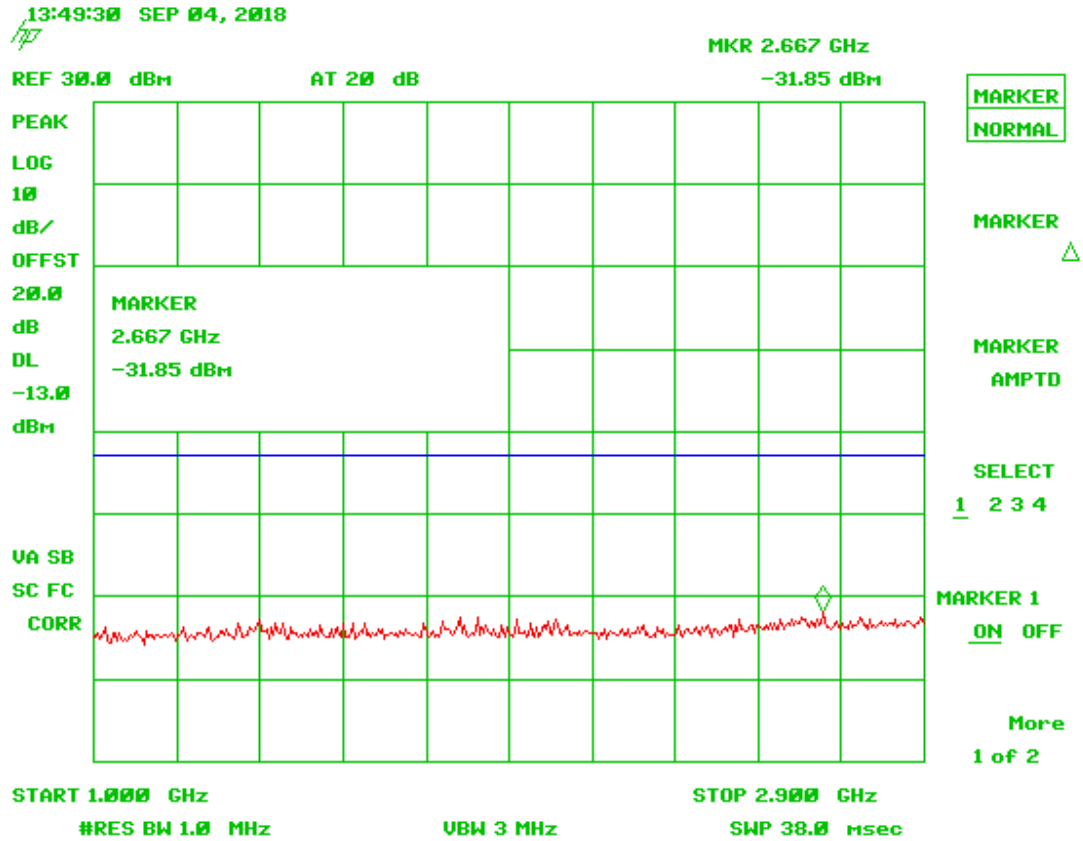
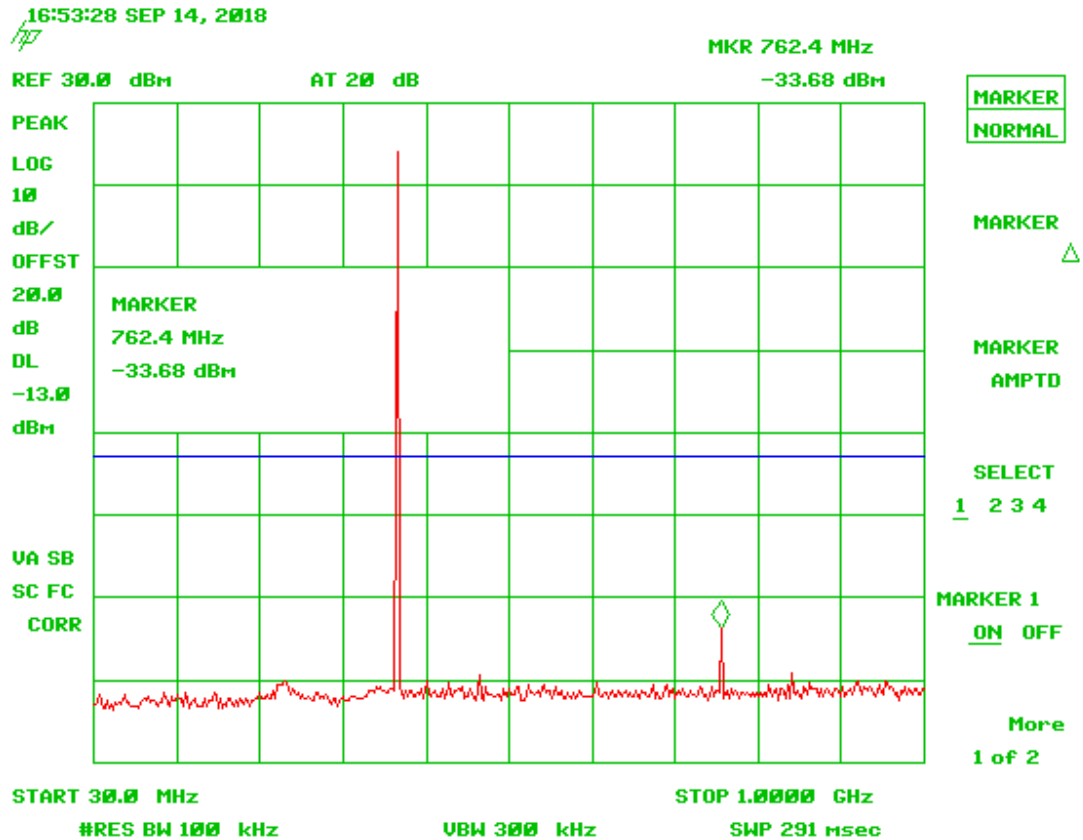


Figure 512. 174 MHz above 1 GHz

## 2.19.2.2 UHF Conducted Spurious Emissions

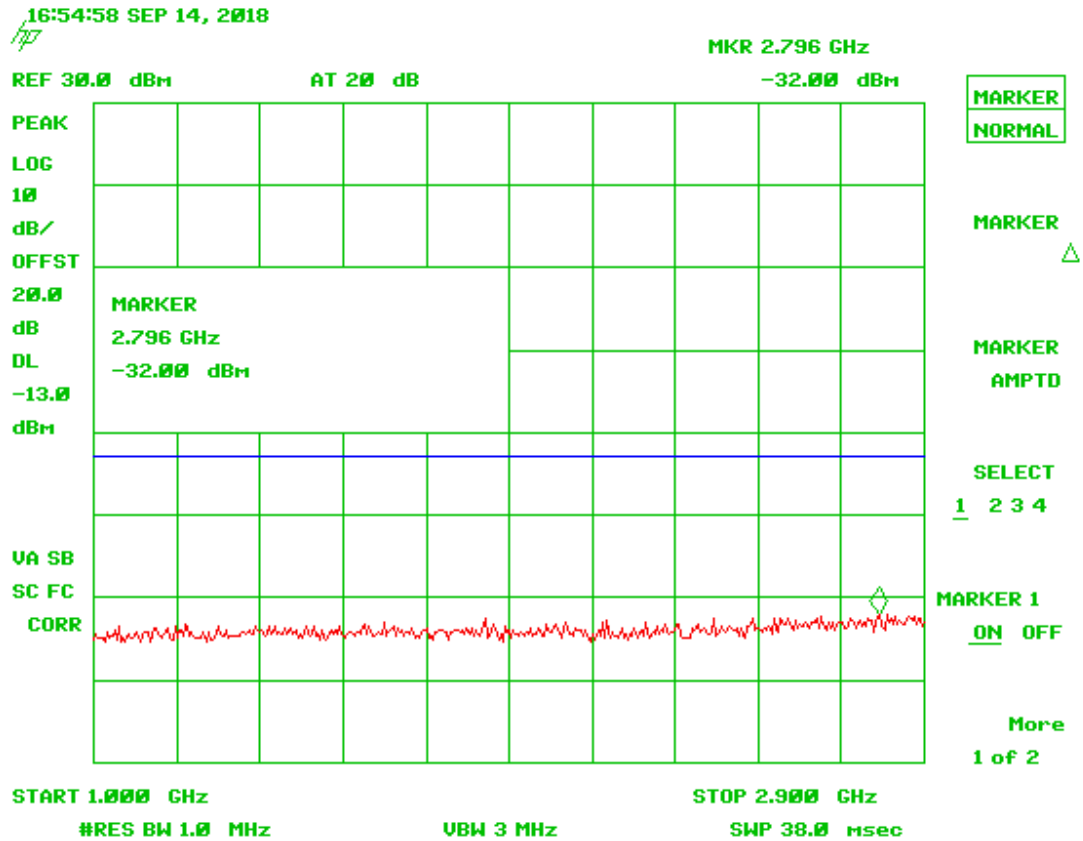


**Figure 513. 380 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.  
(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 514. 380 MHz, 1 – 2.9 GHz**

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

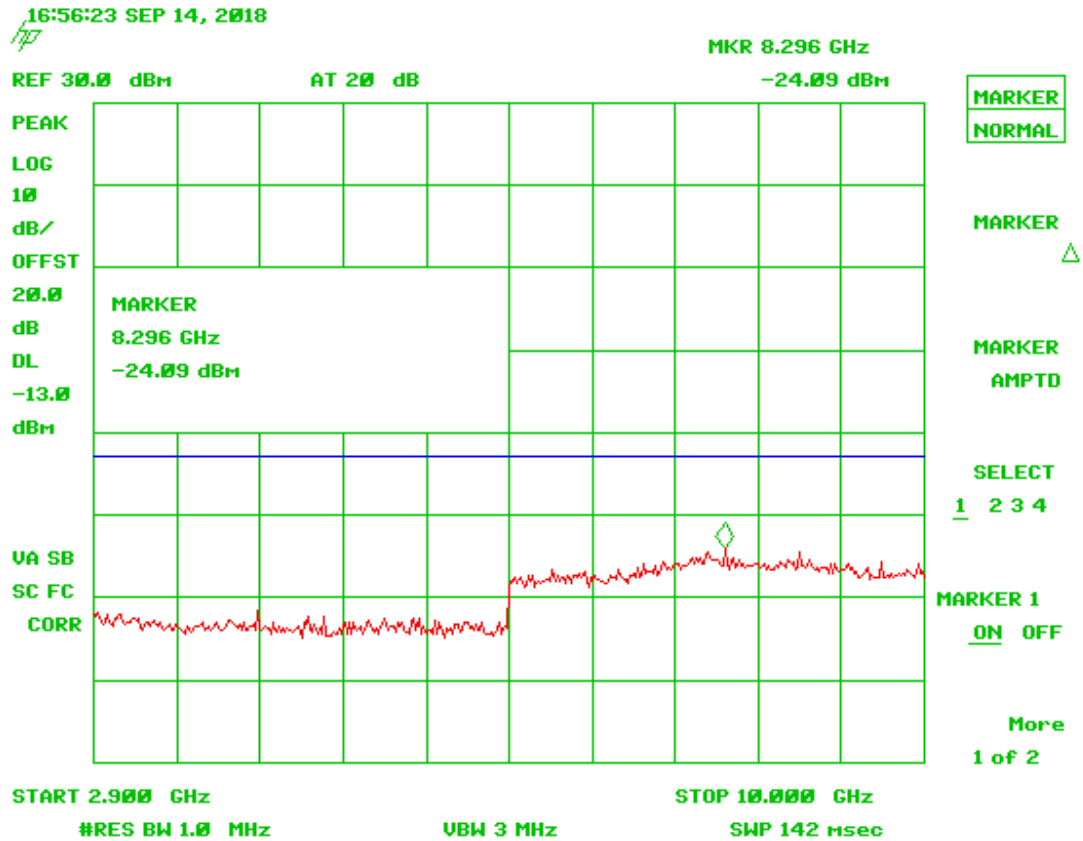


Figure 515. 380 MHz, 2.9 – 10 GHz

(Test data for band 138-144 MHz and 380-400 MHz not applicable for FCC certification)

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

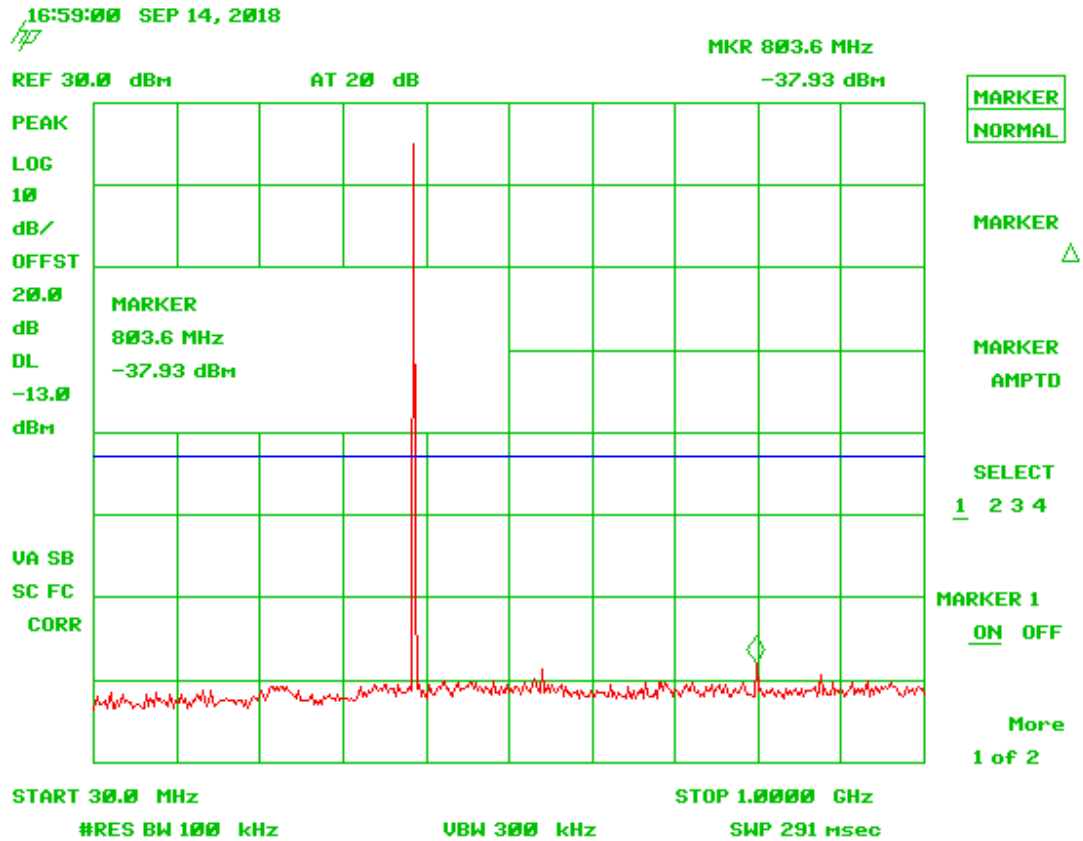


Figure 516. 401 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

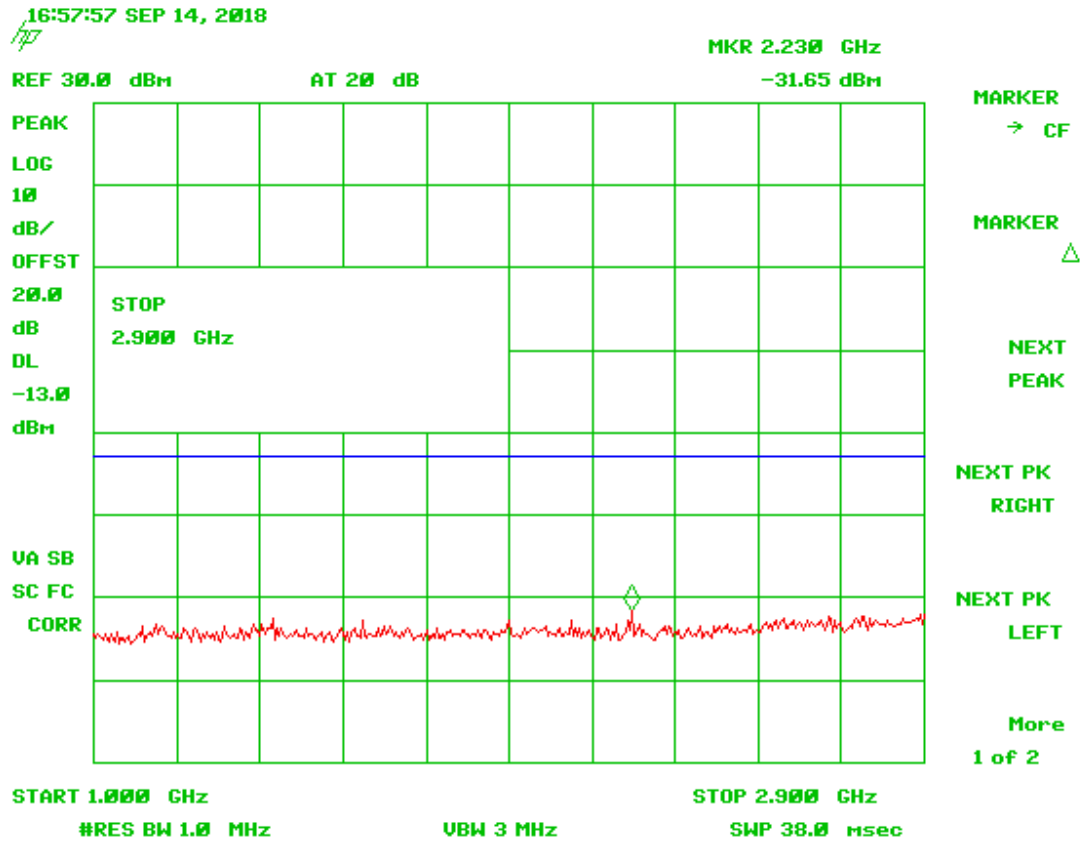


Figure 517. 401 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

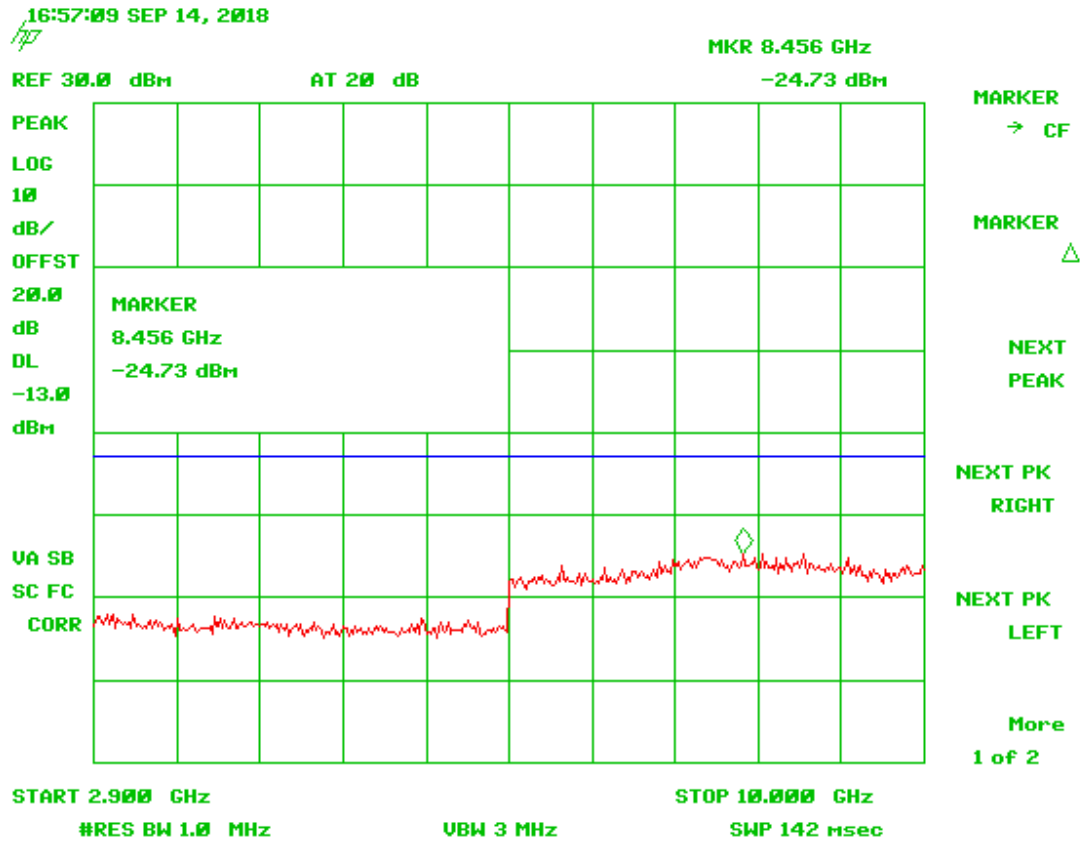


Figure 518. 401 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

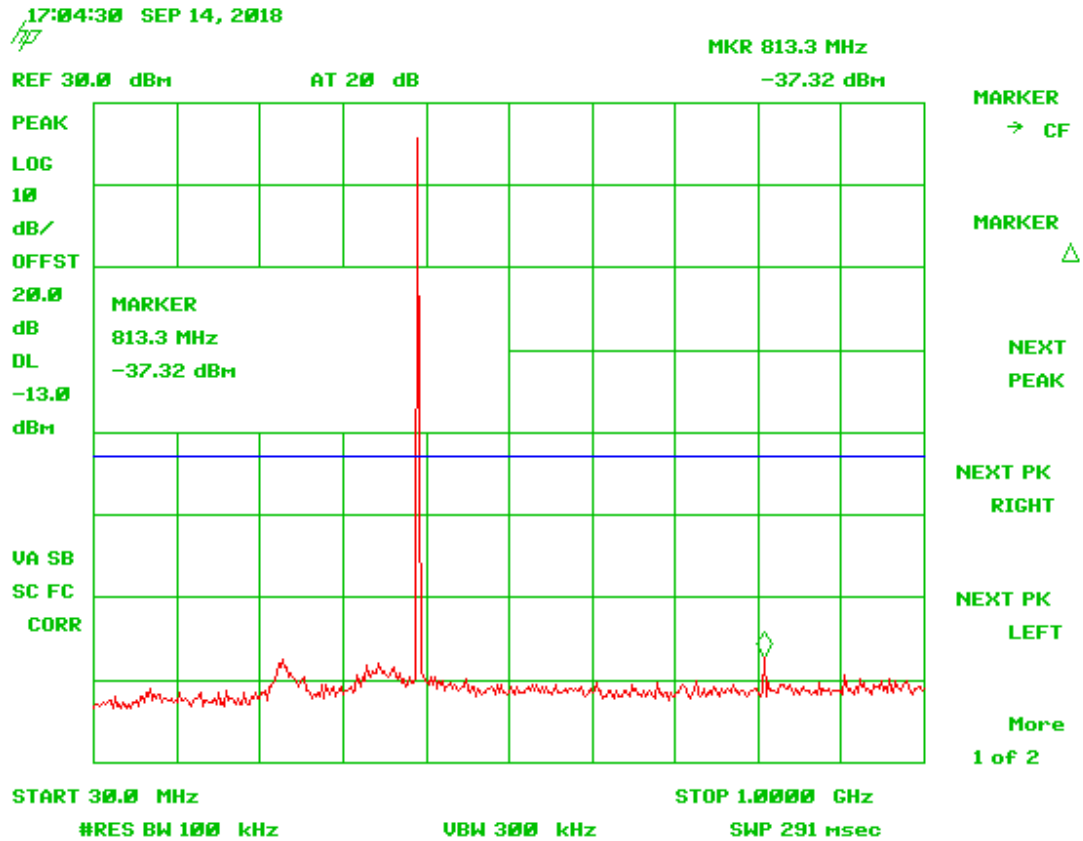


Figure 519. 406 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

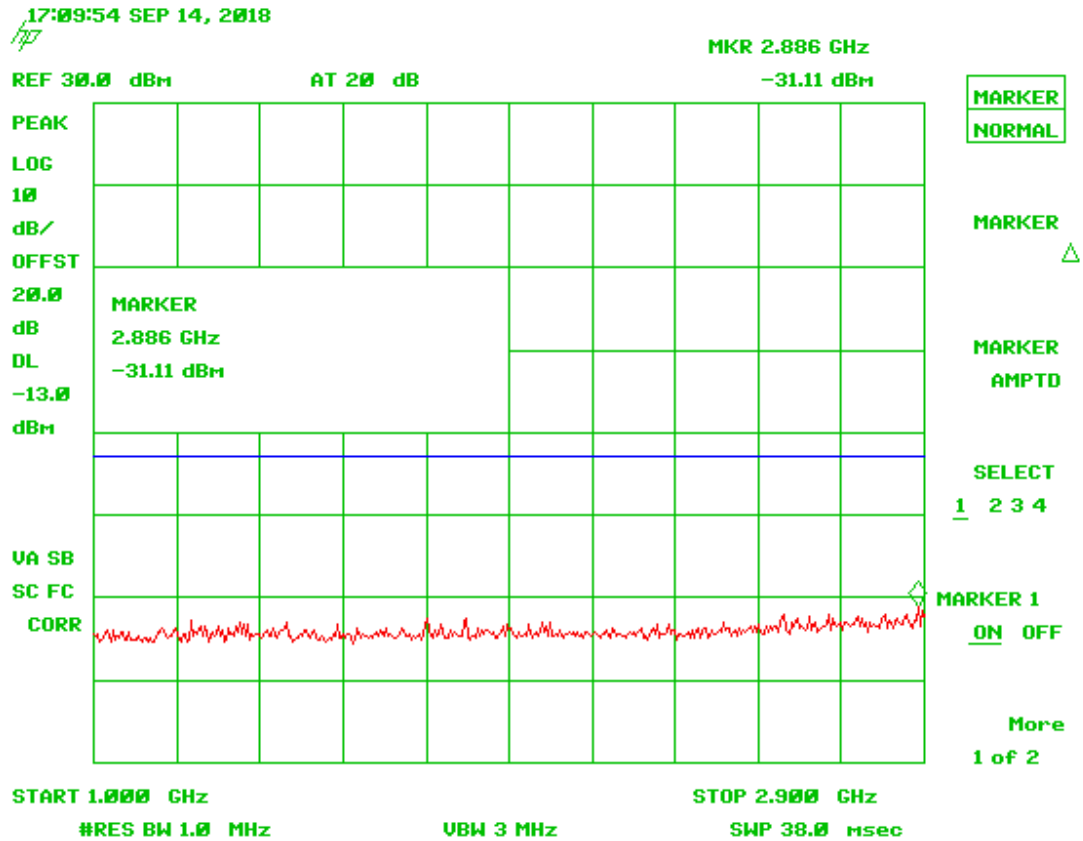
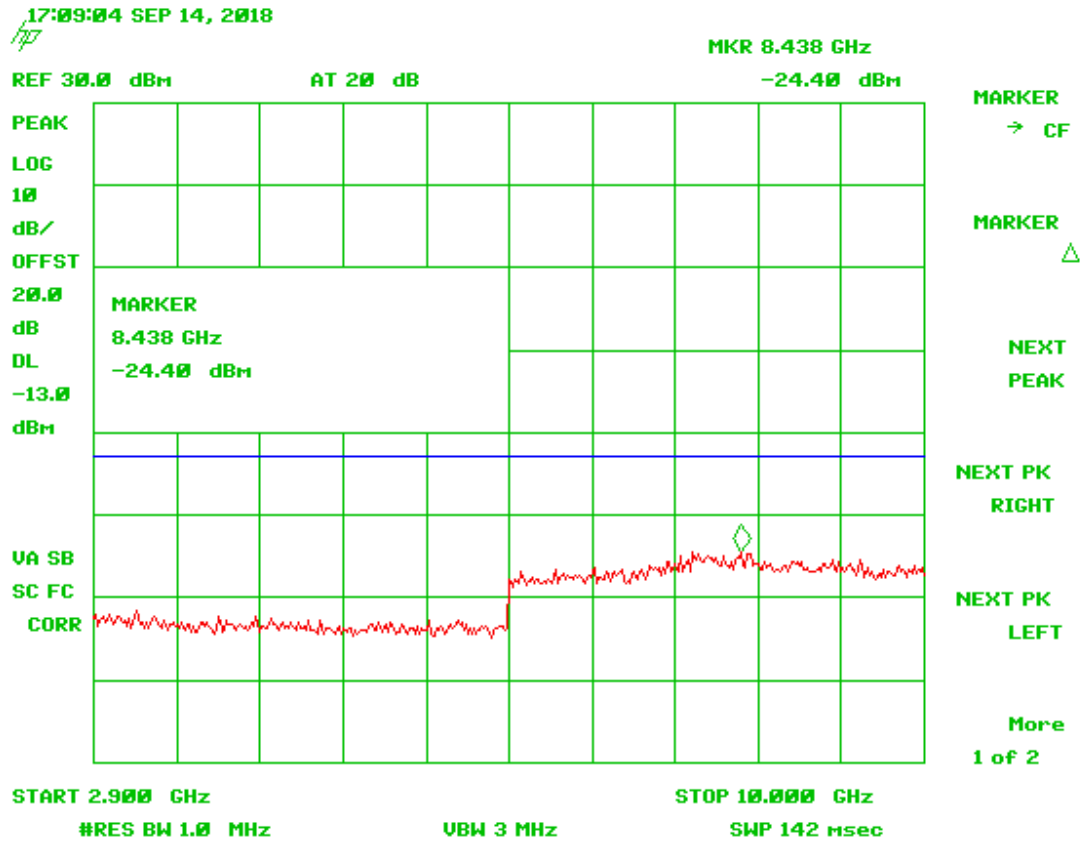


Figure 520. 406 MHz, 1 – 2.9 GHz

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

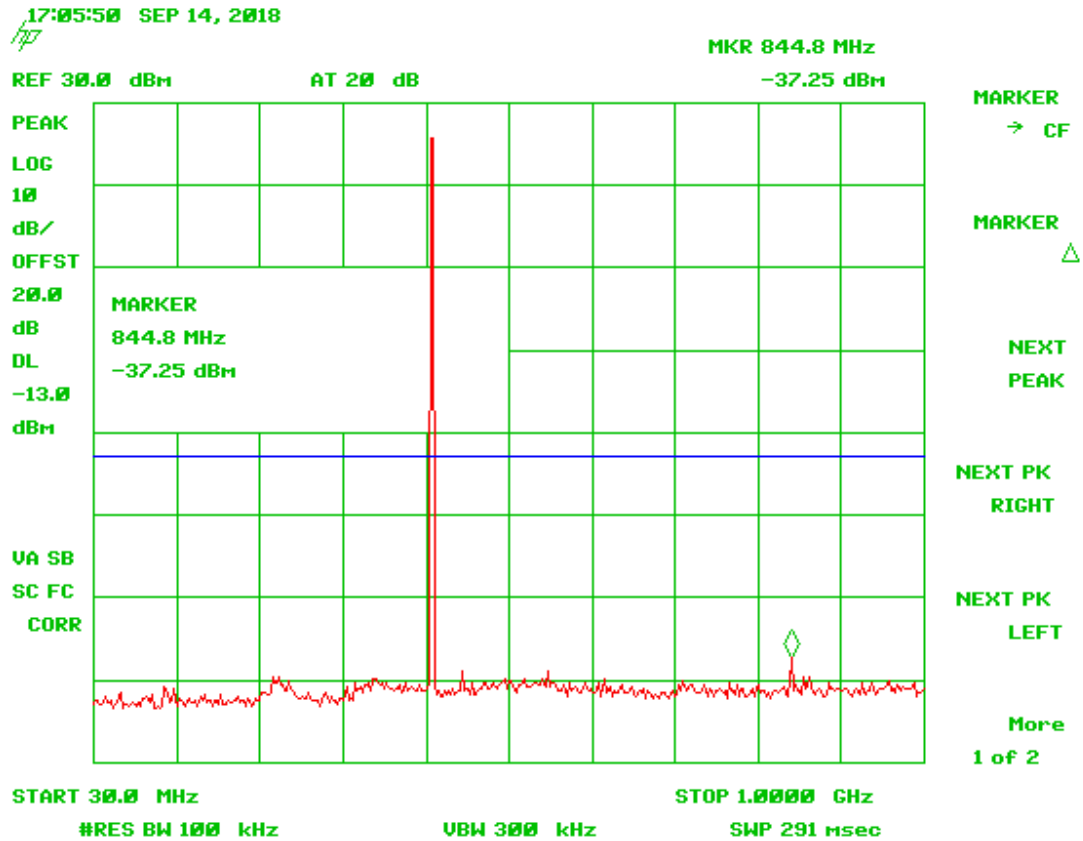


Figure 522. 421 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

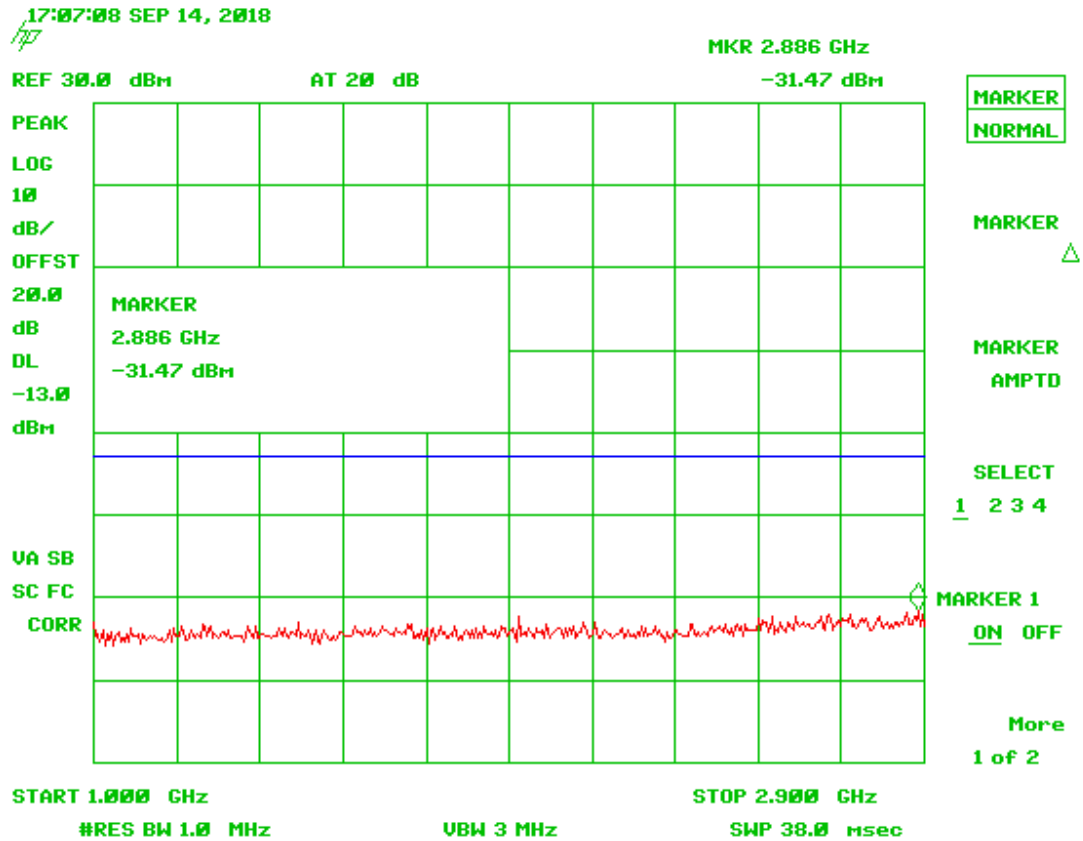


Figure 523. 421 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

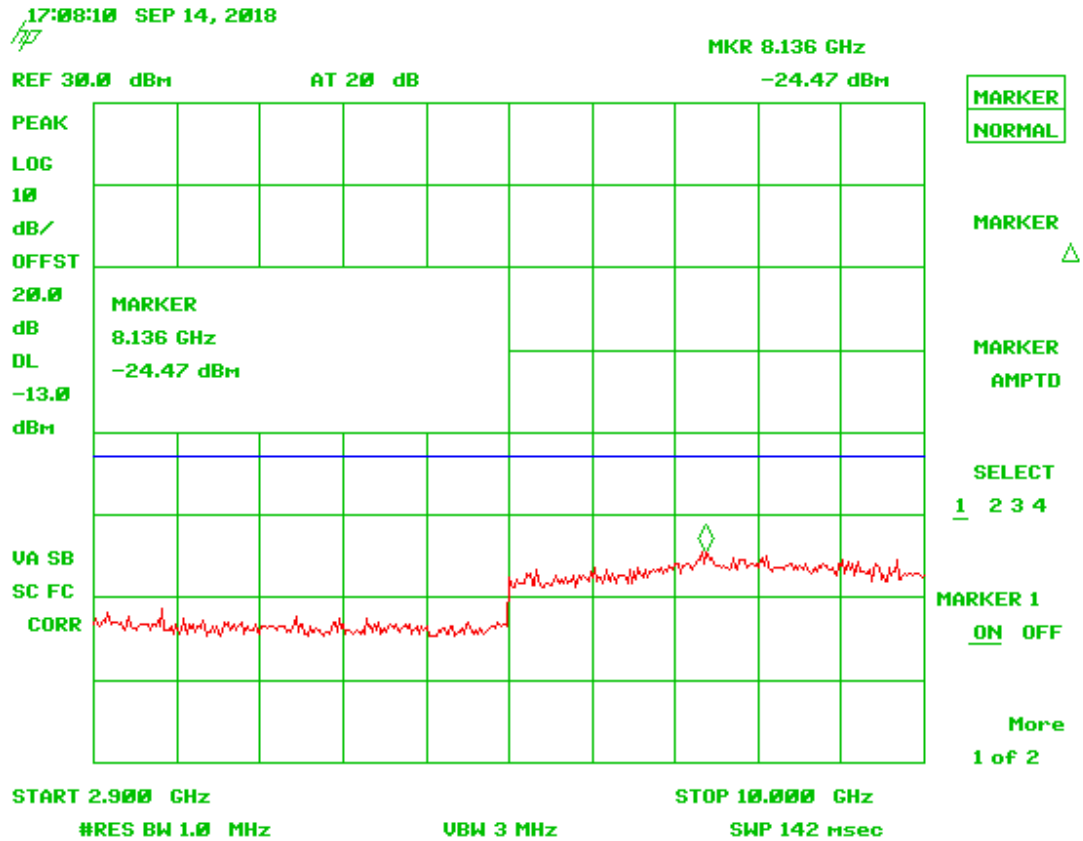


Figure 524. 421 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

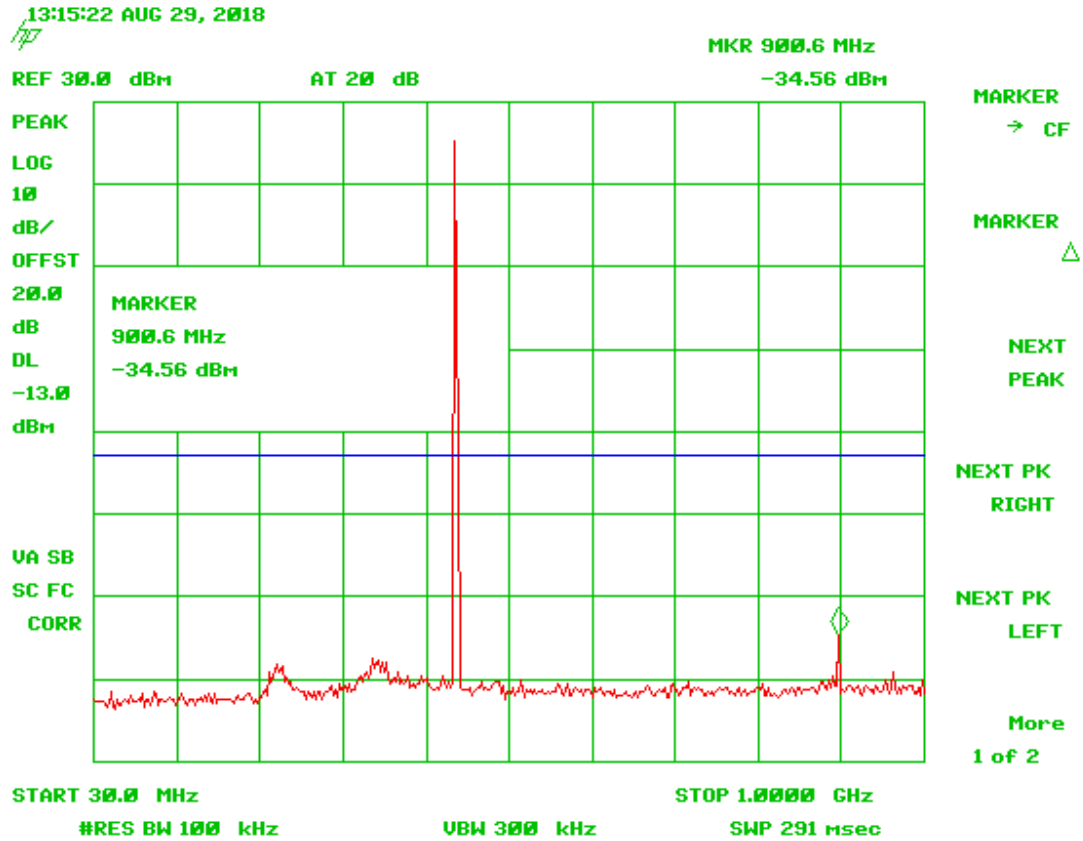


Figure 525. 450 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

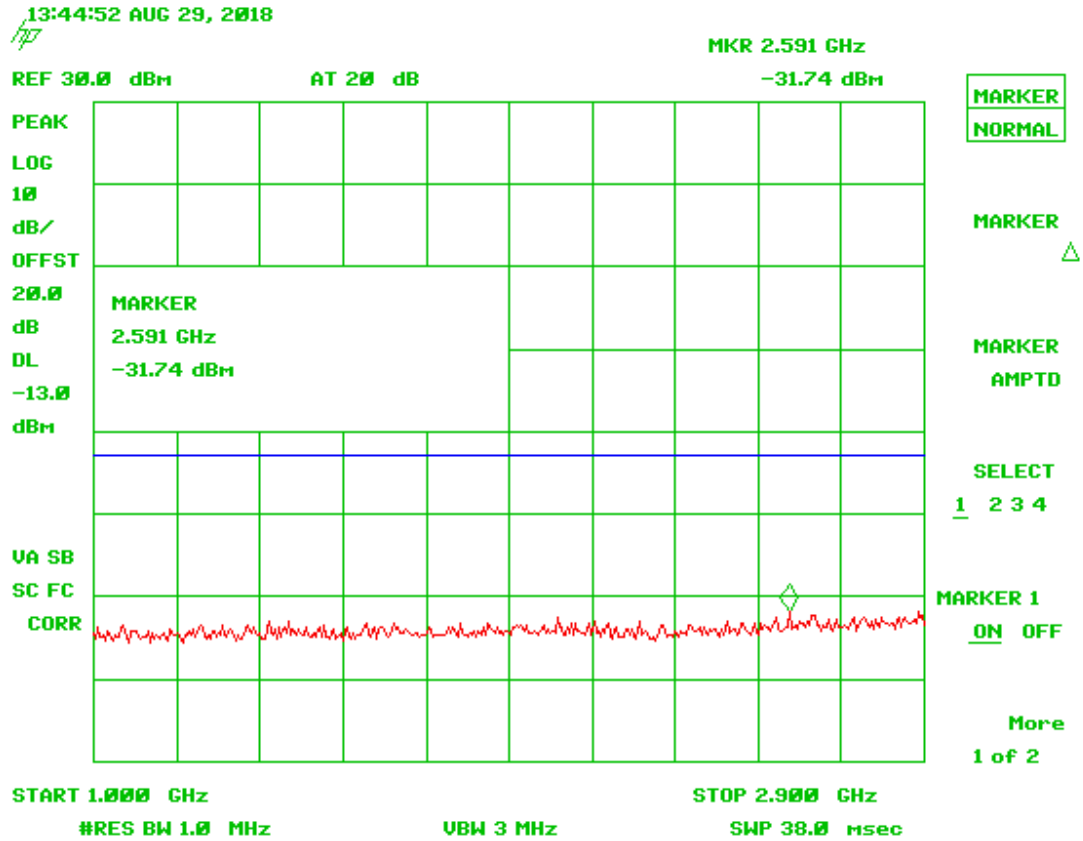


Figure 526. 450 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

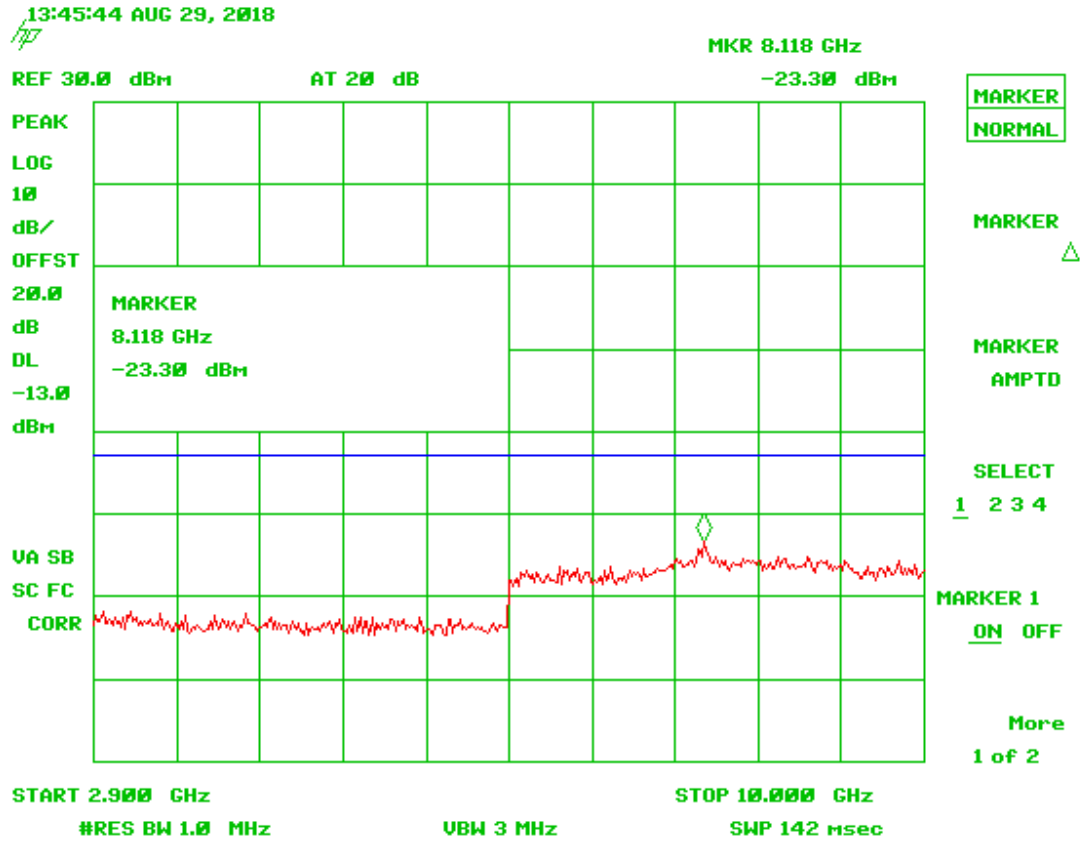
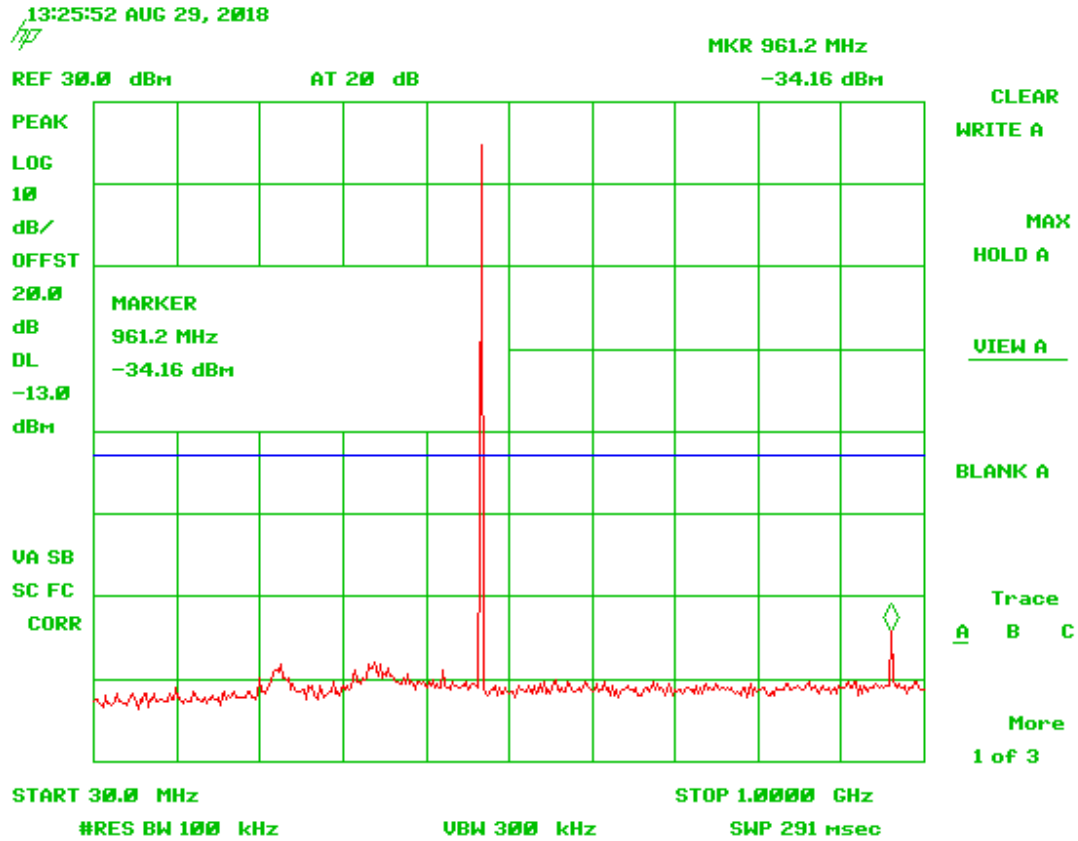


Figure 527. 450 MHz, 2.9 – 10 GHz



U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000



**Figure 528. 480 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

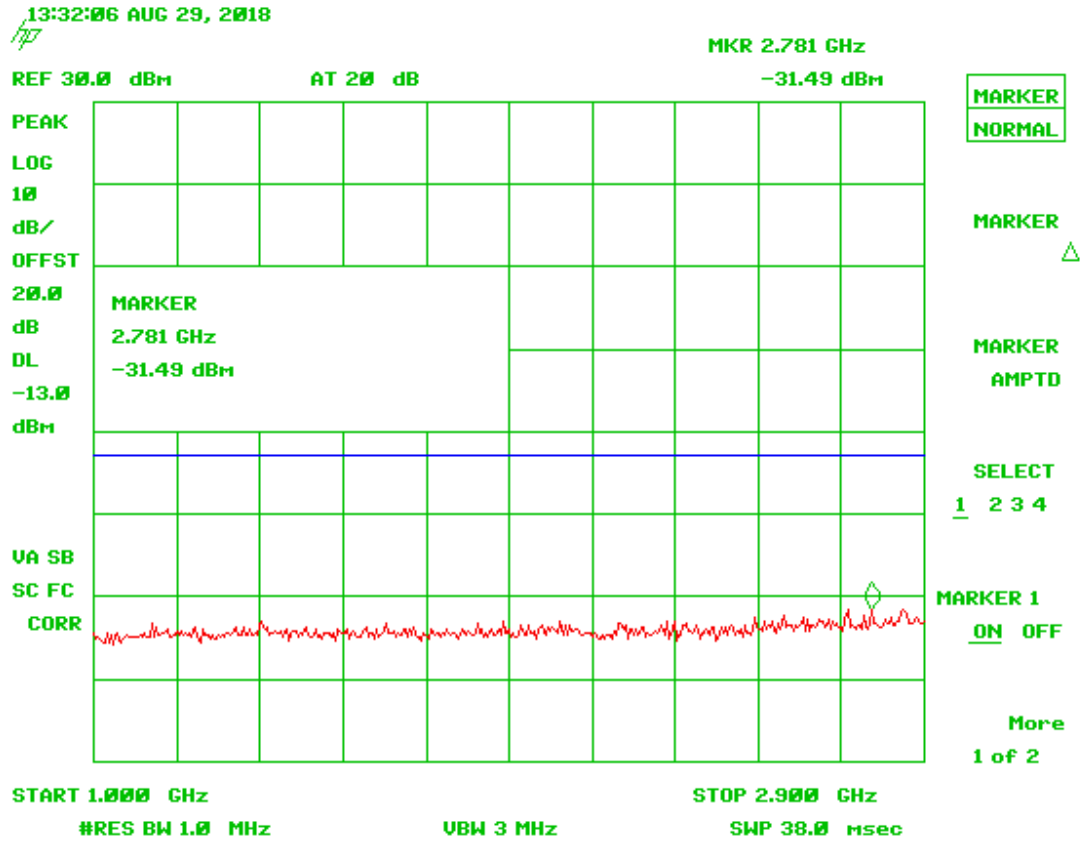


Figure 529. 480 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

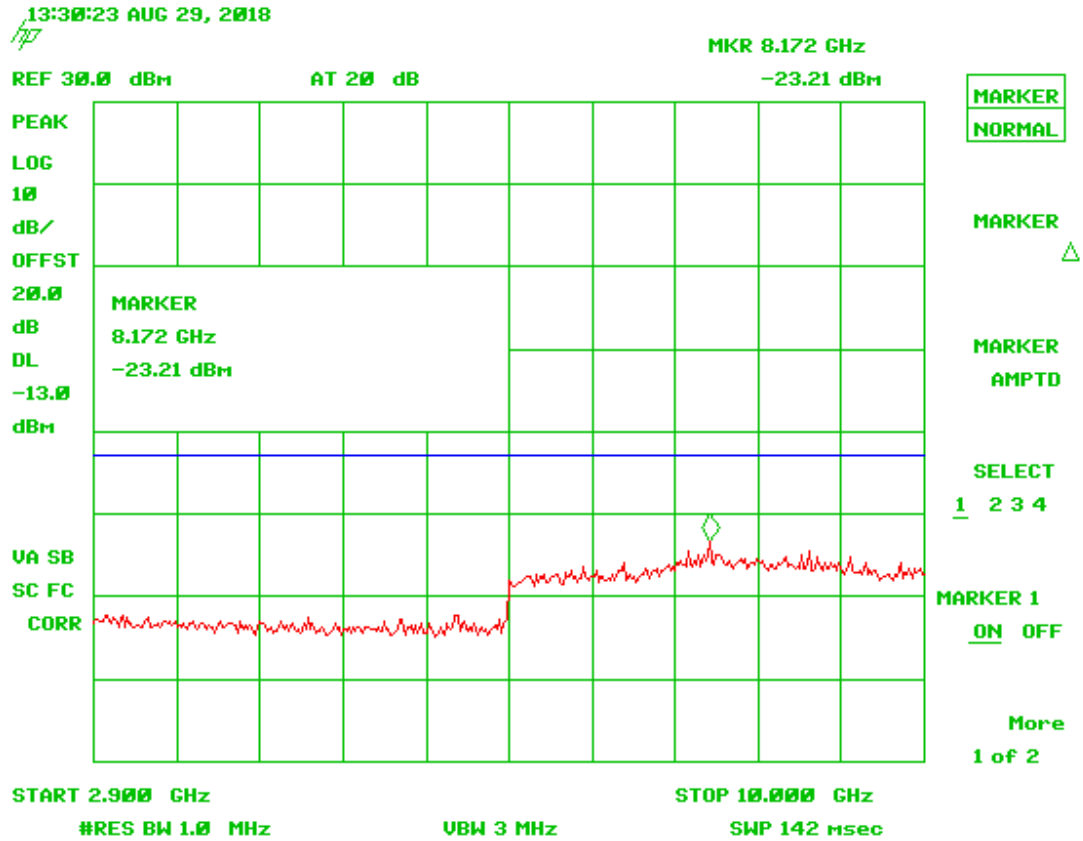


Figure 530. 480 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

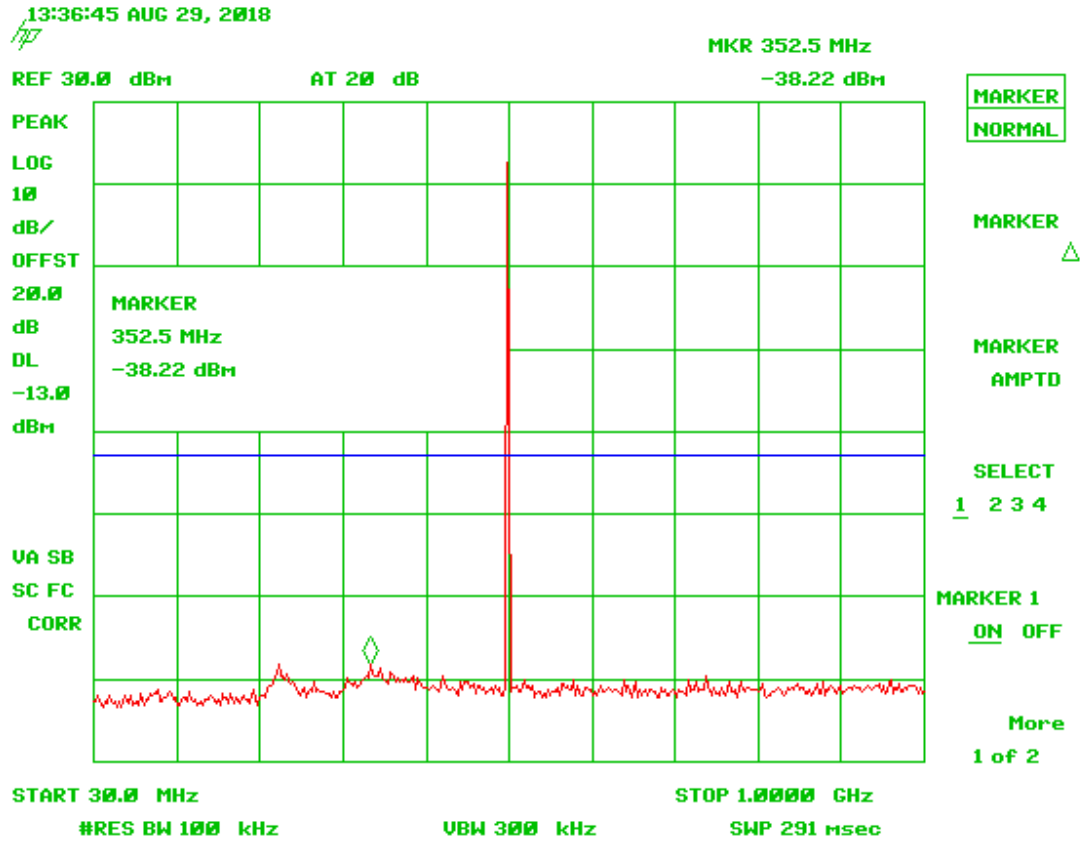


Figure 531. 511 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

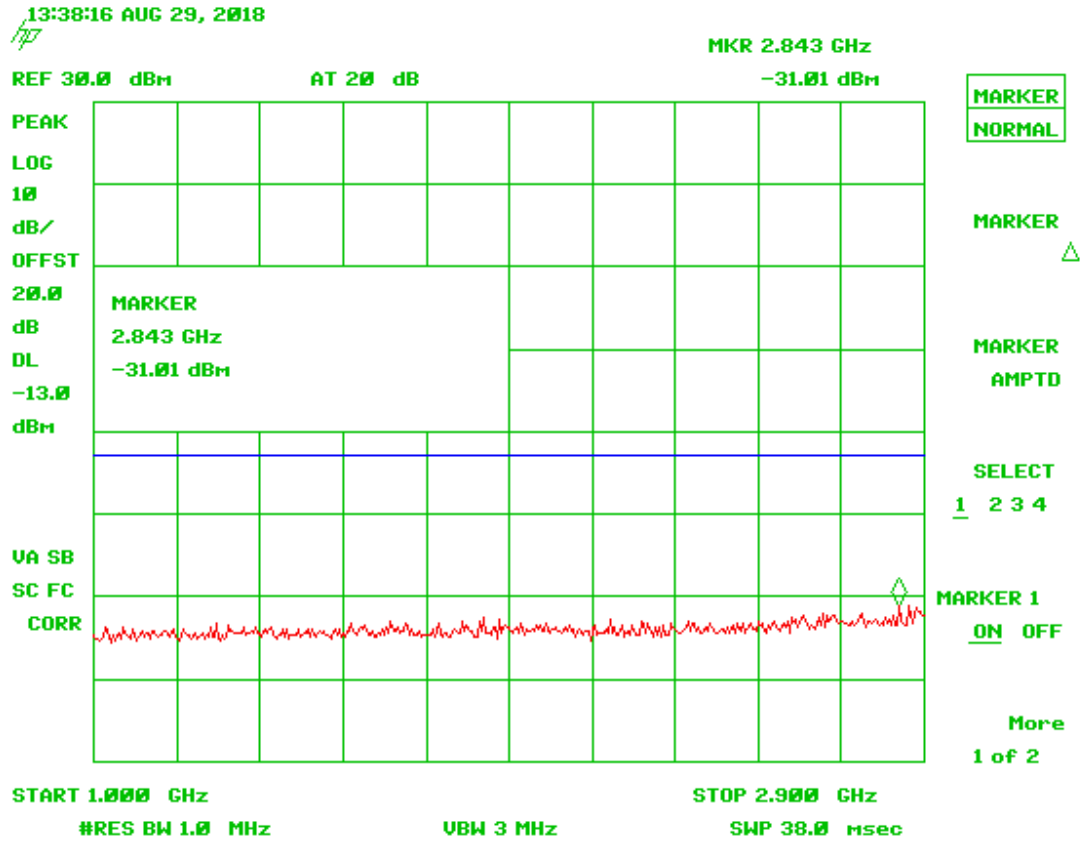


Figure 532. 511 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

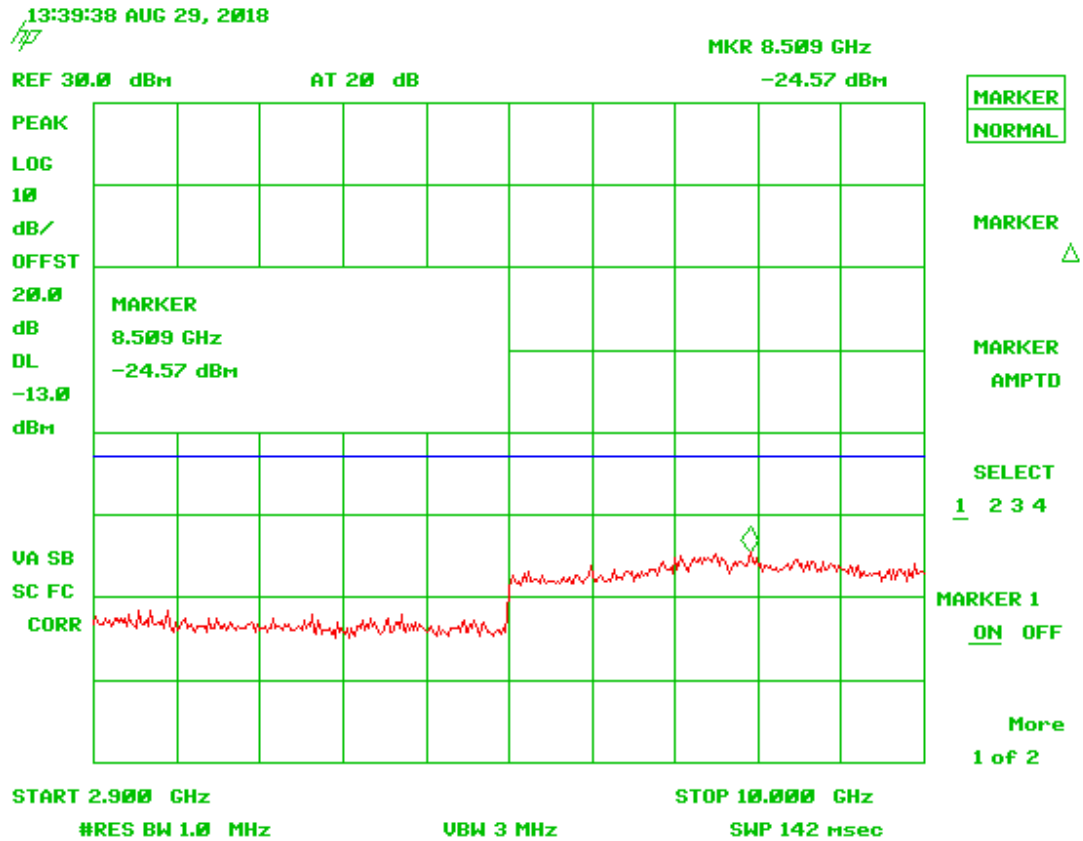


Figure 533. 511 MHz, 2.9 - 10 GHz

### 2.19.2.3 700 MHz Conducted Spurious Emissions

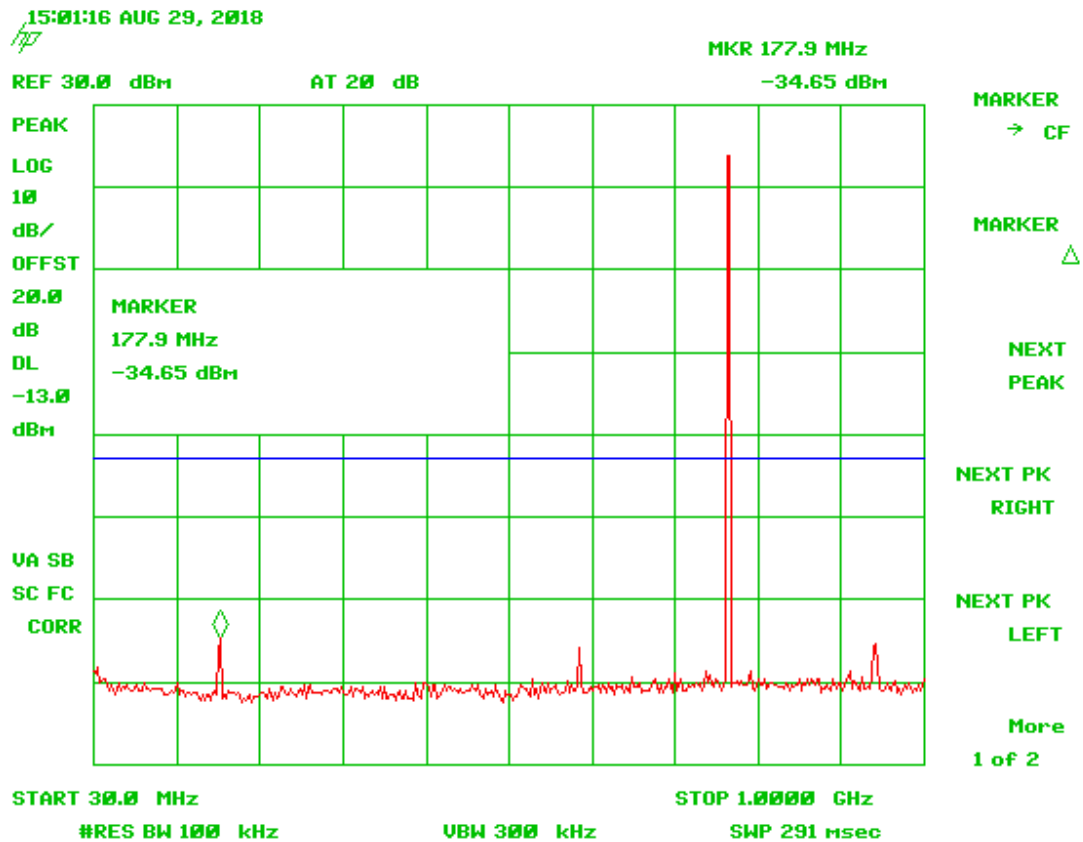


Figure 534. 769 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

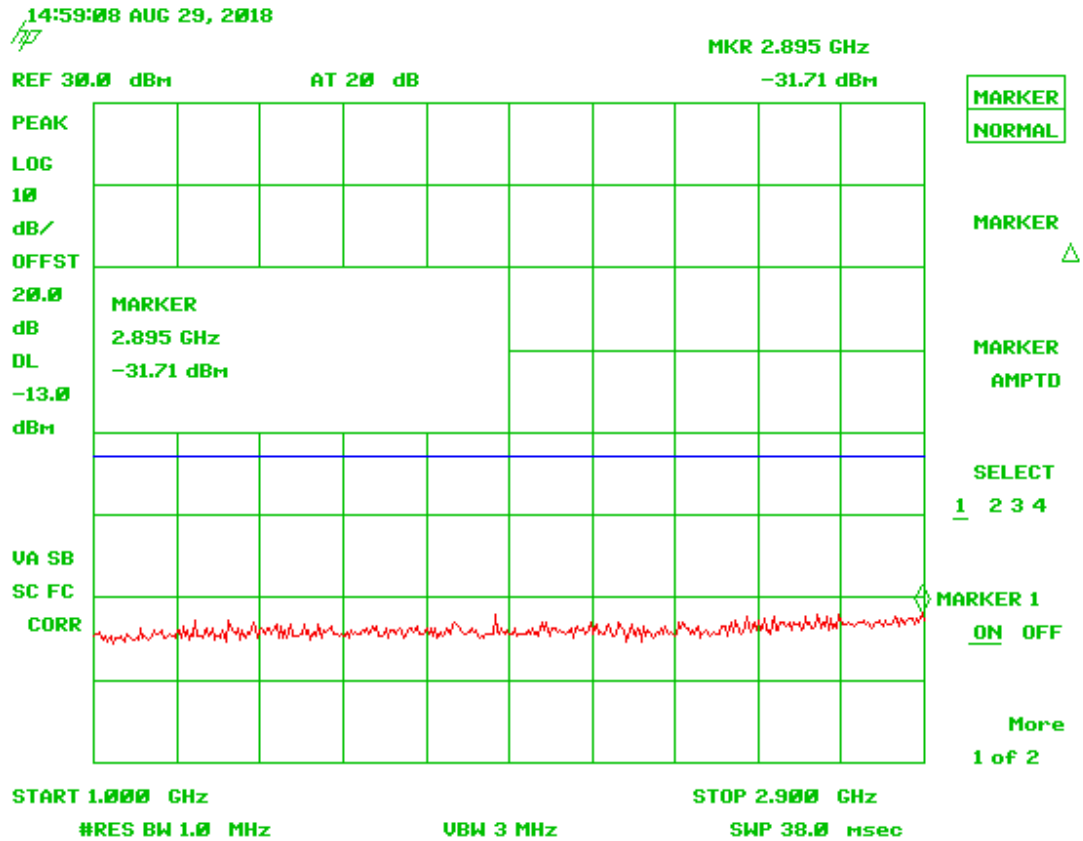


Figure 535. 769 MHz, 1 – 2.9 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

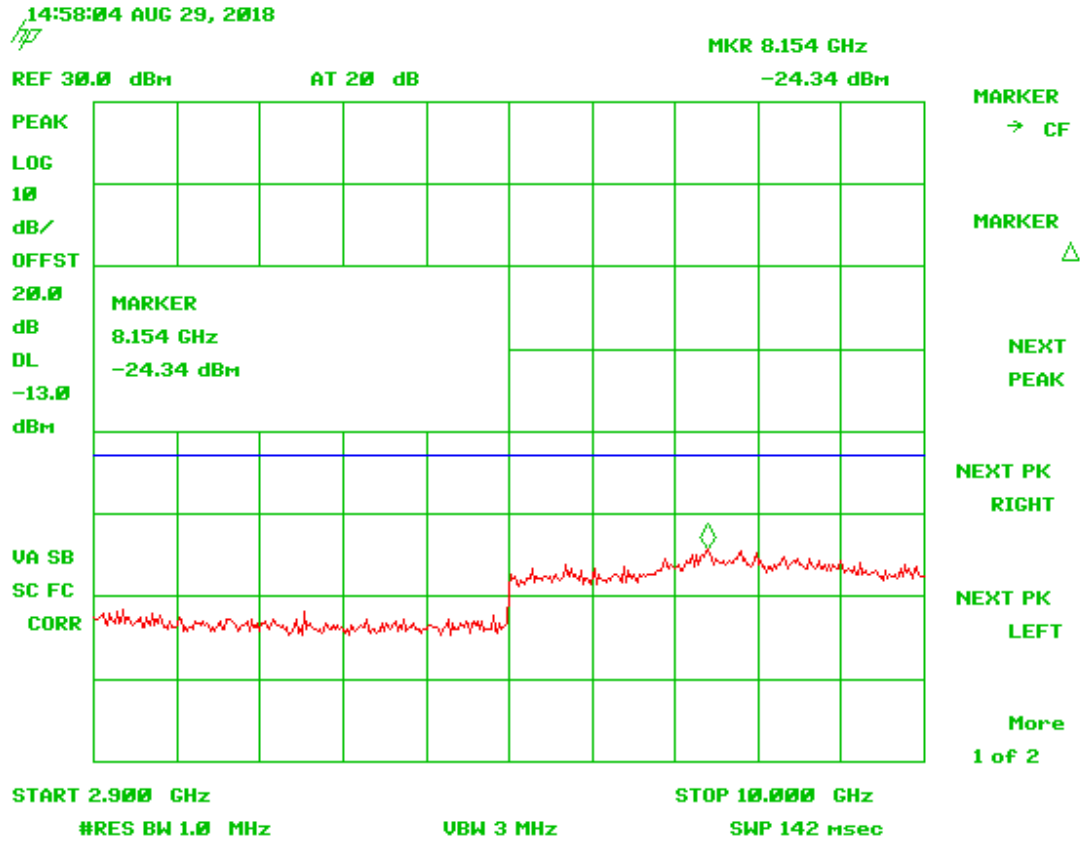
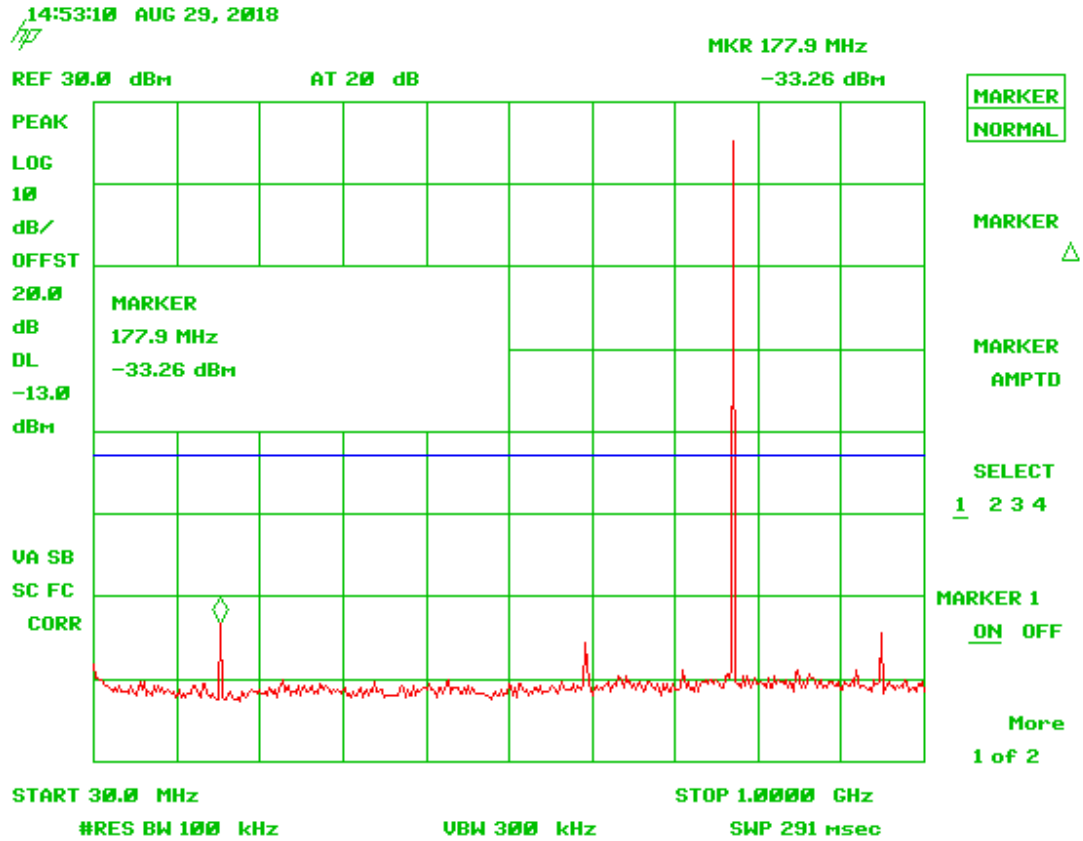


Figure 536. 769 MHz, 2.9 - 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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22303-SAFE2  
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September 10, 2018  
Safe-Com Wireless  
SAFE-1000



**Figure 537. 775 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

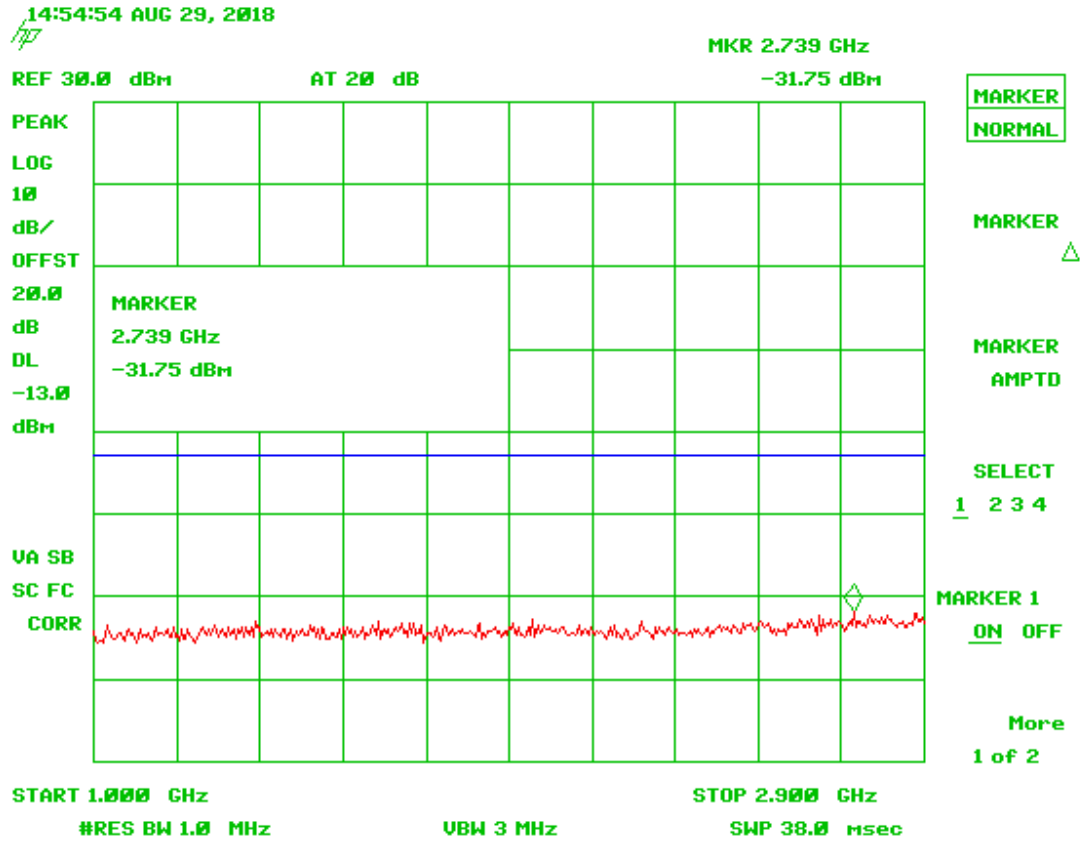


Figure 538. 775 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

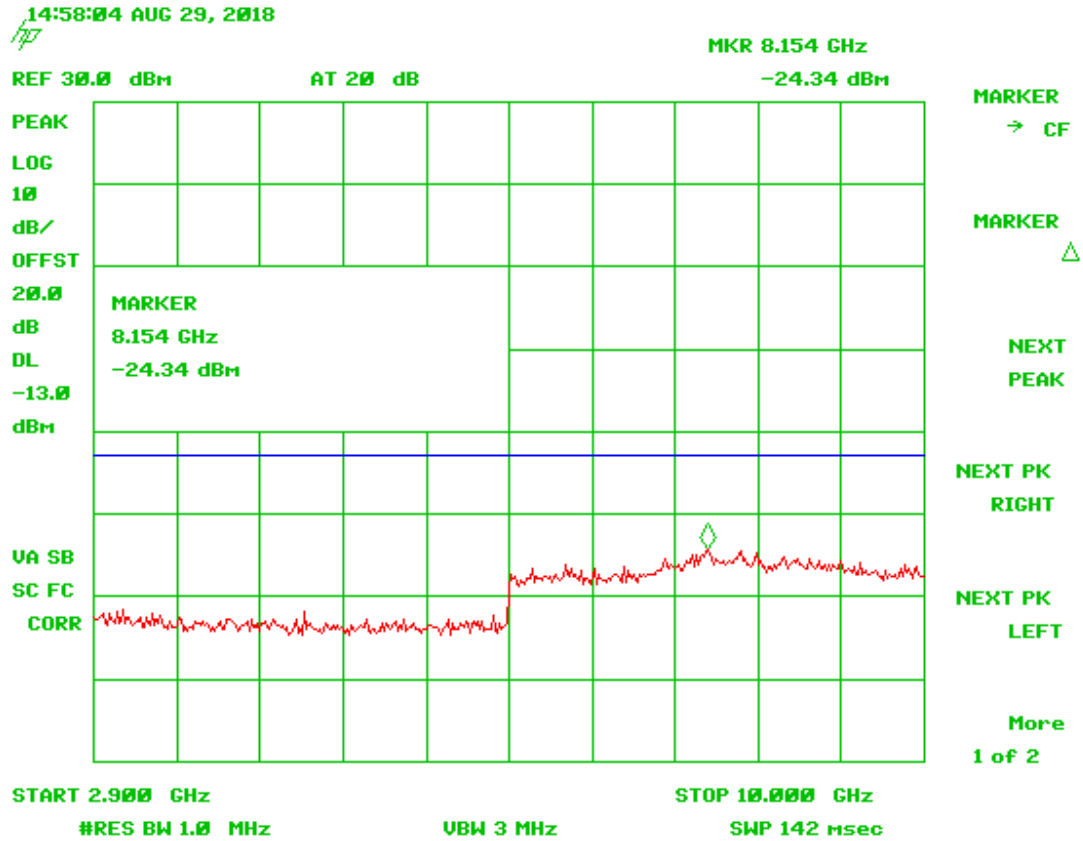
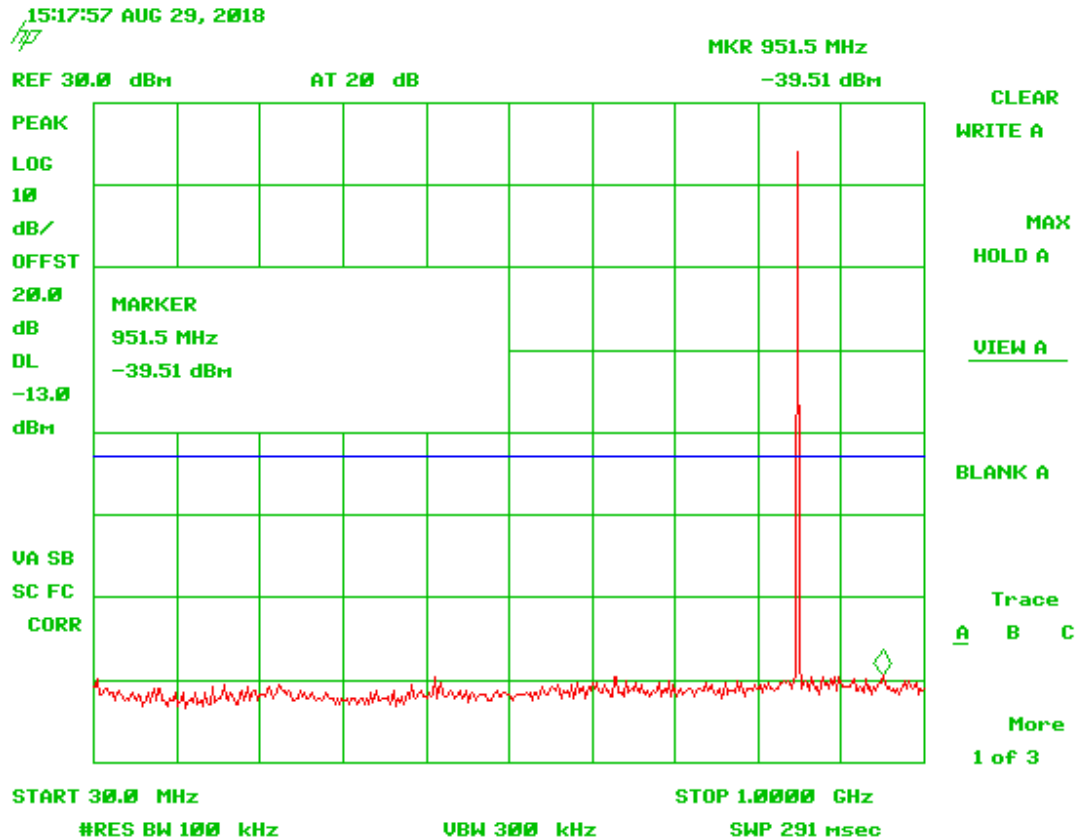


Figure 539. 775 MHz, 2.9 - 10 GHz

## 2.19.2.4 800 MHz Conducted Spurious Emissions



**Figure 540. 851 MHz below 1 GHz**

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
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22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

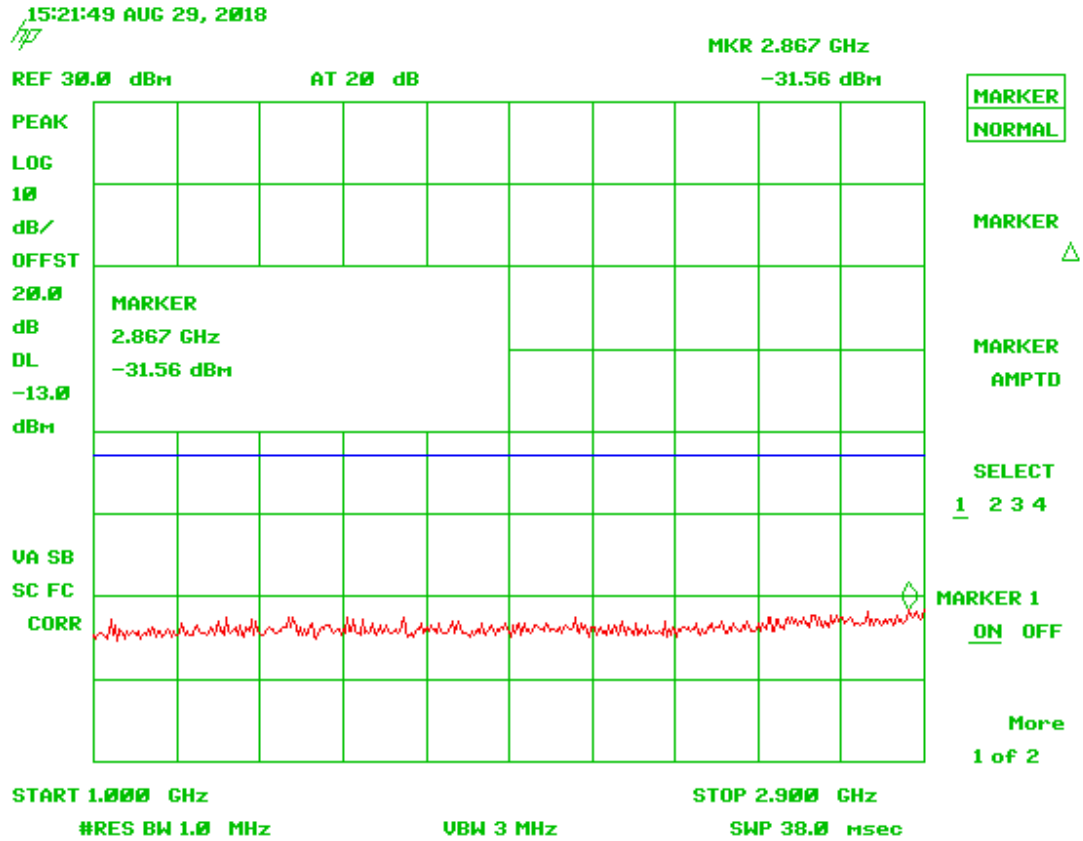


Figure 541. 851 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

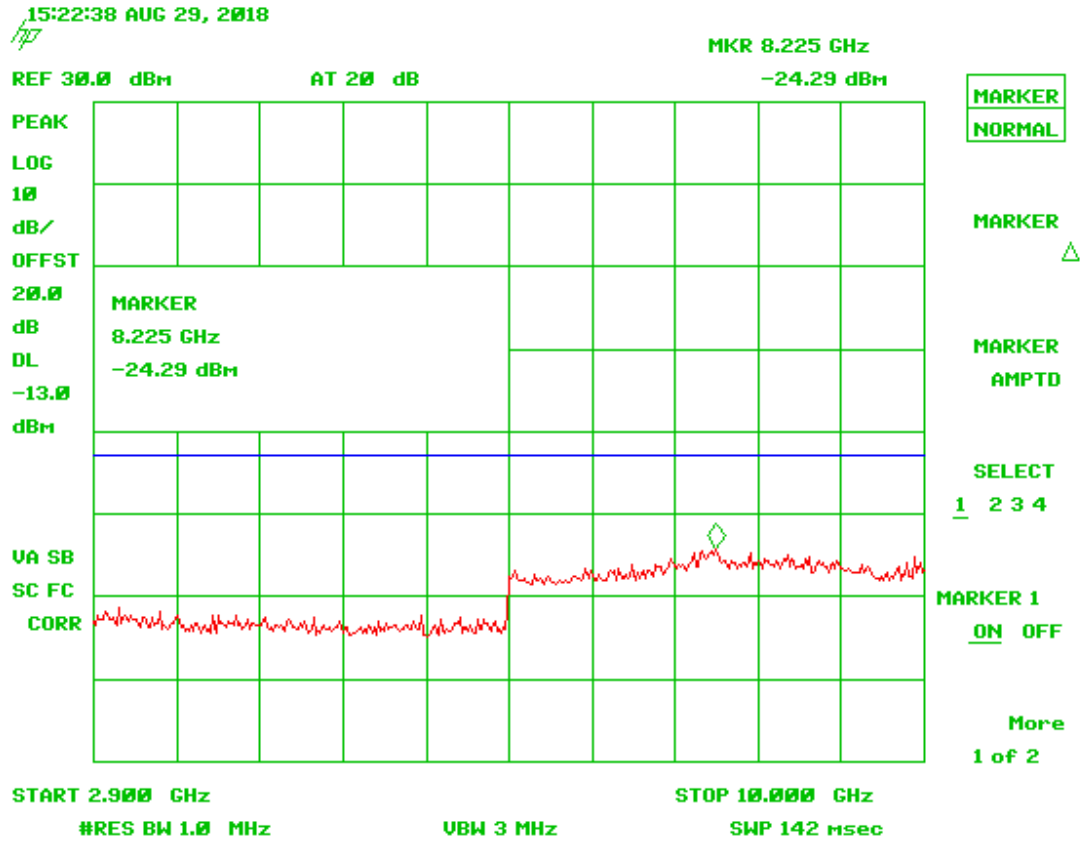


Figure 542. 851 MHz, 2.9 - 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

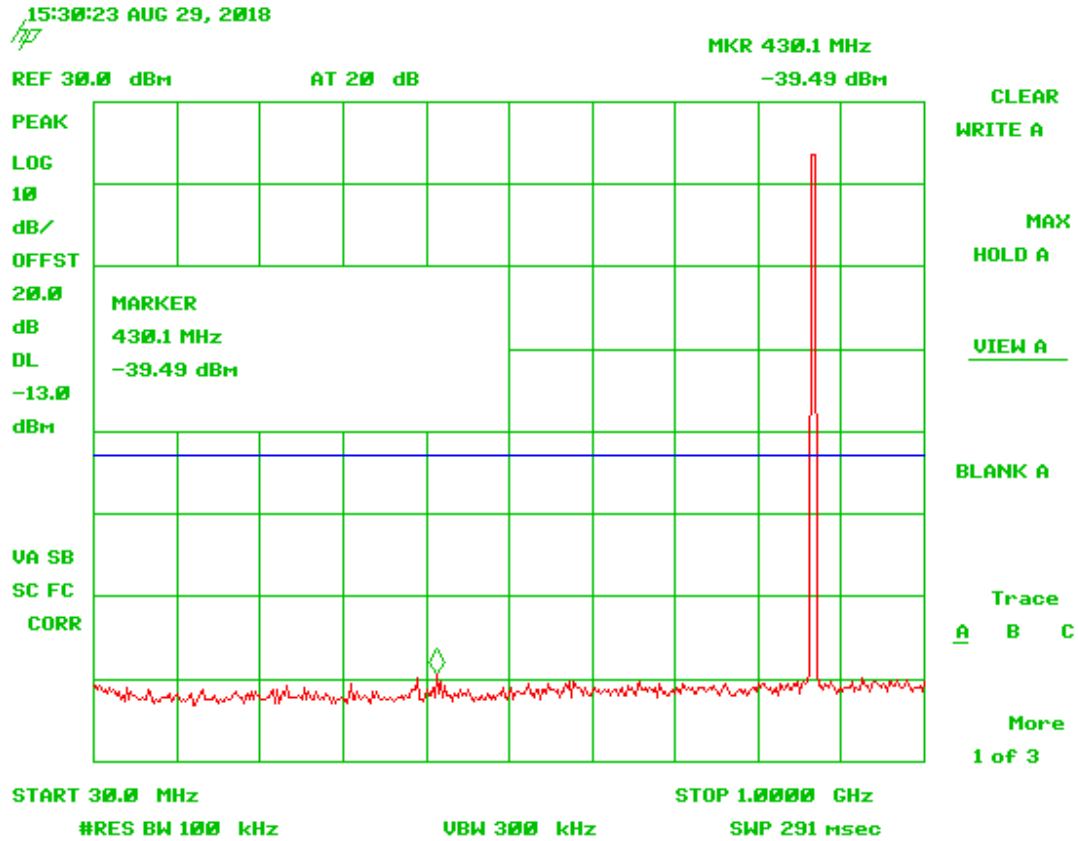


Figure 543. 869 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

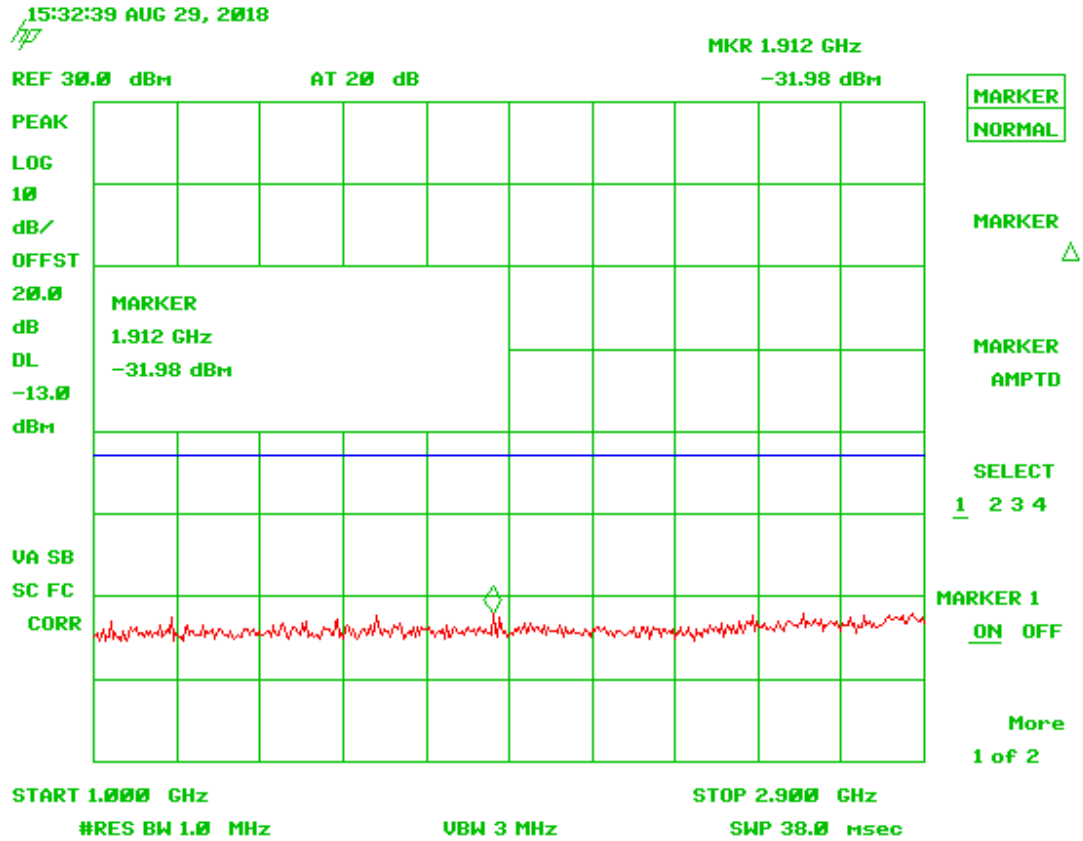
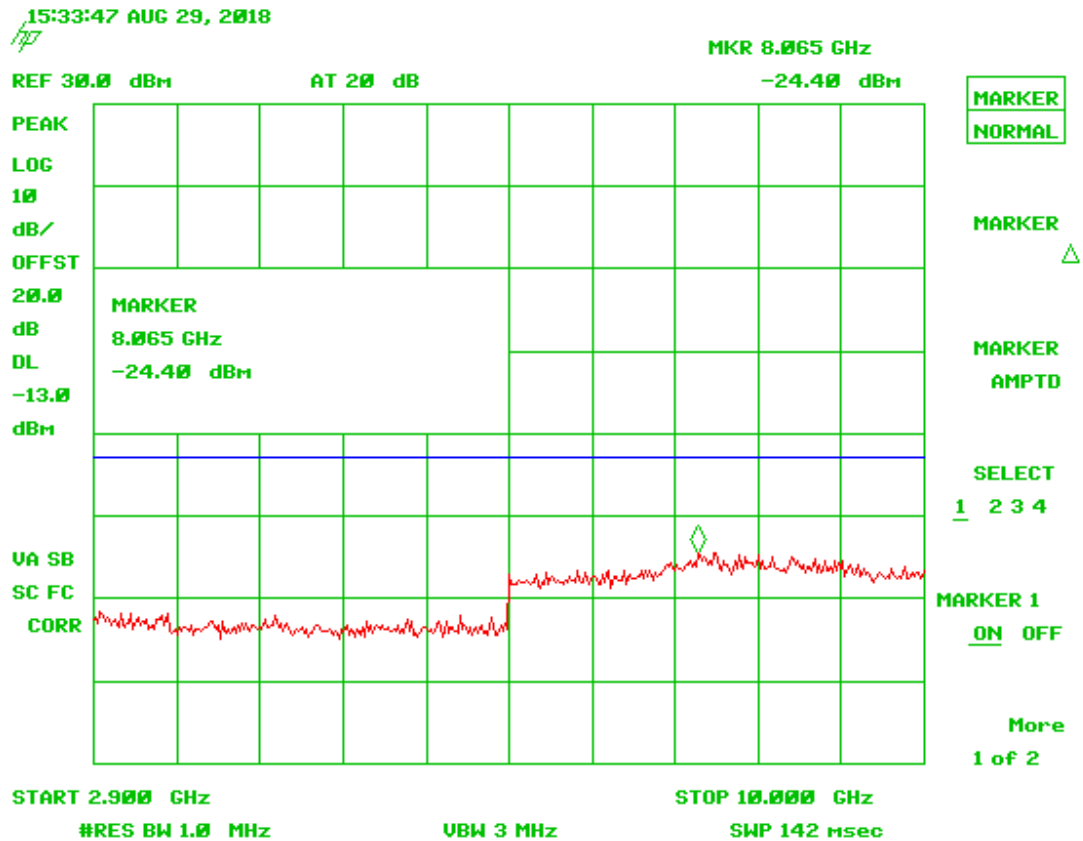


Figure 544. 869 MHz, 1 – 2.9 GHz

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**Figure 545. 869 MHz, 2.9 - 10 GHz**

## 2.19.2.5 900 MHz Conducted Spurious Emissions

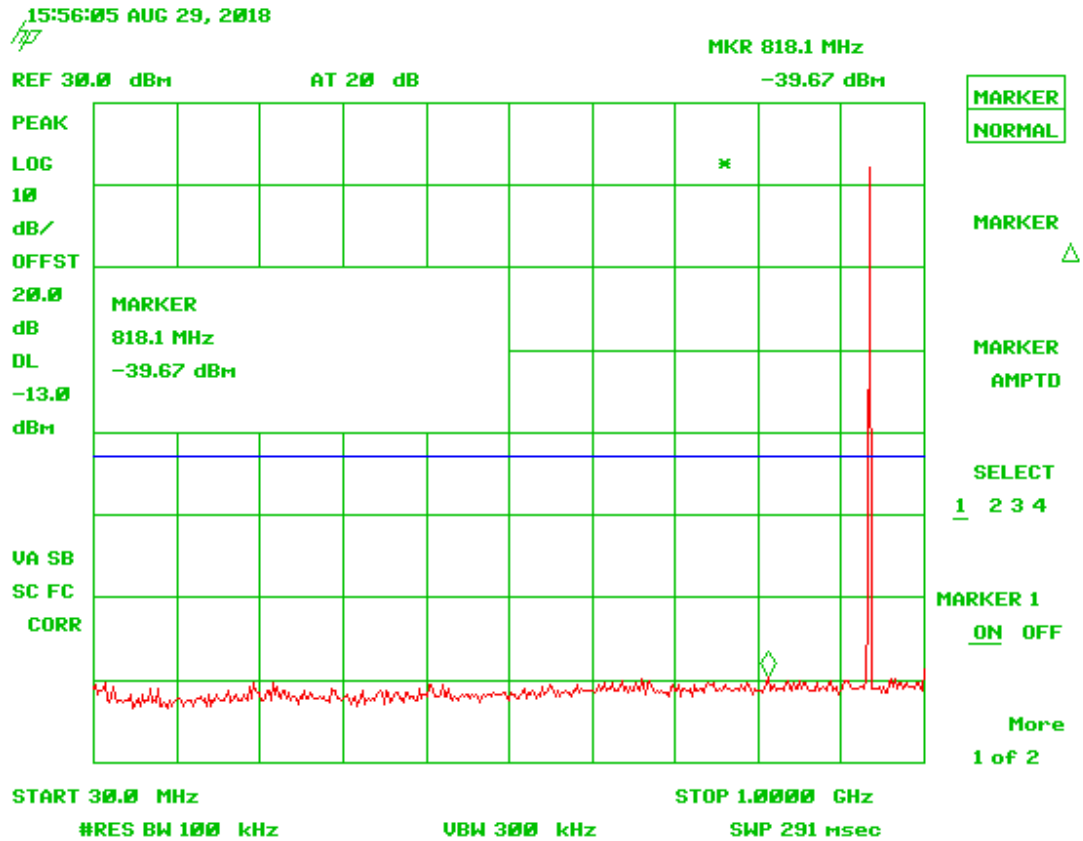


Figure 546. 935 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
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 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

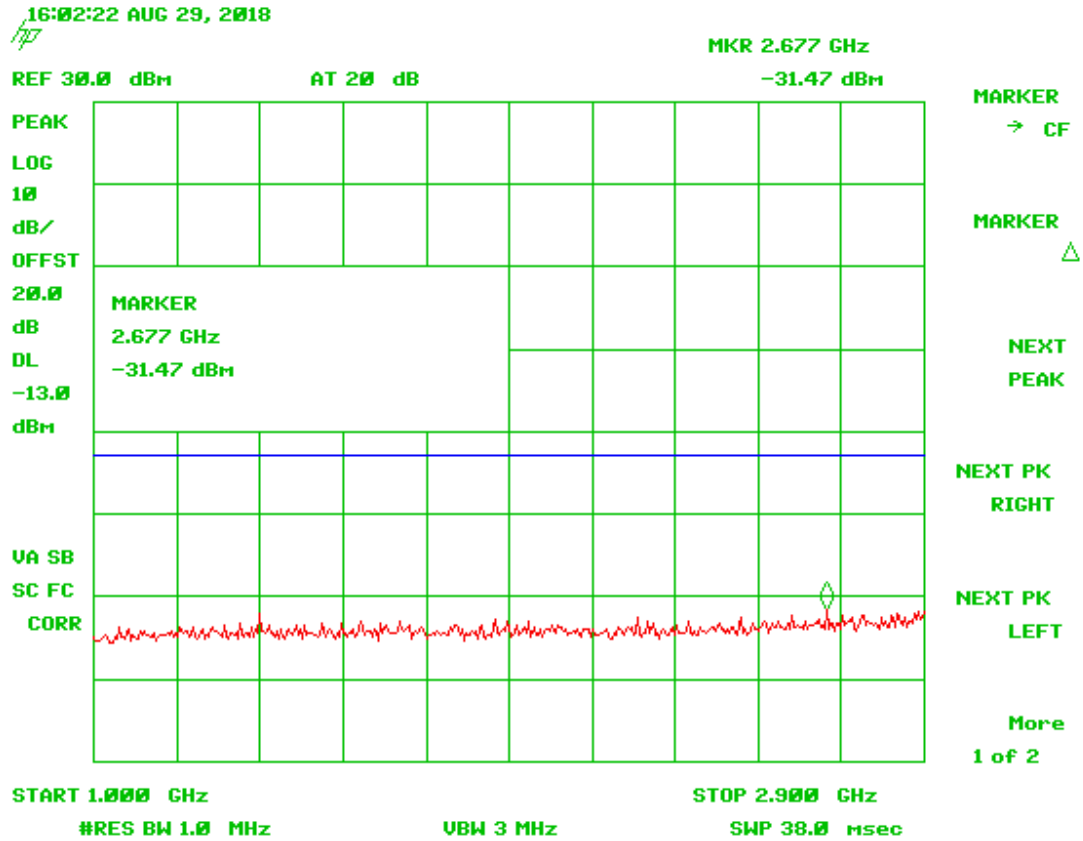


Figure 547. 935 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 90 Certification  
 2AKSM-SAFE2  
 22303-SAFE2  
 18-0181  
 September 10, 2018  
 Safe-Com Wireless  
 SAFE-1000

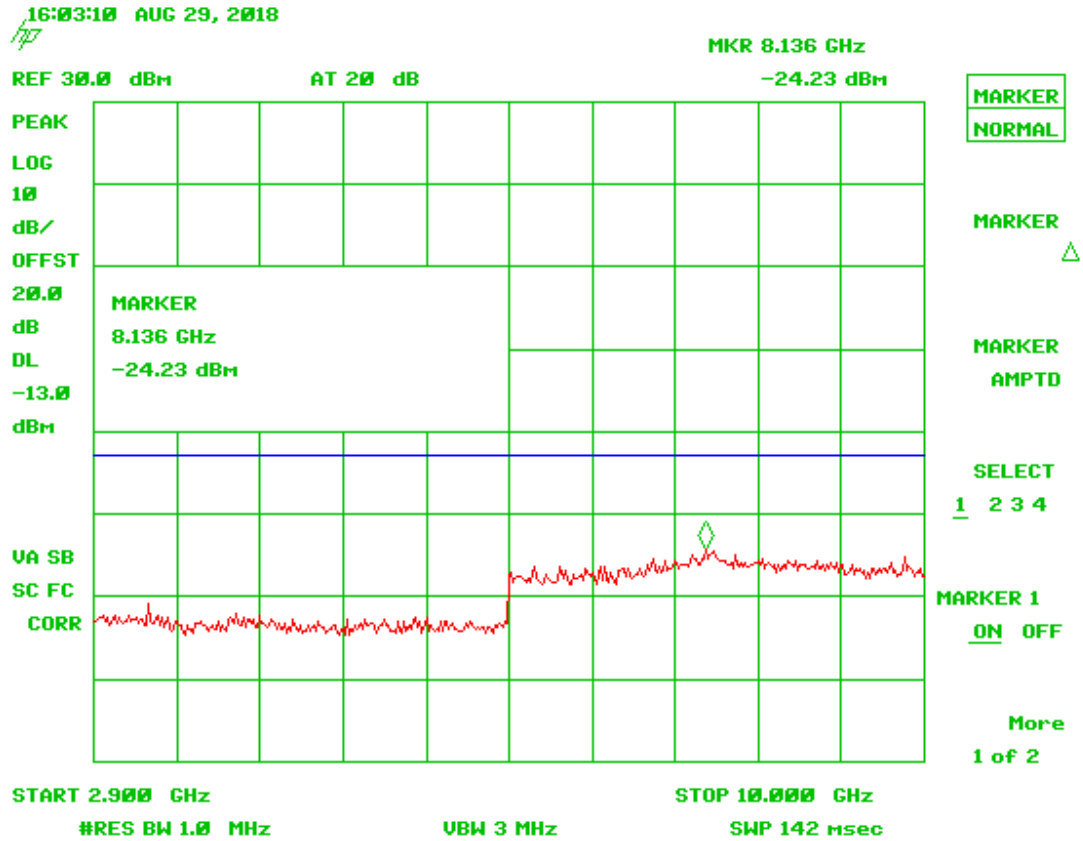


Figure 548. 935 MHz, 2.9 – 10 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
22303-SAFE2  
18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

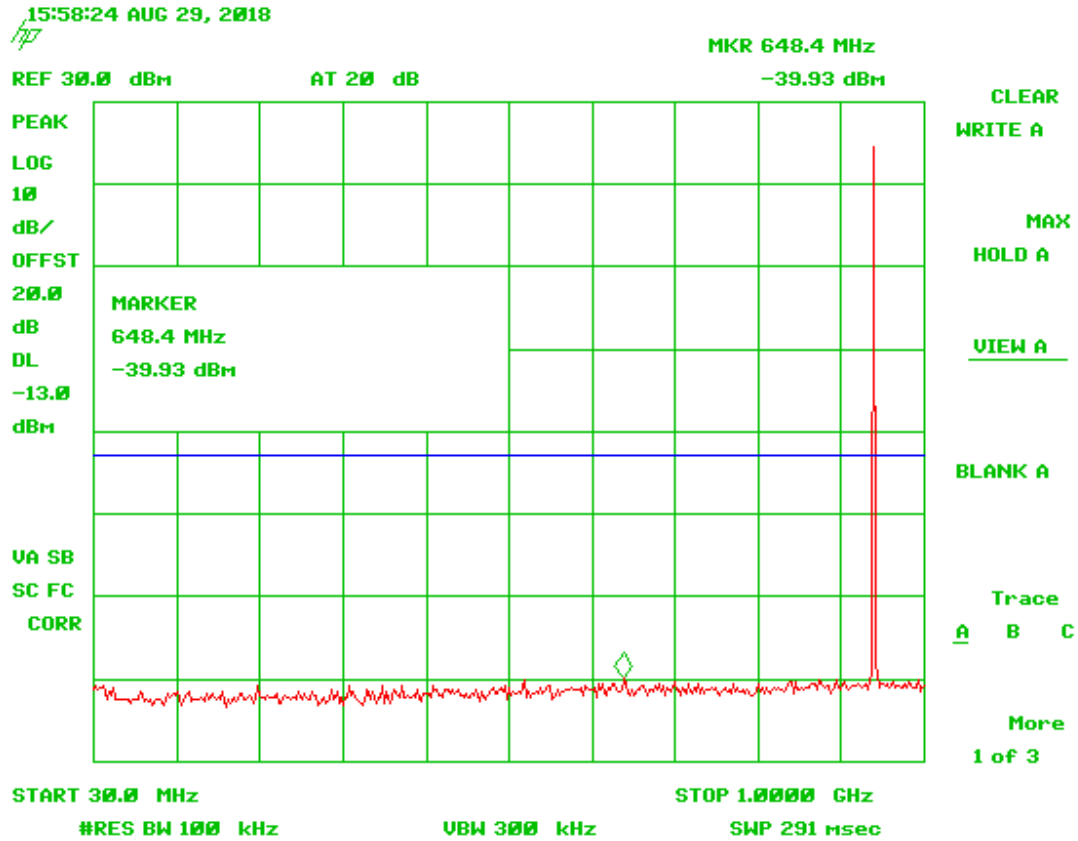


Figure 549. 941 MHz below 1 GHz

Note: All spurious emissions other than the fundamental are below -13 dBm.

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

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 Safe-Com Wireless  
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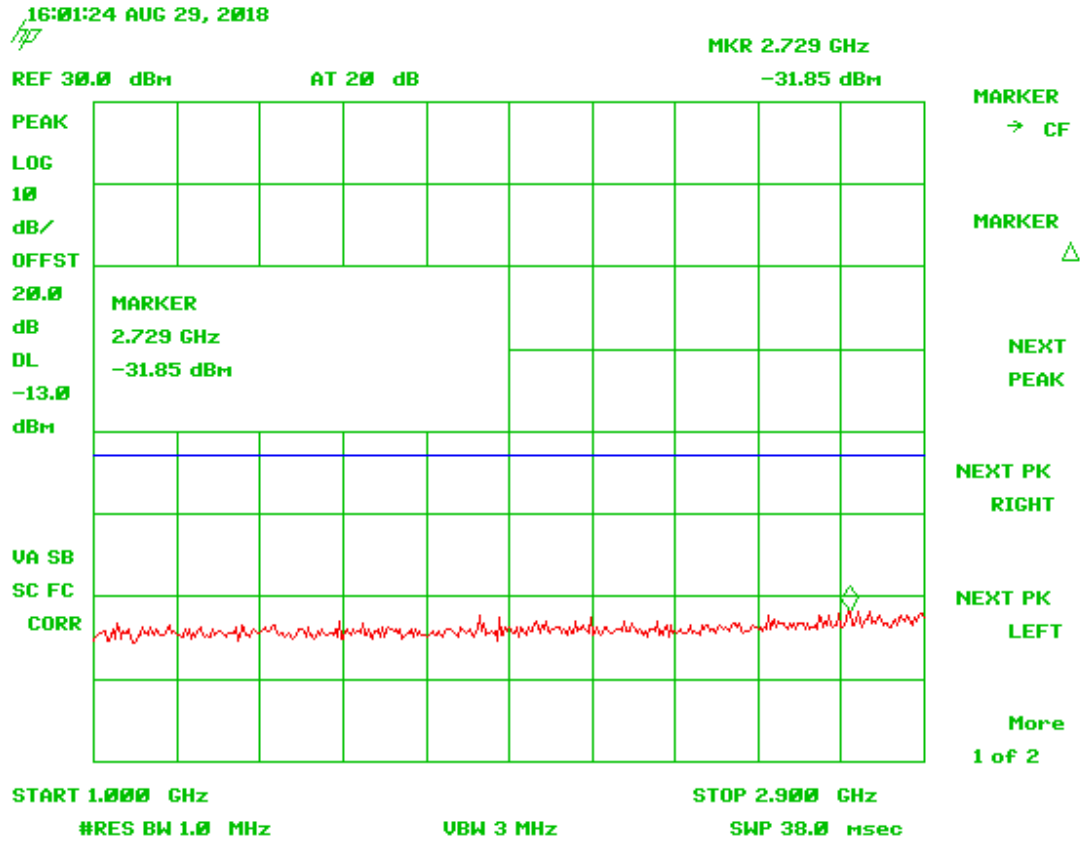


Figure 550. 941 MHz, 1 – 2.9 GHz

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

FCC Part 90 Certification  
2AKSM-SAFE2  
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18-0181  
September 10, 2018  
Safe-Com Wireless  
SAFE-1000

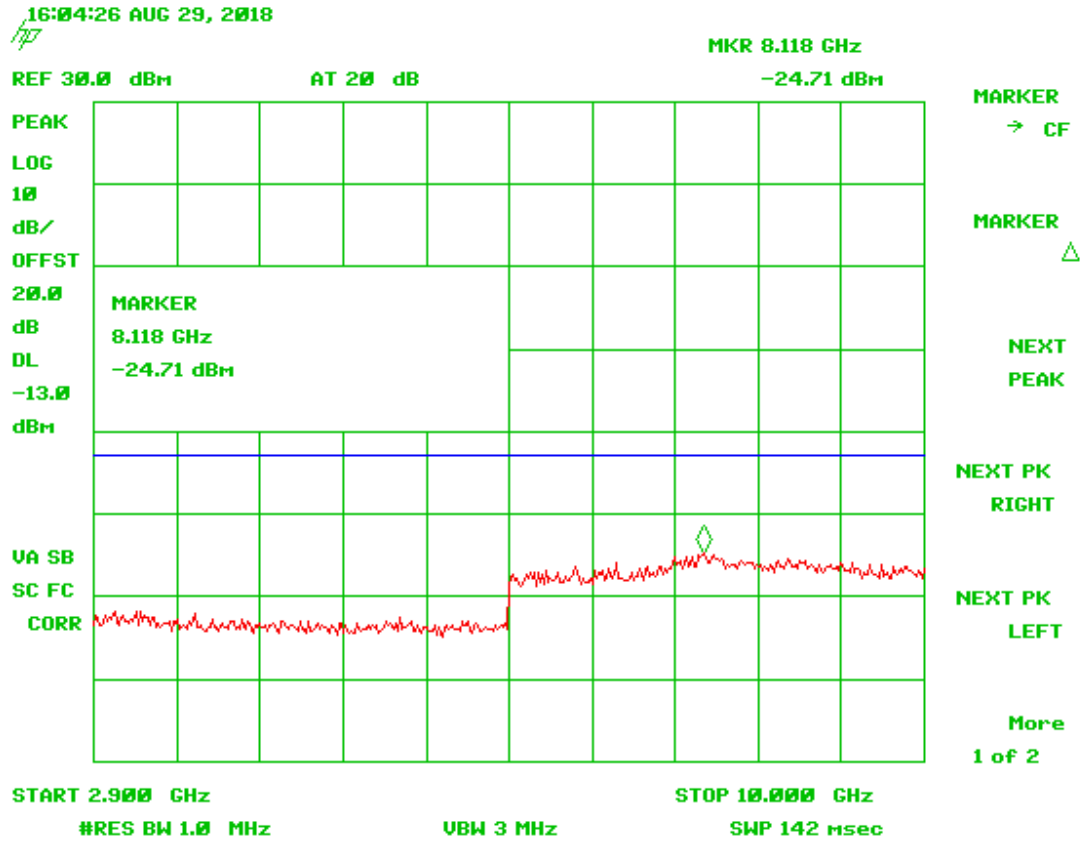


Figure 551. 941 MHz, 2.9 – 10 GHz



U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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## 2.20 Unintentional Emissions (FCC Section 15.107, 15.109 and RSS-Gen) - Downlink

### 2.20.1 Radiated Spurious Emissions

The EUT was evaluated for unintentional spurious emissions per verification procedures for the enclosure unit. Those results are presented in this section of the test report.

**Table 5. Radiated Spurious Emissions**

Frequency (MHz)	Test Data (dBuV)	AF+CA-AMP+DC (dB/m)	Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector PK/QP/AVG
52.91	43.89	-27.78	16.11	39.0	3m./VERT	22.9	PK
147.60	47.25	-23.59	23.66	43.5	3m./VERT	19.8	PK
31.74	35.24	-23.22	12.02	39.0	3m./HORZ	27.0	PK
147.44	50.33	-24.19	26.14	43.5	3m./HORZ	17.4	PK
204.00	40.47	-24.09	16.38	43.5	3m./HORZ	27.1	PK
200.80	45.76	-24.24	21.52	43.5	3m./VERT	22.0	PK
2610.00	49.84	-10.68	39.16	49.5	3.0m./VERT	10.3	PK
1048.00	49.08	-18.45	30.63	49.5	3.0m./VERT	18.9	PK
1228.00	48.90	-16.87	32.03	49.5	3.0m./HORZ	17.5	PK

Sample Calculation at 52.91 MHz:

Magnitude of Measured Frequency	43.89	dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	-27.78	dB/m
Corrected Result	16.11	dBuV/m

Test Date: August 20, 2018

Tested By

Signature:  Name: Bruce Arnold

U.S. Tech Test Report:  
 FCC ID:  
 IC:  
 Report Number:  
 Issue Date:  
 Customer:  
 Model:

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## 2.20.2 Conducted Powerline Spurious Emissions

The EUT was evaluated for conducted powerline emissions per verification procedures for the enclosure unit. Those results are presented in this section of the test report.

**Table 6. Conducted Powerline Emissions – Remote Unit**

Frequency (MHz)	Test Data (dBuV)	IL+CA-AMP (dB)	Results (dBuV)	Limits (dBuV)	Phase Neutral	Margin (dB)	Limits QP/AVG	Detector PK/QP/AVG
0.1509	46.20	0.50	46.70	66.0	Phase	19.3	AVG	PK
0.5513	39.38	0.14	39.52	60.0	Phase	20.5	AVG	PK
4.5200	32.24	0.23	32.47	60.0	Phase	27.5	AVG	PK
8.4120	27.45	0.34	27.79	60.0	Phase	32.2	AVG	PK
10.1800	28.41	0.40	28.81	60.0	Phase	31.2	AVG	PK
29.9300	29.12	0.93	30.05	60.0	Phase	29.9	AVG	PK
0.1509	44.89	0.60	45.49	66.0	Neutral	20.5	AVG	PK
0.5513	39.27	0.29	39.56	60.0	Neutral	20.4	AVG	PK
1.4800	25.34	0.30	25.64	60.0	Neutral	34.4	AVG	PK
9.9500	27.68	0.52	28.20	60.0	Neutral	31.8	AVG	PK
11.9000	28.03	0.59	28.62	60.0	Neutral	31.4	AVG	PK
30.0000	27.51	1.24	28.75	60.0	Neutral	31.3	AVG	PK

SAMPLE CALCULATION at 0.1509 MHz:

Magnitude of Measured Frequency	46.20	dBuV
+ Cable Loss+ LISN Loss	0.50	dB
=Corrected Result	46.70	dBuV
Limit	66.00	dBuV
-Corrected Result	46.70	dBuV
Margin	19.30	dB

Test Date: August 21, 2018

Tested By

Signature: 

Name: Bruce Arnold

## **2.21 Measurement Uncertainty**

### **2.21.1 Radiated Spurious Emissions Measurement Uncertainty**

For a measurement distance of 3 m, the measurement uncertainty (with a 95% confidence level) for this test using a Biconical Antenna (30 MHz to 200 MHz) is  $\pm 5.39$  dB. This value includes all elements of measurement.

The measurement uncertainty (with a 95% confidence level) for this test using a Log Periodic Antenna (200 MHz to 1000 MHz) is  $\pm 5.18$  dB

The measurement uncertainty (with a 95% confidence level) for this test using a Horn Antenna is  $\pm 5.21$  dB (3 m distance).

### **2.21.2 Conducted Powerline Emissions Measurement uncertainty**

Measurement uncertainty (within a 95% confidence level) for this test is  $\pm 2.78$  dB.

U.S. Tech Test Report:  
FCC ID:  
IC:  
Report Number:  
Issue Date:  
Customer:  
Model:

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## **2.22 Conclusions**

## **2.23 Test Outcome**

Based on the test results shown above, the EUT is deemed to comply with all relevant requirements for Part 90.219 and RSS-131 Clause 6.