KHIJ-FM1 Intermodulation Study
March 29, 2011

In connection with the installation of a combiner to diplex booster KHIJ-FM1 into the antenna used by KVBE-FM1, this Intermodulation Study was performed to demonstrate the installation's compliance with 47CFR73.317 as required in the KHIJ-FM1 Construction Permit. The study was based on the expected intermod products calculated as the sum and difference of the two frequencies including up to the fifth harmonics of these frequencies. The harmonics of each frequency through the thirtieth were also measured. A spectrum analyzer was connected through a dual narrow band notch filter set tuned at the two fundamental frequencies (96.7 MHz and 94.5 MHz) and was used to sample the forward port of the Shively Model 94608-G501 Directional Coupler located in the output of the Shively Model 2630-2A-04 Branch Combiner. The Figure 1 shows the test setup.

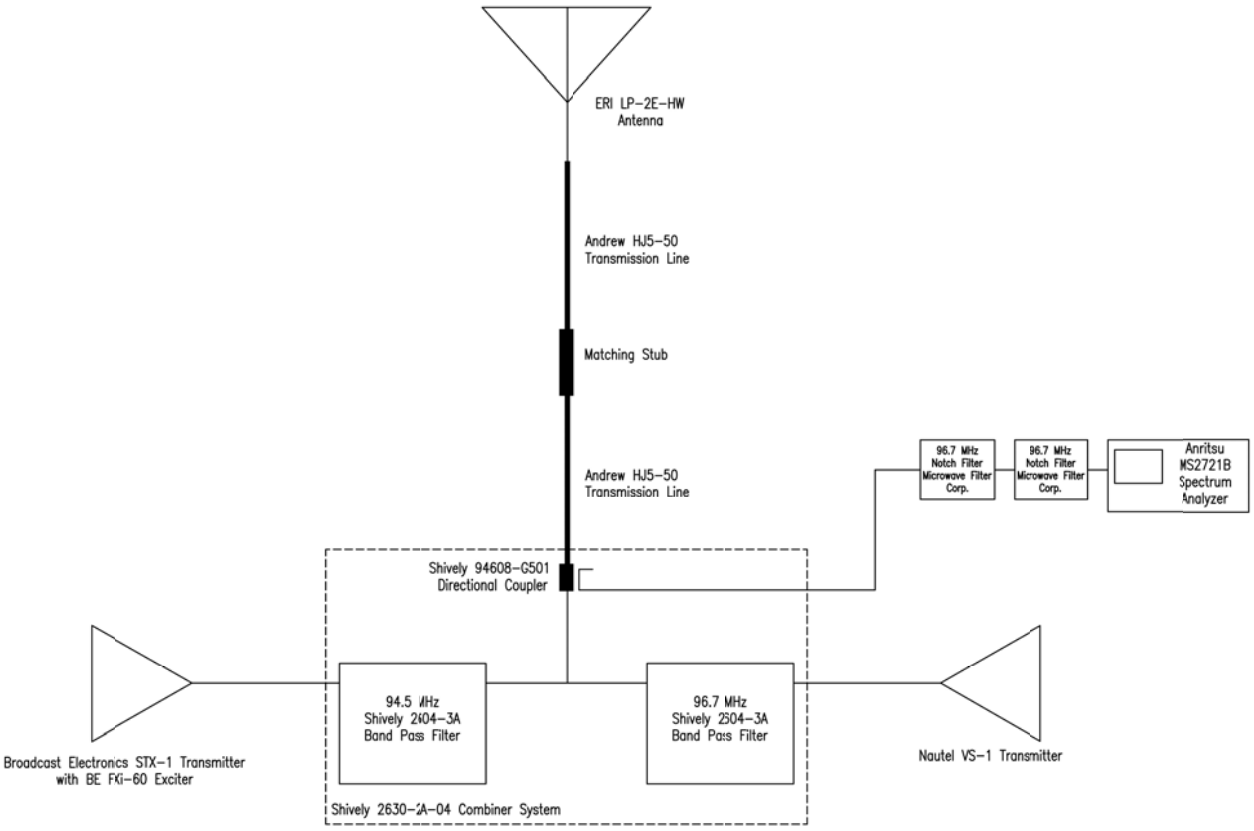


Figure 1 Equipment Test Setup

After confirming that the analyzer passed all self tests, the two transmitters were adjusted to the appropriate Transmitter Power Output to achieve the correct ERP and placed into the combiner input. Each potential product from the calculations was measured and recorded. Significant frequencies' scans were captured. Additionally, the frequency range from 50 MHz to 1 GHz was manually scanned to look for additional emissions not in the calculated table related to the two instant systems. No additional emissions were observed.

Once the intermod measurements were done, the insertion loss of the notch filter set was measured with the spectrum analyzer utilizing its tracking generator for each of frequencies of interest and recorded. The Shively directional coupler response was determined from the Shively published data for each frequency of interest and tabulated. The notch filter insertion loss and the directional coupler response were applied to the measured signal level, the signal normalized to the lesser of the 94.5/96.7 carriers and the results are tabulated in Table 1 along with the test equipment specifics. The results of these measurements demonstrate that the system is in compliance with the requirements of 47CFR73.317(d).

The test notch filter set was removed and replaced with a fixed attenuator. The 96.7 MHz transmitter was modulated to 100% in both mono and stereo with typical programming material. As with the other measurements, peak hold was allowed to accumulate peak measurements for a period until no further increases were observed. The scans of the occupied bandwidth tests are included in this report and demonstrate compliance with 47CFR73.317(b) and (c).

Conclusions and Certification

The detailed measurements on the combined transmitter system of KHIJ and KVBE were performed by the undersigned on March 29, 2011 between 4:00 and 9:00 PM. Based on these measurements, the installed system is operating at approved ERP on both stations and is in compliance with the requirements of 47CFR73.317.

I certify that the information contained herein represent a true and accurate statement of the operations of the combined antenna system.

Steve Campbell, PE (Nevada-EE)
Chief Operator and Engineer
LKCM RG Licenses, LLC

LKCM RG Licenses LLC
Measurements by
Steve Campbell

KHIJ-FM1 Intermod Study
96.7 and 94.5 MHz
Measurement Date 3/29/2011

Table 1

Index			Freq. 1				Freq. 2		Possible IM	Measured Note 1	Notch Filters Response Note 2	Relative Coupler Response Note 3	Corrected Measurement	Measurement in Analyzer Noise Floor	Below Carrier-KHIJ	Measurement Trace Number	Notes
1	1	x	94.5 MHz					=	94.5 MHz	-7.2 dBm	-23.8 dB	-0.2 dB	16.8 dBm	N	0.5 dB	im2_khij_#2	
2	1	x	96.7 MHz					=	96.7 MHz	-4.6 dBm	-21.0 dB	0.0 dB	16.4 dBm	N	0.0 dB	im2_khij	
3	3	x	94.5 MHz	-	2	x	96.7 MHz	=	90.1 MHz	-103.0 dBm	-0.6 dB	-0.6 dB	-101.8 dBm	N	-118 dB		Notes
4	2	x	94.5 MHz	-	1	x	96.7 MHz	=	92.3 MHz	-75.4 dBm	-1.1 dB	-0.4 dB	-73.9 dBm	N	-90 dB	im2_khij_#3	
5	2	x	96.7 MHz	-	1	x	94.5 MHz	=	98.9 MHz	-78.4 dBm	-1.5 dB	0.5 dB	-77.4 dBm	N	-94 dB	im2_khij_#4	0 ref
6	3	x	96.7 MHz	-	2	x	94.5 MHz	=	101.1 MHz	-95.0 dBm	-1.0 dB	0.4 dB	-94.4 dBm	N	-111 dB		0 ref
7	2	x	94.5 MHz	=				=	189. MHz	-83.6 dBm	-0.5 dB	5.6 dB	-88.7 dBm	N	-105 dB	im2-khij-#9	KVBE Second?
8	1	x	94.5 MHz	+	1	x	96.7 MHz	=	191.2 MHz	-72.1 dBm	-0.5 dB	5.7 dB	-77.3 dBm	N	-94 dB	im2_khij_#10	2 order im
9	2	x	96.7 MHz	=				=	193.4 MHz	-74.5 dBm	-0.6 dB	5.9 dB	-79.8 dBm	N	-96 dB	im2_khij_#11	
10	5	x	96.7 MHz	-	3	x	94.5 MHz	=	200. MHz	-98.3 dBm	-0.5 dB	6.3 dB	-104.0 dBm	N	-120 dB		No change Sans 96.7
11	3	x	94.5 MHz	=				=	283.5 MHz	-90.3 dBm	-0.7 dB	8.7 dB	-98.2 dBm	N	-115 dB	im2_khij_#13	
12	1	x	96.7 MHz	+	2	x	94.5 MHz	=	285.7 MHz	-90.3 dBm	-0.7 dB	8.7 dB	-98.3 dBm	N	-115 dB	im2_khij_#14	
13	1	x	94.5 MHz	+	2	x	96.7 MHz	=	287.9 MHz	-85.2 dBm	-0.7 dB	8.8 dB	-93.3 dBm	N	-110 dB	im2_khij_#15	
14	3	x	96.7 MHz	=				=	290.1 MHz	-86.2 dBm	-0.7 dB	8.8 dB	-94.3 dBm	N	-111 dB	im2_khij_#16	
15	13	x	96.7 MHz					=	1257.1 MHz	-98.3 dBm	-12.1 dB	19.0 dB	-105.2 dBm	N	-122 dB		is KHIJ
16	15	x	96.7 MHz					=	1450.5 MHz	-84.6 dBm	-2.4 dB	19.9 dB	-102.0 dBm	N	-118 dB		
17	17	x	96.7 MHz					=	1643.9 MHz	-82.2 dBm	-2.8 dB	20.6 dB	-100.0 dBm	N	-116 dB		is KHIJ
18	18	x	96.7 MHz					=	1740.6 MHz	-93.7 dBm	-5.7 dB	20.7 dB	-108.6 dBm	N	-125 dB		Is KHIJ
19	19	x	96.7 MHz					=	1837.3 MHz	-83.5 dBm	-2.4 dB	20.7 dB	-101.8 dBm	N	-118 dB		
20	20	x	94.5 MHz					=	1890. MHz	-69.6 dBm	-2.2 dB	20.8 dB	-88.2 dBm	N	-105 dB		KVBE
21	20	x	96.7 MHz					=	1934. MHz	-98.6 dBm	-2.4 dB	20.8 dB	-117.0 dBm	N	-133 dB		Not KHIJ
22	24	x	96.7 MHz					=	2320.8 MHz	-91.2 dBm	-7.2 dB	21.1 dB	-105.1 dBm	N	-121 dB		Is KHIJ
23	25	x	96.7 MHz					=	2417.5 MHz	-96.5 dBm	-2.2 dB	21.1 dB	-115.5 dBm	N	-132 dB		
24	26	x	94.5 MHz					=	2457. MHz	-92.0 dBm	-2.4 dB	21.2 dB	-110.8 dBm	N	-127 dB		Not KVBE
25	26	x	96.7 MHz					=	2514.2 MHz	-92.2 dBm	-6.0 dB	21.2 dB	-107.4 dBm	N	-124 dB		Not KHIJ
26	28	x	94.5 MHz					=	2646. MHz	-94.7 dBm	-3.2 dB	21.3 dB	-112.8 dBm	N	-129 dB		Probably not KVBE-non characteristic
27	28	x	96.7 MHz					=	2707.6 MHz	-92.7 dBm	-2.4 dB	21.3 dB	-111.6 dBm	N	-128 dB		Not KHIJ
28	29	x	94.5 MHz					=	2740.5 MHz	-90.3 dBm	-2.7 dB	21.4 dB	-109.0 dBm	N	-125 dB		Not KVBE
The following measurements were below the inherent noise floor of the test setup																	
29	4	x	96.7 MHz	-	3	x	94.5 MHz	=	103.3 MHz	-100.0 dBm	-0.9 dB	0.6 dB	-99.7 dBm	Y	>-116 dB		
30	5	x	96.7 MHz	-	4	x	94.5 MHz	=	105.5 MHz	-102.0 dBm	-0.8 dB	0.8 dB	-101.9 dBm	Y	>-118 dB		
31	5	x	94.5 MHz	-	3	x	96.7 MHz	=	182.4 MHz	-104.6 dBm	-0.5 dB	5.2 dB	-109.3 dBm	Y	>-126 dB		
32	4	x	94.5 MHz	-	2	x	96.7 MHz	=	184.6 MHz	-104.8 dBm	-0.6 dB	5.4 dB	-109.6 dBm	Y	>-126 dB		
33	3	x	94.5 MHz	-	1	x	96.7 MHz	=	186.8 MHz	-103.3 dBm	-0.6 dB	5.5 dB	-108.2 dBm	Y	>-125 dB		
34	3	x	96.7 MHz	-	1	x	94.5 MHz	=	195.6 MHz	-102.9 dBm	-0.6 dB	6.0 dB	-108.3 dBm	Y	>-125 dB		
35	4	x	96.7 MHz	-	2	x	94.5 MHz	=	197.8 MHz	-104.4 dBm	-0.6 dB	6.1 dB	-109.9 dBm	Y	>-126 dB		
36	5	x	94.5 MHz	-	2	x	96.7 MHz	=	279.1 MHz	-103.5 dBm	-0.8 dB	8.5 dB	-111.3 dBm	Y	>-128 dB		
37	4	x	94.5 MHz	-	1	x	96.7 MHz	=	281.3 MHz	-102.3 dBm	-0.7 dB	8.6 dB	-110.2 dBm	Y	>-127 dB		
38	4	x	96.7 MHz	-	1	x	94.5 MHz	=	292.3 MHz	-100.7 dBm	-0.7 dB	8.9 dB	-108.9 dBm	Y	>-125 dB	IM2_KHIJ_#17	
39	5	x	96.7 MHz	-	2	x	94.5 MHz	=	294.5 MHz	-103.8 dBm	-0.8 dB	9.0 dB	-112.0 dBm	Y	>-128 dB		
40	5	x	94.5 MHz	-	1	x	96.7 MHz	=	375.8 MHz	-103.6 dBm	-1.0 dB	11.3 dB	-113.9 dBm	Y	>-130 dB		
41	4	x	94.5 MHz	=				=	378. MHz	-104.7 dBm	-1.0 dB	11.4 dB	-115.0 dBm	Y	>-131 dB		
42	1	x	96.7 MHz	+	3	x	94.5 MHz	=	380.2 MHz	-104.3 dBm	-1.0 dB	11.4 dB	-114.7 dBm	Y	>-131 dB		
43	2	x	94.5 MHz	+	2	x	96.7 MHz	=	382.4 MHz	-103.5 dBm	-1.0 dB	11.5 dB	-114.0 dBm	Y	>-130 dB		
44	1	x	94.5 MHz	+	3	x	96.7 MHz	=	384.6 MHz	-103.6 dBm	-1.0 dB	11.6 dB	-114.2 dBm	Y	>-131 dB		

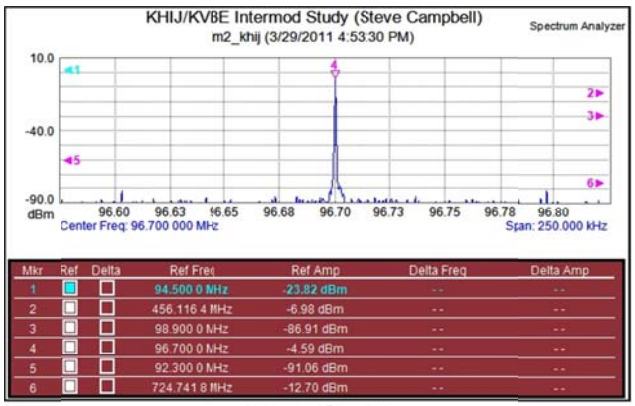
LKCM RG Licenses LLC
Measurements by
Steve Campbell

KHIJ-FM1 Intermod Study
96.7 and 94.5 MHz
Measurement Date 3/29/2011

Table 1

Index			Freq. 1				Freq. 2		Possible IM	Measured Note 1	Notch Filters Response Note 2	Relative Coupler Response Note 3	Corrected Measurement	Measurement in Analyzer Noise Floor	Below Carrier-KHIJ	Measurement Trace Number	Notes
45	4	x	96.7 MHz	=				=	386.8 MHz	-103.7 dBm	-1.0 dB	11.6 dB	-114.3 dBm	Y	>-131 dB		
46	5	x	96.7 MHz	-	1	x	94.5 MHz	=	389. MHz	-102.7 dBm	-1.0 dB	11.7 dB	-113.4 dBm	Y	>-130 dB		
47	5	x	94.5 MHz	=				=	472.5 MHz	-103.1 dBm	-1.0 dB	12.9 dB	-115.0 dBm	Y	>-131 dB		
48	1	x	96.7 MHz	+	4	x	94.5 MHz	=	474.7 MHz	-104.0 dBm	-0.9 dB	12.9 dB	-116.0 dBm	Y	>-132 dB		
49	2	x	96.7 MHz	+	3	x	94.5 MHz	=	476.9 MHz	-103.6 dBm	-0.9 dB	13.0 dB	-115.6 dBm	Y	>-132 dB		
50	2	x	94.5 MHz	+	3	x	96.7 MHz	=	479.1 MHz	-104.0 dBm	-0.5 dB	13.0 dB	-116.5 dBm	Y	>-133 dB		
51	1	x	94.5 MHz	+	4	x	96.7 MHz	=	481.3 MHz	-102.7 dBm	-0.4 dB	13.0 dB	-115.3 dBm	Y	>-132 dB		
52	5	x	96.7 MHz	=				=	483.5 MHz	-102.8 dBm	-0.9 dB	13.0 dB	-114.9 dBm	Y	>-131 dB		
53	6	x	94.5 MHz					=	567. MHz	-103.0 dBm	-1.1 dB	14.1 dB	-116.0 dBm	Y	>-132 dB		
54	1	x	96.7 MHz	+	5	x	94.5 MHz	=	569.2 MHz	-102.9 dBm	-1.1 dB	14.1 dB	-115.9 dBm	Y	>-132 dB		
55	2	x	96.7 MHz	+	4	x	94.5 MHz	=	571.4 MHz	-103.1 dBm	-1.1 dB	14.1 dB	-116.1 dBm	Y	>-132 dB		
56	3	x	94.5 MHz	+	3	x	96.7 MHz	=	573.6 MHz	-103.3 dBm	-1.1 dB	14.2 dB	-116.3 dBm	Y	>-133 dB		
57	2	x	94.5 MHz	+	4	x	96.7 MHz	=	575.8 MHz	-103.8 dBm	-0.3 dB	14.2 dB	-117.7 dBm	Y	>-134 dB		
58	1	x	94.5 MHz	+	5	x	96.7 MHz	=	578. MHz	-102.6 dBm	-1.2 dB	14.2 dB	-115.6 dBm	Y	>-132 dB		
59	6	x	96.7 MHz					=	580.2 MHz	-103.7 dBm	-1.2 dB	14.2 dB	-116.7 dBm	Y	>-133 dB		
60	7	x	94.5 MHz					=	661.5 MHz	-104.0 dBm	-1.6 dB	15.2 dB	-117.7 dBm	Y	>-134 dB		
61	2	x	96.7 MHz	+	5	x	94.5 MHz	=	665.9 MHz	-103.0 dBm	-1.4 dB	15.3 dB	-116.9 dBm	Y	>-133 dB		
62	3	x	96.7 MHz	+	4	x	94.5 MHz	=	668.1 MHz	-103.9 dBm	-1.4 dB	15.3 dB	-117.8 dBm	Y	>-134 dB		
63	3	x	94.5 MHz	+	4	x	96.7 MHz	=	670.3 MHz	-103.8 dBm	-1.4 dB	15.4 dB	-117.8 dBm	Y	>-134 dB		
64	2	x	94.5 MHz	+	5	x	96.7 MHz	=	672.5 MHz	-103.0 dBm	-1.3 dB	15.4 dB	-117.1 dBm	Y	>-133 dB		
65	7	x	96.7 MHz					=	676.9 MHz	-103.0 dBm	-1.2 dB	15.4 dB	-117.3 dBm	Y	>-134 dB		
66	8	x	94.5 MHz					=	756. MHz	-104.0 dBm	-1.2 dB	16.4 dB	-119.2 dBm	Y	>-136 dB		
67	3	x	96.7 MHz	+	5	x	94.5 MHz	=	762.6 MHz	-103.7 dBm	-1.4 dB	16.5 dB	-118.8 dBm	Y	>-135 dB		
68	4	x	94.5 MHz	+	4	x	96.7 MHz	=	764.8 MHz	-102.6 dBm	-1.5 dB	16.5 dB	-117.6 dBm	Y	>-134 dB		
69	3	x	94.5 MHz	+	5	x	96.7 MHz	=	767. MHz	-103.6 dBm	-1.6 dB	16.6 dB	-118.6 dBm	Y	>-135 dB		
70	8	x	96.7 MHz					=	773.6 MHz	-103.9 dBm	-1.8 dB	16.6 dB	-118.7 dBm	Y	>-135 dB		
71	9	x	94.5 MHz					=	850.5 MHz	-102.2 dBm	-2.0 dB	17.2 dB	-117.4 dBm	Y	>-134 dB		
72	4	x	96.7 MHz	+	5	x	94.5 MHz	=	859.3 MHz	-102.8 dBm	-1.8 dB	17.2 dB	-118.2 dBm	Y	>-135 dB		
73	4	x	94.5 MHz	+	5	x	96.7 MHz	=	861.5 MHz	-102.9 dBm	-1.7 dB	17.2 dB	-118.5 dBm	Y	>-135 dB		
74	9	x	96.7 MHz					=	870.3 MHz	-104.3 dBm	-1.5 dB	17.3 dB	-120.1 dBm	Y	>-136 dB		
75	10	x	94.5 MHz					=	945. MHz	-101.8 dBm	-3.0 dB	17.6 dB	-116.4 dBm	Y	>-133 dB		
76	5	x	94.5 MHz	+	5	x	96.7 MHz	=	956. MHz	-102.0 dBm	-3.7 dB	17.7 dB	-116.0 dBm	Y	>-132 dB		
77	10	x	96.7 MHz					=	967. MHz	-102.2 dBm	-6.0 dB	17.7 dB	-113.9 dBm	Y	>-130 dB		
78	11	x	94.5 MHz					=	1039.5 MHz	-102.3 dBm	-27.9 dB	18.0 dB	-92.5 dBm	Y	>-109 dB		
79	11	x	96.7 MHz					=	1063.7 MHz	-102.3 dBm	-43.9 dB	18.2 dB	-76.6 dBm	Y	>-93 dB		
80	12	x	94.5 MHz					=	1134. MHz	-102.8 dBm	-14.8 dB	18.5 dB	-106.5 dBm	Y	>-123 dB		
81	12	x	96.7 MHz					=	1160.4 MHz	-102.6 dBm	-6.1 dB	18.6 dB	-115.1 dBm	Y	>-132 dB		
82	13	x	94.5 MHz					=	1228.5 MHz	-101.5 dBm	-2.5 dB	18.9 dB	-117.9 dBm	Y	>-134 dB		
83	14	x	94.5 MHz					=	1323. MHz	-101.6 dBm	-5.2 dB	19.3 dB	-115.7 dBm	Y	>-132 dB		
84	14	x	96.7 MHz					=	1353.8 MHz	-101.8 dBm	-4.0 dB	19.5 dB	-117.3 dBm	Y	>-134 dB		
85	15	x	94.5 MHz					=	1417.5 MHz	-101.5 dBm	-3.3 dB	19.8 dB	-118.0 dBm	Y	>-134 dB		
86	16	x	96.7 MHz					=	1547.2 MHz	-103.0 dBm	-3.0 dB	20.3 dB	-120.3 dBm	Y	>-137 dB		
87	17	x	94.5 MHz					=	1606.5 MHz	-103.0 dBm	-2.4 dB	20.6 dB	-121.2 dBm	Y	>-138 dB		
88	18	x	94.5 MHz					=	1701. MHz	-103.0 dBm	-7.7 dB	20.6 dB	-116.0 dBm	Y	>-132 dB		
89	19	x	94.5 MHz					=	1795.5 MHz	-102.0 dBm	-2.1 dB	20.7 dB	-120.6 dBm	Y	>-137 dB		

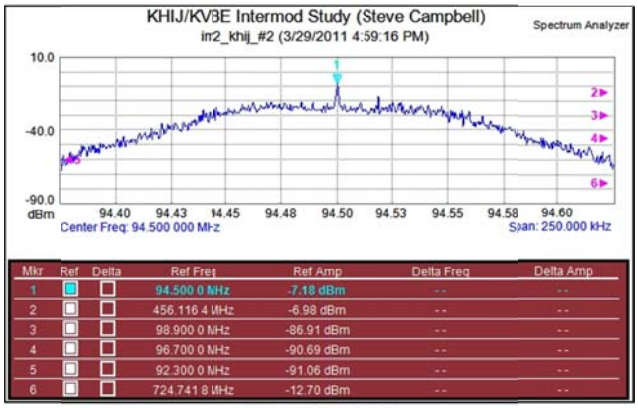
Index			Freq. 1				Freq. 2		Possible IM	Measured Note 1	Notch Filters Response Note 2	Relative Coupler Response Note 3	Corrected Measurement	Measurement in Analyzer Noise Floor	Below Carrier-KHIJ	Measurement Trace Number	Notes
90	21	x	94.5 MHz					=	1984.5 MHz	-103.0 dBm	-16.4 dB	20.8 dB	-107.4 dBm	Y	>-124 dB		
91	21	x	96.7 MHz					=	2030.7 MHz	-103.0 dBm	-5.2 dB	20.9 dB	-118.7 dBm	Y	>-135 dB		
92	22	x	94.5 MHz					=	2079. MHz	-103.0 dBm	-4.5 dB	20.9 dB	-119.4 dBm	Y	>-136 dB		
93	22	x	96.7 MHz					=	2127.4 MHz	-101.2 dBm	-2.9 dB	20.9 dB	-119.3 dBm	Y	>-136 dB		
94	23	x	94.5 MHz					=	2173.5 MHz	-103.0 dBm	-3.1 dB	21.0 dB	-120.8 dBm	Y	>-137 dB		
95	23	x	96.7 MHz					=	2224.1 MHz	-100.5 dBm	-3.4 dB	21.0 dB	-118.2 dBm	Y	>-135 dB		
96	24	x	94.5 MHz					=	2268. MHz	-103.0 dBm	-9.4 dB	21.0 dB	-114.6 dBm	Y	>-131 dB		
97	25	x	94.5 MHz					=	2362.5 MHz	-103.0 dBm	-2.7 dB	21.1 dB	-121.4 dBm	Y	>-138 dB		
98	27	x	94.5 MHz					=	2551.5 MHz	-103.0 dBm	-39.9 dB	21.2 dB	-84.3 dBm	Y	>-101 dB		
99	27	x	96.7 MHz					=	2610.9 MHz	-103.3 dBm	-3.7 dB	21.3 dB	-120.9 dBm	Y	>-137 dB		
100	29	x	96.7 MHz					=	2804.3 MHz	-103.0 dBm	-3.9 dB	21.4 dB	-120.5 dBm	Y	>-137 dB		
101	30	x	94.5 MHz					=	2835. MHz	-103.0 dBm	-8.7 dB	21.4 dB	-115.8 dBm	Y	>-132 dB		
102	30	x	96.7 MHz					=	2901. MHz	-103.0 dBm	-7.5 dB	21.5 dB	-117.0 dBm	Y	>-133 dB		
Note 1	Spectrum Analyzer-Anritsu MS2721B Serial Number-0712088 Calibration 03/22/2007 Internal Self Calibration-Pass All measurements relative Span-250 kHz, RWB-300 HZ, VBW-100Hz, Detector-Sample, Accumulate Maximum Peaks until stable reading																
Note 2	Filter-(2) Microwave Filter Company Model 6367 Serial Number-Stamped 94 and 96 (No official serial number) Tuned to 94.5 and 96.7 MHz Filter Response Traces IM2-KHIJ-#																
Note 3	Directional Coupler-Shively Labs Model 94608-G501 Serial Number 28711 Response interpolated from factory test data-12-9-2010																



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.500 0 MHz	-23.82 dBm	--	--
2	☐	☐	456.116 4 MHz	-6.98 dBm	--	--
3	☐	☐	98.900 0 MHz	-86.91 dBm	--	--
4	☐	☐	96.700 0 MHz	-4.59 dBm	--	--
5	☐	☐	92.300 0 MHz	-91.06 dBm	--	--
6	☐	☐	724.741 8 MHz	-12.70 dBm	--	--

Measurement Parameters

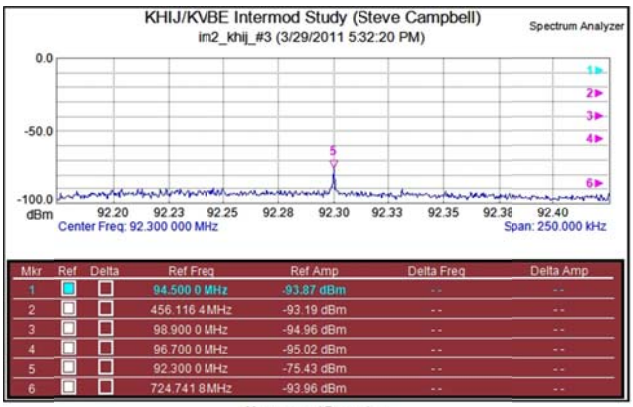
		Frequency Span	250.000 000 kHz
Trace Mode	Normal	Reference Level	10.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	30.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	96.700 000 MHz	Options	20
Start Frequency	96.575 000 MHz	Date	3/29/2011 4:53:30 PM
Stop Frequency	96.825 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.500 0 MHz	-7.18 dBm	--	--
2	☐	☐	456.116 4 MHz	-6.98 dBm	--	--
3	☐	☐	98.900 0 MHz	-86.91 dBm	--	--
4	☐	☐	96.700 0 MHz	-90.69 dBm	--	--
5	☐	☐	92.300 0 MHz	-91.06 dBm	--	--
6	☐	☐	724.741 8 MHz	-12.70 dBm	--	--

Measurement Parameters

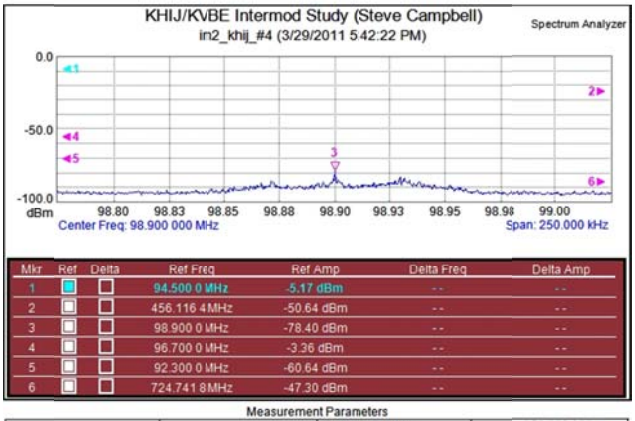
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	10.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	30.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	94.500 000 MHz	Options	20
Start Frequency	94.375 000 MHz	Date	3/29/2011 4:59:16 PM
Stop Frequency	94.625 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.500 0 MHz	-93.87 dBm	--	--
2	☐	☐	456.116 4 MHz	-93.19 dBm	--	--
3	☐	☐	98.900 0 MHz	-94.96 dBm	--	--
4	☐	☐	96.700 0 MHz	-95.02 dBm	--	--
5	☐	☐	92.300 0 MHz	-75.43 dBm	--	--
6	☐	☐	724.741 8 MHz	-93.96 dBm	--	--

Measurement Parameters

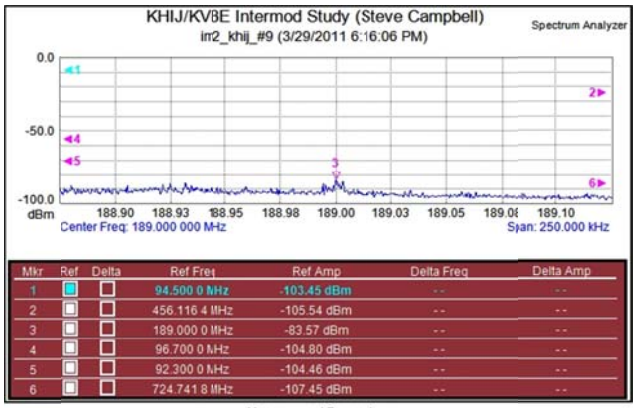
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	92.300 000 MHz	Options	20
Start Frequency	92.175 000 MHz	Date	3/29/2011 5:32:20 PM
Stop Frequency	92.425 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.500 0 MHz	-5.17 dBm	--	--
2	☐	☐	456.116 4 MHz	-50.64 dBm	--	--
3	☐	☐	98.900 0 MHz	-78.40 dBm	--	--
4	☐	☐	96.700 0 MHz	-3.36 dBm	--	--
5	☐	☐	92.300 0 MHz	-60.64 dBm	--	--
6	☐	☐	724.741 8 MHz	-47.30 dBm	--	--

Measurement Parameters

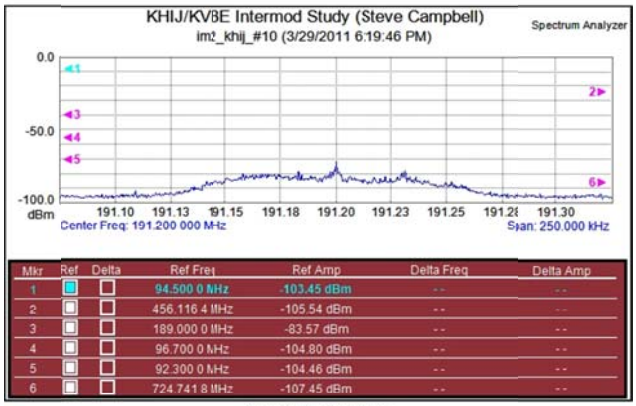
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	98.900 000 MHz	Options	20
Start Frequency	98.775 000 MHz	Date	3/29/2011 5:42:22 PM
Stop Frequency	99.025 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			94.500 0 MHz	-103.45 dBm	--	--
2			456.116 4 MHz	-105.54 dBm	--	--
3			189.000 0 MHz	-83.57 dBm	--	--
4			96.700 0 MHz	-104.80 dBm	--	--
5			92.300 0 MHz	-104.46 dBm	--	--
6			724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

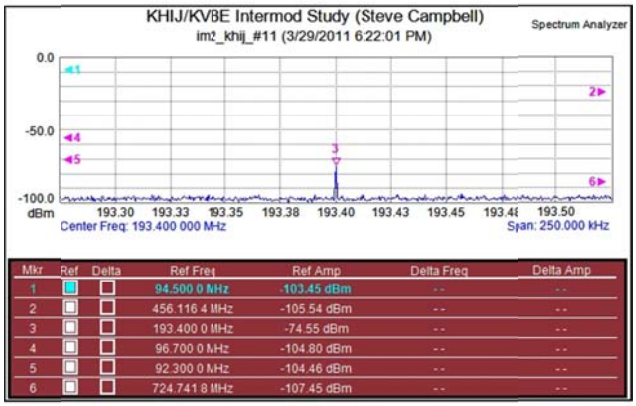
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	189.000 000 MHz	Options	20
Start Frequency	188.875 000 MHz	Date	3/29/2011 6:16:06 PM
Stop Frequency	189.125 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			94.500 0 MHz	-103.45 dBm	--	--
2			456.116 4 MHz	-105.54 dBm	--	--
3			189.000 0 MHz	-83.57 dBm	--	--
4			96.700 0 MHz	-104.80 dBm	--	--
5			92.300 0 MHz	-104.46 dBm	--	--
6			724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

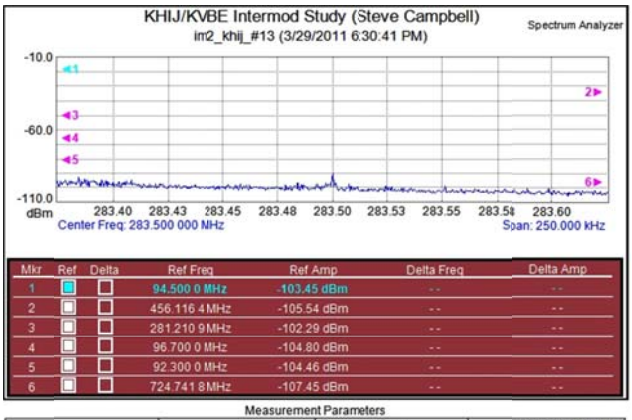
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	191.200 000 MHz	Options	20
Start Frequency	191.075 000 MHz	Date	3/29/2011 6:19:46 PM
Stop Frequency	191.325 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			94.500 0 MHz	-103.45 dBm	--	--
2			456.116 4 MHz	-105.54 dBm	--	--
3			193.400 0 MHz	-74.55 dBm	--	--
4			96.700 0 MHz	-104.80 dBm	--	--
5			92.300 0 MHz	-104.46 dBm	--	--
6			724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

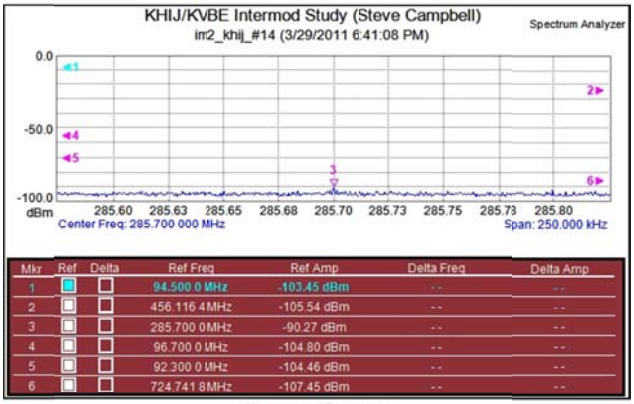
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	193.400 000 MHz	Options	20
Start Frequency	193.275 000 MHz	Date	3/29/2011 6:22:01 PM
Stop Frequency	193.525 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			94.500 0 MHz	-103.45 dBm	--	--
2			456.116 4 MHz	-105.54 dBm	--	--
3			281.210 9 MHz	-102.29 dBm	--	--
4			96.700 0 MHz	-104.80 dBm	--	--
5			92.300 0 MHz	-104.46 dBm	--	--
6			724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

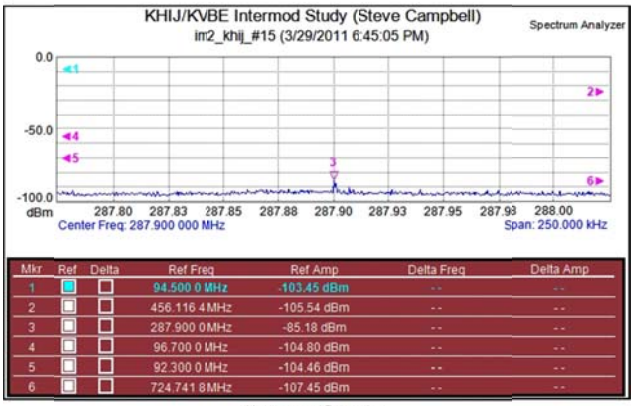
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	-10.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	10.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	283.500 000 MHz	Options	20
Start Frequency	283.375 000 MHz	Date	3/29/2011 6:30:41 PM
Stop Frequency	283.625 000 MHz	DeviceName	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			94.500 0 MHz	-103.45 dBm	--	--
2			456.116 4 MHz	-105.54 dBm	--	--
3			285.700 0 MHz	-90.27 dBm	--	--
4			96.700 0 MHz	-104.80 dBm	--	--
5			92.300 0 MHz	-104.46 dBm	--	--
6			724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

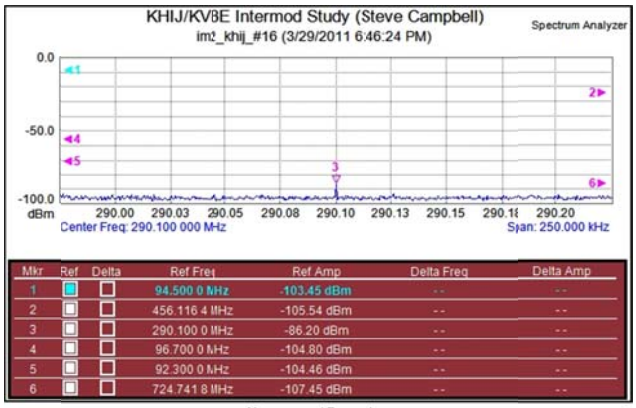
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	285.700 000 MHz	Options	20
Start Frequency	285.575 000 MHz	Date	3/29/2011 6:41:08 PM
Stop Frequency	285.825 000 MHz	DeviceName	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			94.500 0 MHz	-103.45 dBm	--	--
2			456.116 4 MHz	-105.54 dBm	--	--
3			287.900 0 MHz	-85.18 dBm	--	--
4			96.700 0 MHz	-104.80 dBm	--	--
5			92.300 0 MHz	-104.46 dBm	--	--
6			724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

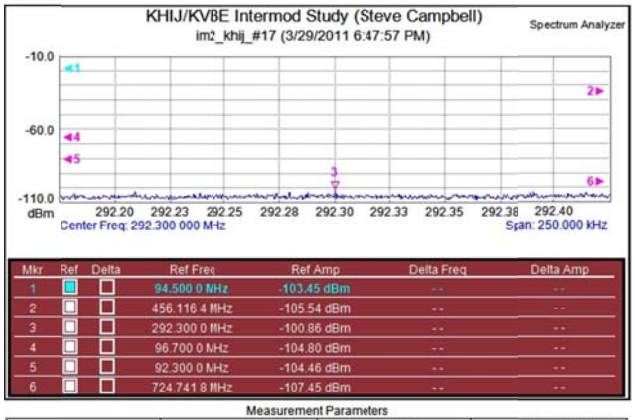
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	287.900 000 MHz	Options	20
Start Frequency	287.775 000 MHz	Date	3/29/2011 6:45:05 PM
Stop Frequency	288.025 000 MHz	DeviceName	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.500 0 MHz	-103.45 dBm	--	--
2	☐	☐	456.116 4 MHz	-105.54 dBm	--	--
3	☐	☐	290.100 0 MHz	-86.20 dBm	--	--
4	☐	☐	96.700 0 MHz	-104.80 dBm	--	--
5	☐	☐	92.300 0 MHz	-104.46 dBm	--	--
6	☐	☐	724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

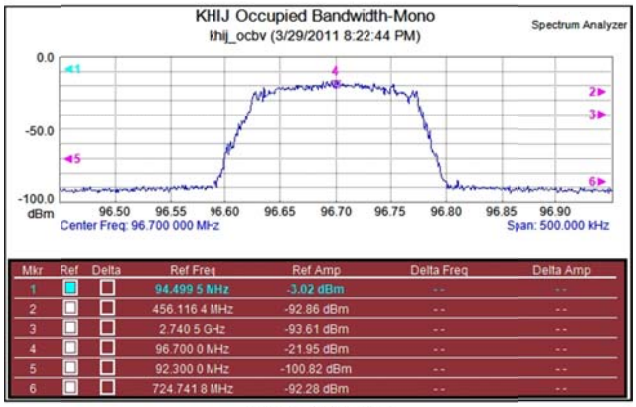
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	290.100 000 MHz	Options	20
Start Frequency	289.975 000 MHz	Date	3/29/2011 6:46:24 PM
Stop Frequency	290.225 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.500 0 MHz	-103.45 dBm	--	--
2	☐	☐	456.116 4 MHz	-105.54 dBm	--	--
3	☐	☐	292.300 0 MHz	-100.86 dBm	--	--
4	☐	☐	96.700 0 MHz	-104.80 dBm	--	--
5	☐	☐	92.300 0 MHz	-104.46 dBm	--	--
6	☐	☐	724.741 8 MHz	-107.45 dBm	--	--

Measurement Parameters

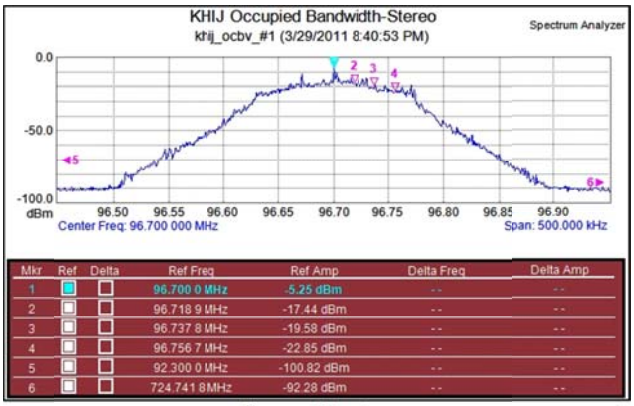
		Frequency Span	250.000 000 kHz
Trace Mode	Max Hold	Reference Level	-10.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	10.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	292.300 000 MHz	Options	20
Start Frequency	292.175 000 MHz	Date	3/29/2011 6:47:57 PM
Stop Frequency	292.425 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	94.499 5 MHz	-3.02 dBm	--	--
2	☐	☐	456.116 4 MHz	-92.86 dBm	--	--
3	☐	☐	2.740 5 GHz	-93.61 dBm	--	--
4	☐	☐	96.700 0 MHz	-21.95 dBm	--	--
5	☐	☐	92.300 0 MHz	-100.82 dBm	--	--
6	☐	☐	724.741 8 MHz	-92.28 dBm	--	--

Measurement Parameters

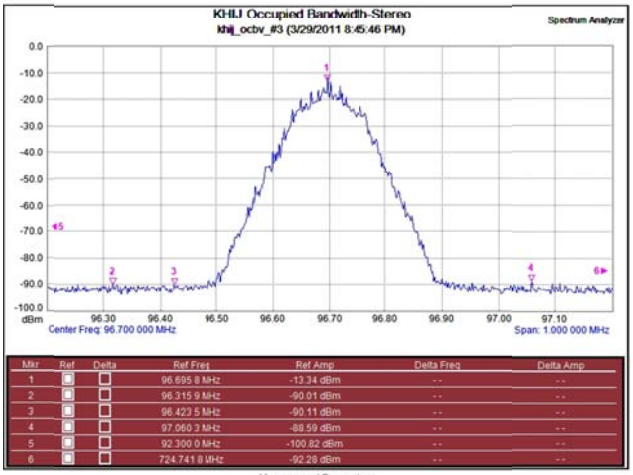
		Frequency Span	500.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	96.700 000 MHz	Options	20
Start Frequency	96.450 000 MHz	Date	3/29/2011 8:22:44 PM
Stop Frequency	96.950 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	96.700 0 MHz	-5.25 dBm	--	--
2	☐	☐	96.718 9 MHz	-17.44 dBm	--	--
3	☐	☐	96.737 8 MHz	-19.58 dBm	--	--
4	☐	☐	96.756 7 MHz	-22.85 dBm	--	--
5	☐	☐	92.300 0 MHz	-100.82 dBm	--	--
6	☐	☐	724.741 8MHz	-92.28 dBm	--	--

Measurement Parameters

		Frequency Span	500.000 000 kHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	96.700 000 MHz	Options	20
Start Frequency	96.450 000 MHz	Date	3/29/2011 8:40:53 PM
Stop Frequency	96.950 000 MHz	Device Name	Citadel_Broadcasting_Company



Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	☐	☐	96.695 8 MHz	-13.34 dBm	--	--
2	☐	☐	96.315 9 MHz	-90.01 dBm	--	--
3	☐	☐	96.423 5 MHz	-90.11 dBm	--	--
4	☐	☐	97.060 3 MHz	-88.59 dBm	--	--
5	☐	☐	92.300 0 MHz	-100.82 dBm	--	--
6	☐	☐	724.741 8 MHz	-92.28 dBm	--	--

Measurement Parameters

		Frequency Span	1.000 000 MHz
Trace Mode	Max Hold	Reference Level	0.000 dBm
Preamp	OFF	Scale	10.0 dB/div
Min Sweep Time	0.001 S	Operator Name	
Reference Level Offset	0.0 dB	Tower	
Input Attenuation	20.0 dB	Serial Number	712088
RBW	300.0 Hz	Base Ver.	V3.46
VBW	100.0 Hz	App Ver.	V4.42
Detection	Sample	Model	MS2721B
Center Frequency	96.700 000 MHz	Options	20
Start Frequency	96.200 000 MHz	Date	3/29/2011 8:45:46 PM
Stop Frequency	97.200 000 MHz	Device Name	Citadel_Broadcasting_Company