



## Caution:The C-Band Issue

Mark and Karen Johnson  
Founders of LinkUp Communications  
Panama City, FL

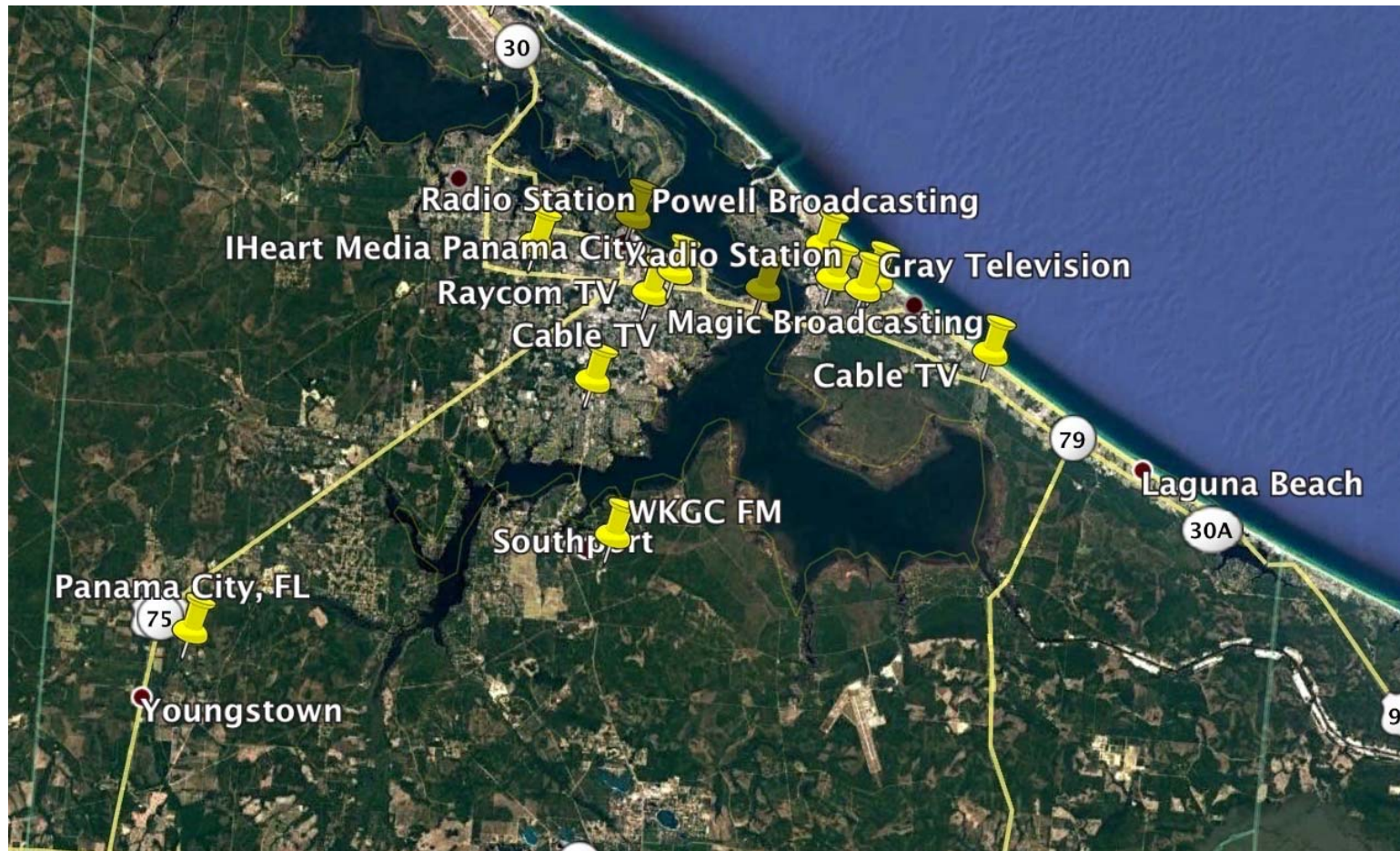
[mark@linkupcommunications.com](mailto:mark@linkupcommunications.com)

[karen@linkupcommunications.com](mailto:karen@linkupcommunications.com)

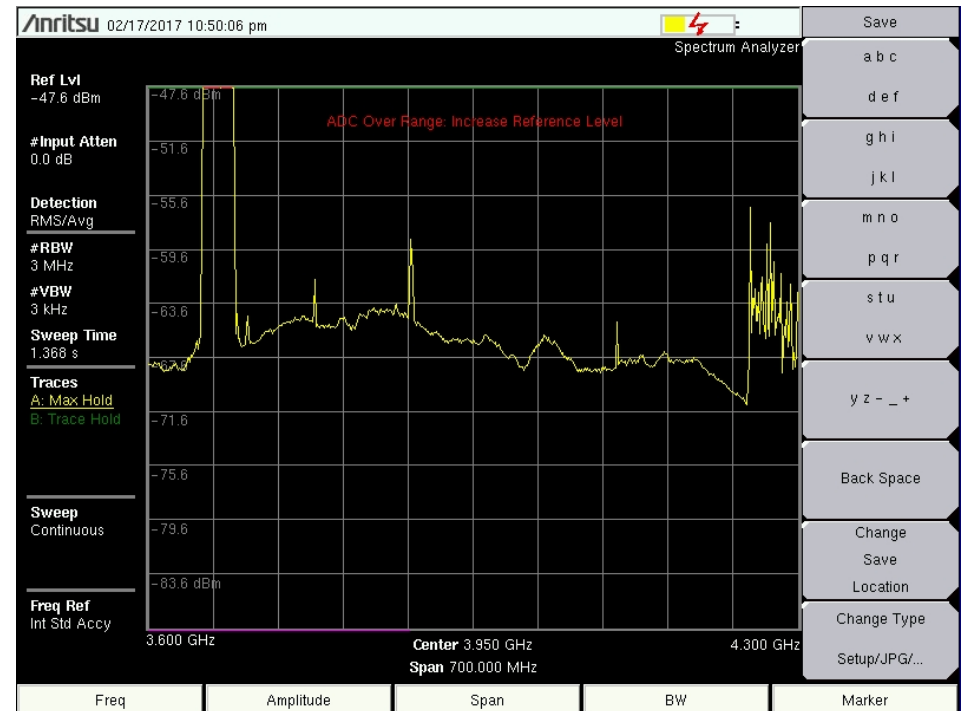
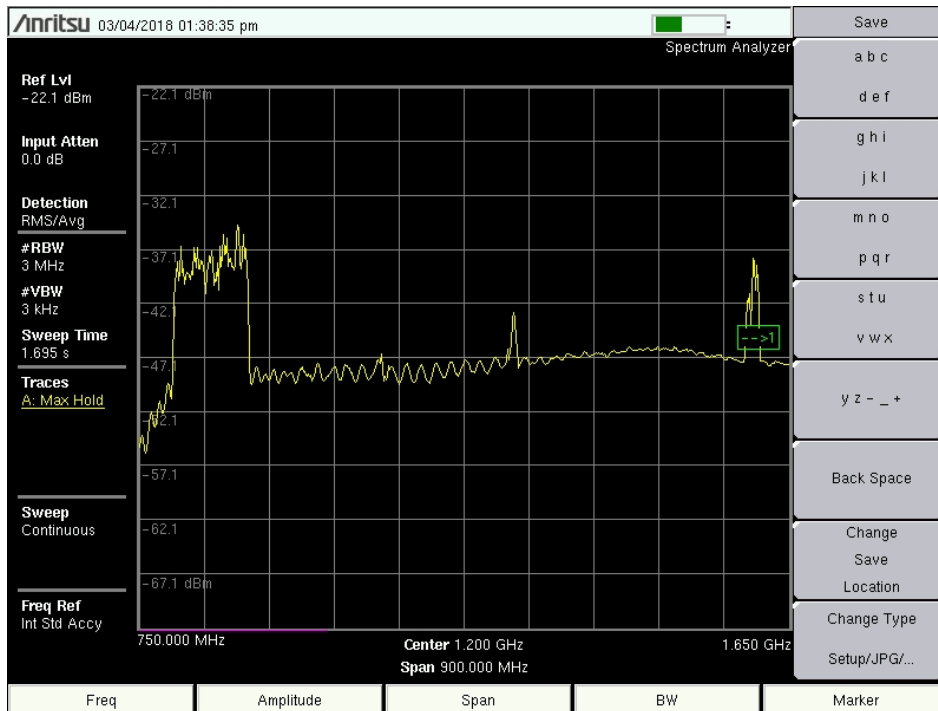
# Our customers' increased dependence on C-band

- LinkUp provided more new C-band facilities and upgrades in the last 24 months than we did in the preceding 15 years as principles of Ka You Communications.
- New C-band uplink facilities, 3 new fully redundant uplinks
- New C-band downlink facilities, 50 new downlink installations
- Update to existing C-band downlinks, 32 updated facilities

# Typical non-media centric community - Panama City, Bay County, FL



# Interference: The Reality



The impact of WiMax is an example of the impact of terrestrial signals on the reliability of broadcast content delivery. Spectrum analyzer images taken on site with an LNA directly into a Anritsu Spectrum analyzer.

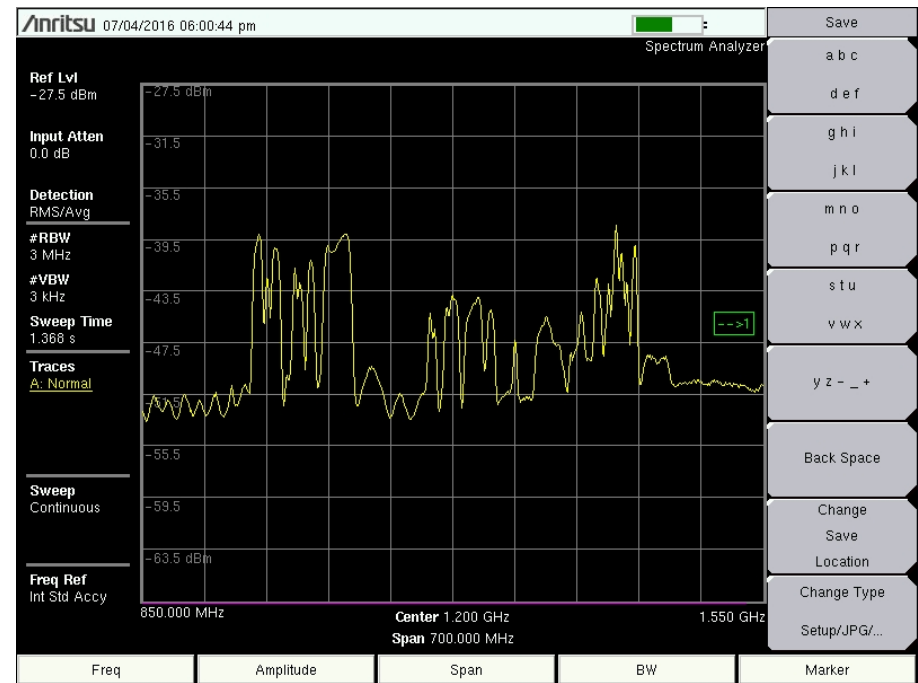
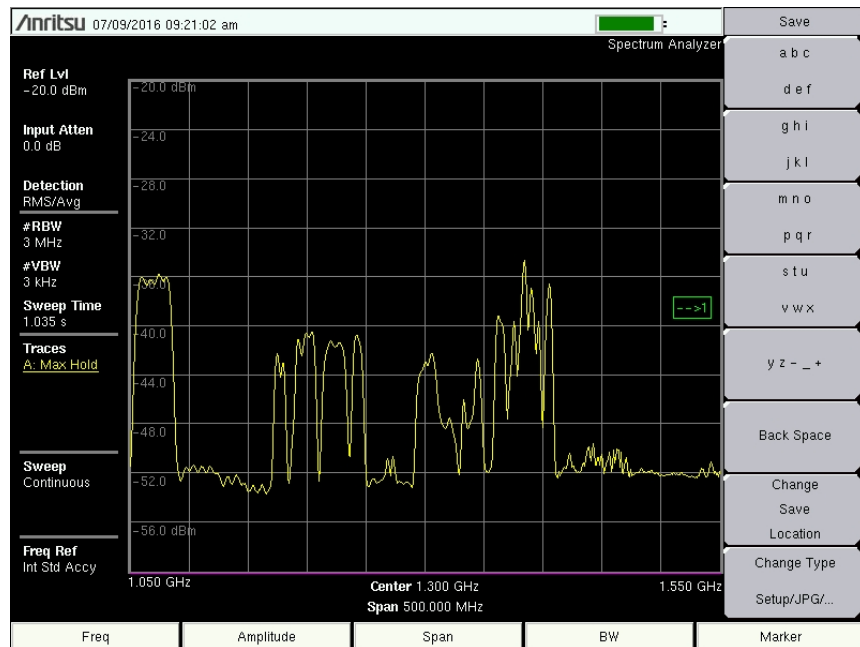
WAYW, New Johnsonville, TN and WAYD, Bowling Green, KY. Both sites are impacted by the signal produced off band by WiMax systems.

# Interference: The Reality



Example of the same image parameters without interference from WiMax. Note that in this image the average noise floor is 5 to 10 db lower across the entire spectrum from the previous images. Spectrum analyzer images taken on site with an LNA directly into a Anritsu Spectrum analyzer. WAYH, Huntsville, AL

# Interference: The Reality



Example of the similar image parameters on SES-11. Image on the left is from WFOF Covington, IN. directly from the LNB. Image on the right is from WIWC Kokomo, IN directly from LNB that includes a Microwave Filter Co. Model 13961 WE. Note that the noise floor is still elevated after the enhanced filter is in the system. This reduces the  $E_b/N_0$ , reliability and overall performance.



## OUR CORPORATE STORY

**LinkUp a small company.  
We provide services for  
broadcasters who  
serve 144 communities  
with 24/7/365 broadcasts.**

Customers	City	State			
A	Glenwood Springs	CO			
A	Anchorage	AK			
A	Hot Springs	AR			
A	La Porte	TX			
A	Lafayette	LA			
A	Los Angeles	CA			
A	Pueblo	CO			
A	Cotton Valley	LA			
A	Hot Springs	AR			
A	Clinton	MO			
A	Covington	WA			
A	Mammoth	AZ			
A	Wahiawa	HI			
A	Wahiawa	HI			
A	Aloha	OR			
A	Alexandria	LA			
A	Thibodaux	LA			
A	Central Park	WA			
A	Joplin	MO			
A	Severence/Fort Collins	CO			
A	Sulphur	LA			
A	El Dorado	KS			
A	Mart	TX			
A	Ocean Park	WA			
A	Azle	TX			
A	Hutto	TX			
A	Homer	LA			
A	Lytle	TX			
A	Sandy	OR			
A	Clinton	LA			
A	Hartford	CT			
A	Butler	AL			
A	Fort Myers	FL			
A	West Palm Beach	FL			

## OUR CORPORATE STORY

**Most of the broadcast licensees we serve are second and third-tier companies. Most turn to LinkUp specifically for the extreme attention to customer service we provide.**

Customers	City	State			
A	West Palm Beach	FL			
A	West Palm Beach	FL			
A	Lumberton	NC			
A	Sylvester	GA			
A	New Hope	AL			
A	Seymour	IN			
A	Brownsburg	IN			
A	North Myrtle Beach	SC			
A	Monticello	FL			
A	Semora	NC			
A	Georgetown	KY			
A	Chickasaw	AL			
A	Belle Meade	TN			
A	Belle Meade	TN			
A	Greenville	PA			
A	Collins	MS			
A	Bolling Springs	NC			
A	Columbia	SC			
A	Columbia	SC			
A	Miami	FL			
A	Shorter	AL			
A	Wauseon	OH			
A	Delhi Hills	OH			
A	Alcoa	TN			
A	Navarre	FL			
A	Greencastle	IN			
A	Wingate	NC			
A	Lexington	NC			
A	Hubbard	OH			
A	Maynardville	TN			
A	Cape Charles	VA			
B	Eufaula.	AL			
B	Dothan	AL			
B	Montgomery	AL			
B	Andalusia	AL			
C	Batesburg	SC			
C	Chadbourn	NC			
C	Alley	Ga			
C	Blackville	Sc			



## OUR CORPORATE STORY

**LinkUp specializes in serving  
broadcast licensees that are  
faith-based non-profits.  
Often these community-centric  
networks service very small,  
rural communities where  
they might be the only  
local source of information.**

Customers	City	State			
C	Sparta	Ga			
C	Soperton	Ga			
C	Newport	Nc			
C	North Augusta	Sc			
C	Alapaha	Ga			
C	Effingham	Sc			
C	Jesup	Ga			
C	Elko	Ga			
C	Greensboro	Ga			
C	Jeffersonville	Ga			
C	Valley Head	Al			
C	York	Al			
C	Gibson	Ga			
C	Donalsonville	Ga			
C	Leesburg	Ga			
D	Indianapolis	IN			
D	Kokomo	IN			
D	West Lafayette	IN			
D	Covington	IN			
D	Bloomington	IN			
E	Nashville	TN			
F	Crystal River	FL			
F	Lakeland	FL			
F	St. Petersburg	FL			
F	Sarasota	FL			
F	Fort Myers	FL			
G	Montgomery	AL			
G	Huntsville	AL			
G	Gadsden	AL			
G	Florence	AL			
G	Muscle Shoals	AL			
G	Auburn	AL			
G	Anniston	AL			
G	Birmingham	AL			
G	Fort Collins	CO			
G	Denver	CO			
G	Trinidad	CO			
G	Colorado Springs	CO			

## OUR CORPORATE STORY

**Our clients depend heavily on C-band for content not produced locally. Without this ultra-reliable form of delivery, these non-profits would very likely be unable to continue to broadcast and serve in these communities.**

Customers	City	State			
G	Fort Morgan	CO			
G	Pueblo	CO			
G	Sterling	CO			
G	West Palm Beach	FL			
G	Tallahassee	FL			
G	Stuart	FL			
G	Panama City	FL			
G	Fort Myers	FL			
G	Charlotte County	FL			
G	Naples	FL			
G	Fort Lauderdale	FI			
G	Evansville	IN			
G	Bowling Green	KY			
G	Central City	KY			
G	Louisville	KY			
G	Madisonville	KY			
G	Murray	KY			
G	Owensboro	KY			
G	Charleston	SC			
G	Dallas/ Fort Worth	TX			
G	Vancouver	WA			
G	Spokane	WA			
G	Nashville	TN			
G	Hendersonville	TN			
G	Cookeville	TN			
G	Columbia	TN			
G	Cleveland	TN			
G	Clarksville	TN			
G	Chattanooga	TN			
G	Portland	OR			
G	Wichita	KS			
G	Thomasville	GA			
G	Cordelle	GA			
Total					