Fletcher, Heald & Hildreth

ROBERT J. BUTLER
HARRY F. COLE
ANNE GOODWIN CRUMP
PAUL J. FELDMAN
CHRISTINE GOEPP
KEVIN M. GOLDBERG
FRANK R. JAZZO
M. SCOTT JOHNSON
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RAYMOND J. QUIANZON
JAMES P. RILEY
DAVINA SASHKIN
PETER TANNENWALD
KATHLEEN VICTORY
HOWARD M. WEISS

* NOT ADMITTED IN VIRGINIA

1300 NORTH 17th STREET, 11th FLOOR
ARLINGTON, VIRGINIA 22209

OFFICE: (703) 812-0400
FAX: (703) 812-0486
www.fhhlaw.com
www.commlawblog.com

RETIRED MEMBERS
VINCENT J. CURTIS, JR.
RICHARD HILDRETH
GEORGE PETRUTSAS

OF COUNSEL
ALAN C. CAMPBELL
THOMAS J. DOUGHERTY, JR.
DONALD J. EVANS
ROBERT M. GURSS*
ROBERT J. SCHILL
RICHARD F. SWIFT

January 26, 2012

MITCHELL LAZARUS
(703) 812-0440
LAZARUS@FHHLAW.COM

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Re: WT Docket No. 10-153, *Amendment of Part 101 to Facilitate Wireless Backhaul*
Ex Parte Communication

Dear Ms. Dortch:

On behalf of Comsearch, pursuant to Section 1.1206(b)(2) of the Commission's Rules, I am electronically filing this notice of an oral *ex parte* communication in the above-referenced docket.

Comsearch is a leading provider of spectrum management and wireless engineering products and services to the commercial and federal market. Since 1977, Comsearch has been actively engaged with the Commission, the National Telecommunications Information Administration, and various industry groups and standards organizations to develop rules, industry recommendations, and standards that promote the efficient use of the radio spectrum. Comsearch's extensive experience providing frequency coordination services for fixed point-to-point systems, point-to-multipoint, and satellite service earth stations is particularly relevant to this proceeding.

Yesterday, Chris Hardy and Will Perkins, both of Comsearch, and Christine Goepp of this firm and I met with Chris Andes (by teleconference), Steve Buenzow, Charles Oliver, John Schauble, Blaise Scinto, and Brian Wondrack of the Commission staff.

A copy of Comsearch's presentation is attached.

Please contact me with any questions.

Respectfully submitted

Mitchell Lazarus
Counsel for Comsearch

cc: Meeting participants

Presentation to the FCC on WT Docket No. 10-153

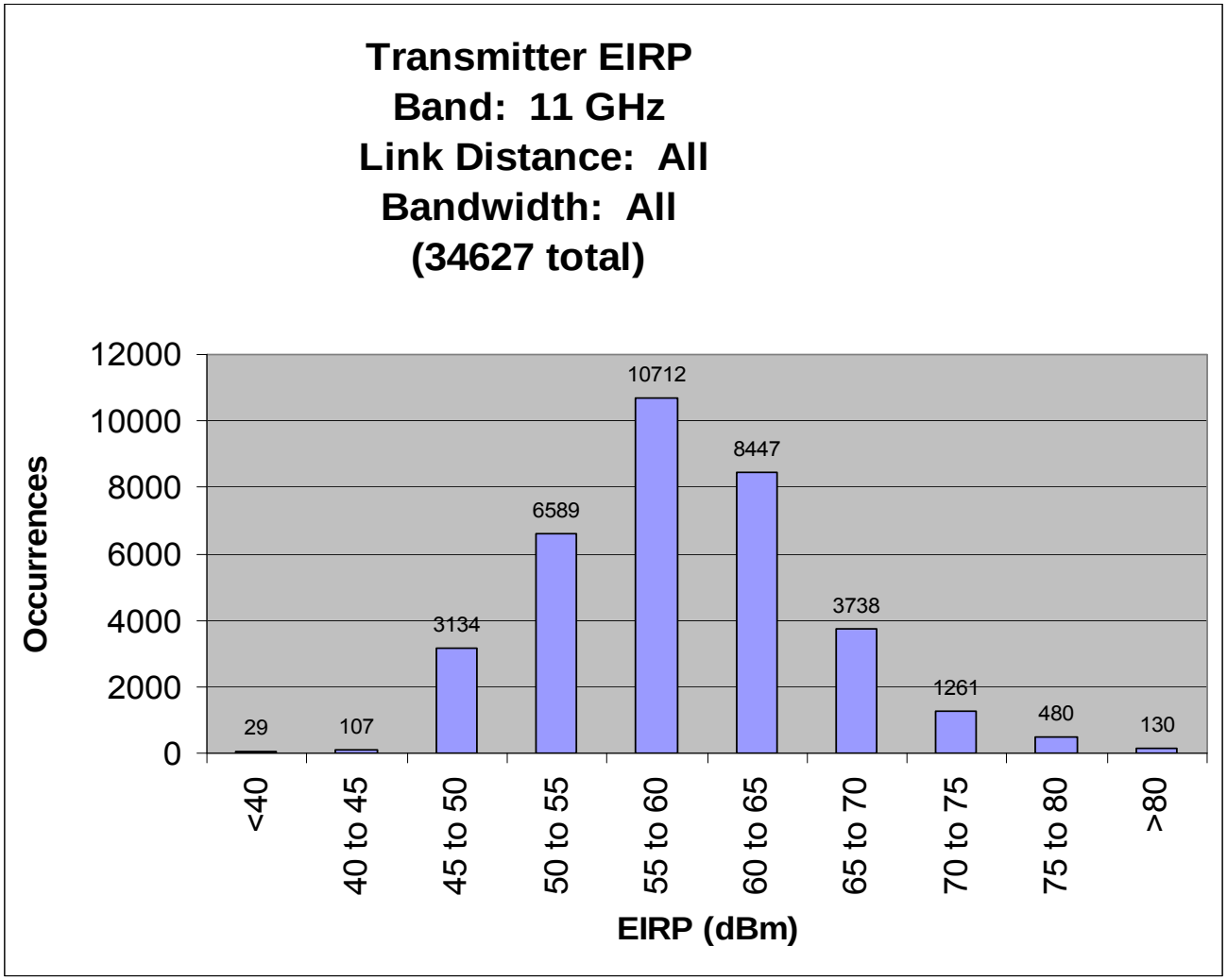
January 25, 2012

Section 101.115(f)

- FCC Should fix current Section 101.115(f) language: "…operate its system with an EIRP reduced so as not to radiate, in the direction of the other licensee, an EIRP in excess of that which would be radiated by a station using a Category A antenna and operating with the maximum EIRP allowed by the rules."
  - Language is intended to allow EIRP reduction as an alternative to upgrading a Category B antenna to Category A
  - Unintended effect is that current rule very rarely requires any EIRP reduction at all
  - "maximum EIRP allowed by the rules" should be replaced with "authorized EIRP"

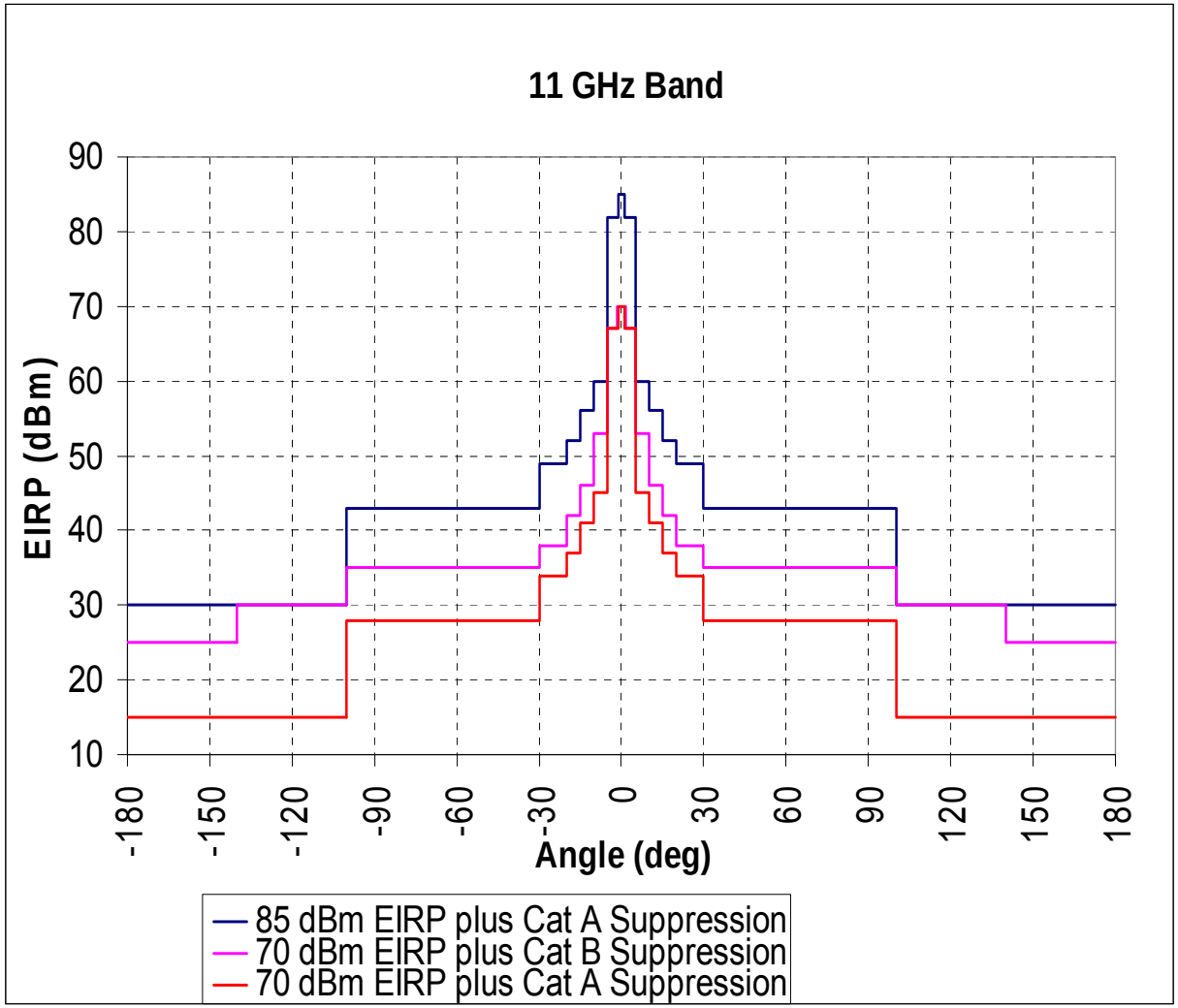
Section 101.115(f)

- 95% of 11 GHz links are authorized with EIRP less than 70 dBm



Section 101.115(f)

- The maximum EIRP allowed by the rules is 85 dBm (55 dBW) (Section 101.113)
- A Category B antenna at 70 dBm EIRP ***already meets*** Section 101.115(f)
- To effectively regulate antenna efficiency, FCC should require Category A suppression below the ***authorized*** EIRP



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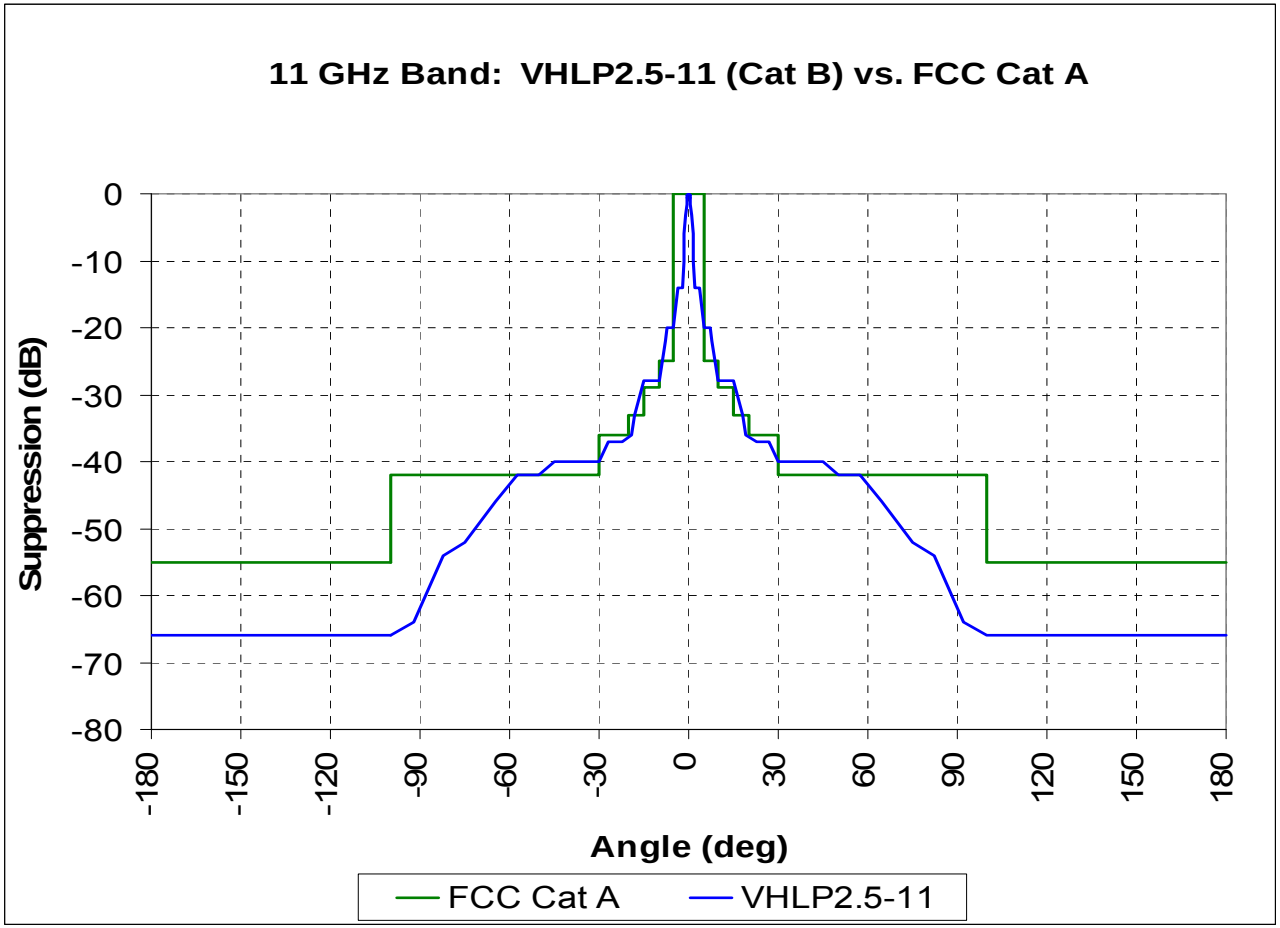
Section 101.115(f)

- Comsearch opposes additional changes to Section 101.115(f) proposed by Wireless Strategies, Inc., that would:
  - Extend the rule to cover the 6 GHz bands
  - No longer require a minimum Category B antenna
  - Allow an antenna upgrade or EIRP reduction only to the level required for a particular case rather than to Category A

Rural Efficiency Standards

- Comsearch opposes FNPRM proposal to impose payload capacity requirements only when use of an antenna meeting performance Standard A is required

- Antennas may have good patterns despite "just missing" Category A
- Such Category B antennas are often used in "congested" areas
- Should not exempt these antennas from payload capacity requirements



Rural Efficiency Standards

- Comsearch does not perceive a significant demand for rural links to operate below the present rule limits on payload capacity and loading
- Comsearch believes new rules (FCC 11-120) relieve difficulty of using microwave in rural areas
  - Adaptive Modulation enables
    - High throughput to meet payload capacity requirements in normal conditions, and
    - High system gain for reliable longer links in conditions of signal fading
  - FNPRM proposes rule changes for smaller antennas that, if adopted, will reduce the costs of rural links
- Comsearch recommends uniform payload capacity standards for all areas (Revised §101.141(a)(3))

"The payload capacity of equipment applied for, authorized, and placed in service after [insert effective date of rules] shall meet the following minimum efficiency standards:

Frequency	Emission Bandwidth ≤ 5 MHz	Emission Bandwidth > 5 MHz
3,700 – 10,550 MHz	2.4 b/s/Hz	4.4 b/s/Hz
10,550 – 13,150 MHz	2.4 b/s/Hz	3.0 b/s/Hz

Traffic loading ~~payload~~ shall exceed 50 percent of payload capacity within 30 months of licensing."

- If rules are relaxed, Comsearch favors reducing the required traffic loading percentage as opposed to payload capacity
  - The FCC should adopt definition of "rural" that accounts for microwave congestion as well as population density

Comsearch Recommendations on Antenna Standards

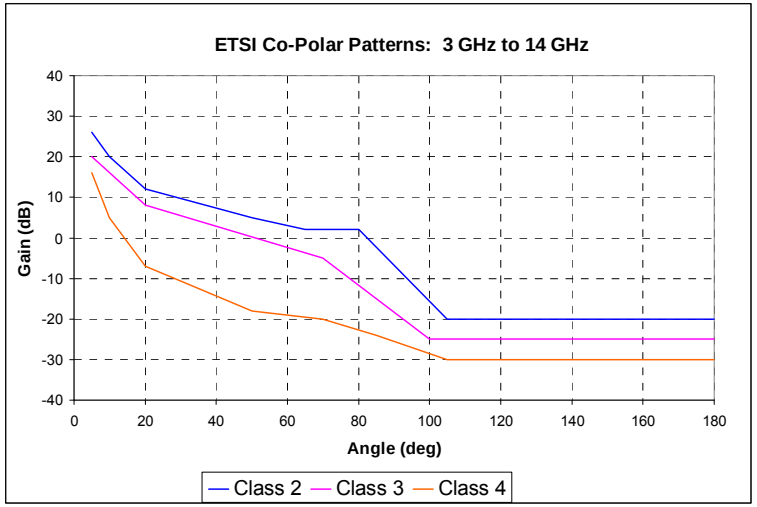
- Recommend 65 dBm EIRP limit when smaller antennas are used
- Believe the Section 101.115 antenna suppression requirements are due for an overall review. FCC Should:
  - Immediately allow smaller antennas by adding Category B2 standards, and
  - Begin a proceeding to completely revise the standards with full industry input
- Antenna standards should and do specify universal parameters: gain, beamwidth, and suppression
  - No record developed on what changes, if any, are necessary to accommodate non-parabolic designs
  - FCC must carefully balance allowances for non-parabolic designs versus spectrum efficiency
- FCC should revise antenna standards to permit 2-foot antennas in the 13 GHz band
  - Comsearch can submit Category B2 proposal for 13 GHz to harmonize with other FNPRM proposals

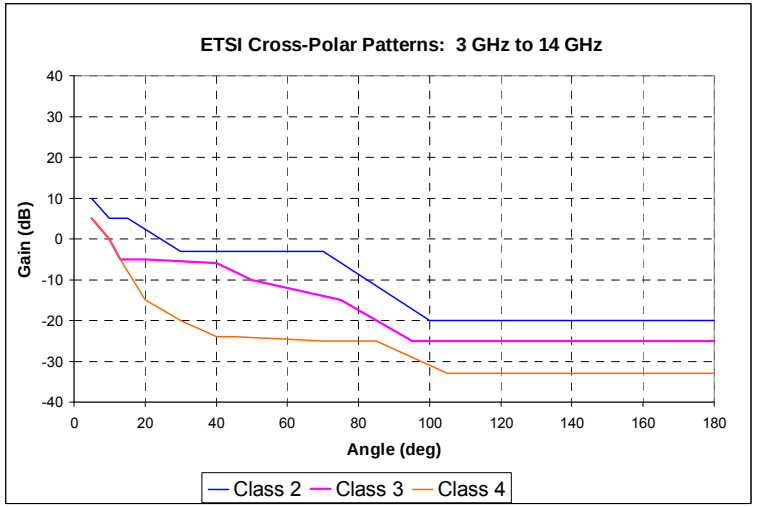
Antenna Standards

ETSI Standards (EN 302 217-4-2 v1.5.1)

- Breakpoint format can more closely follow performance of real antennas
- Include cross-pol requirements; §101.115 does not
- Specify maximum gain vs. angle rather than suppression vs. angle
- Require less suppression with lower gain so naturally include smaller antennas
- Regulator responsible for setting appropriate lower limit on antenna size/gain:

  "[T]he best condition from the spectral use point of view is when the required E.I.R.P. is obtained with the highest antenna gain and the lowest output power….[T]rade-off has to be taken into account between maximizing efficiency in frequency planning and typical equipment and antenna technology available/imposed by external market constraint"
  (EN 302 217-4-1 v1.3.1)





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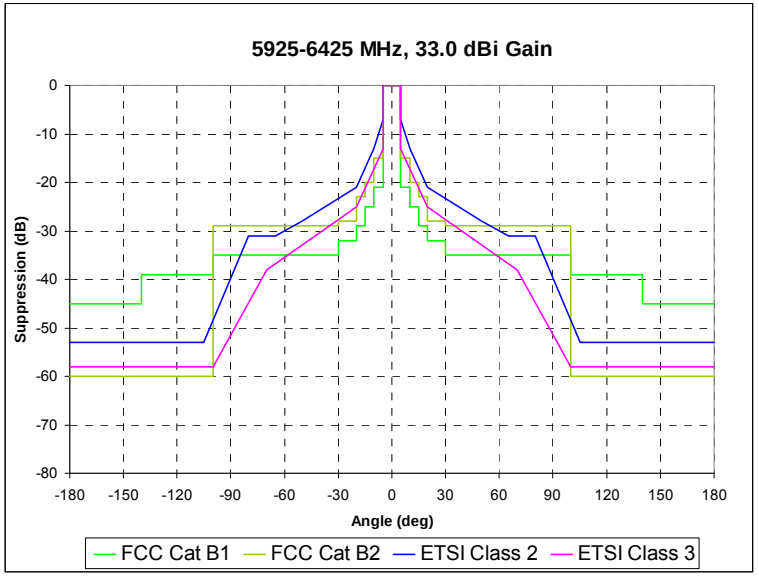
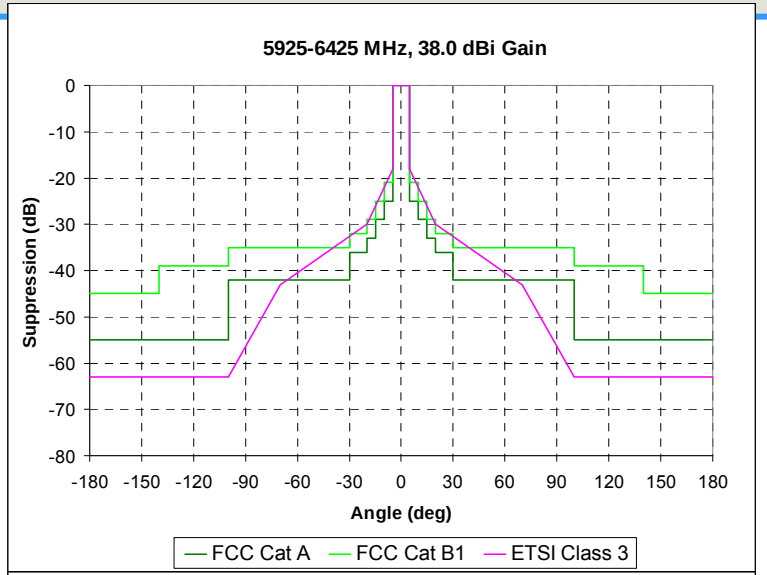
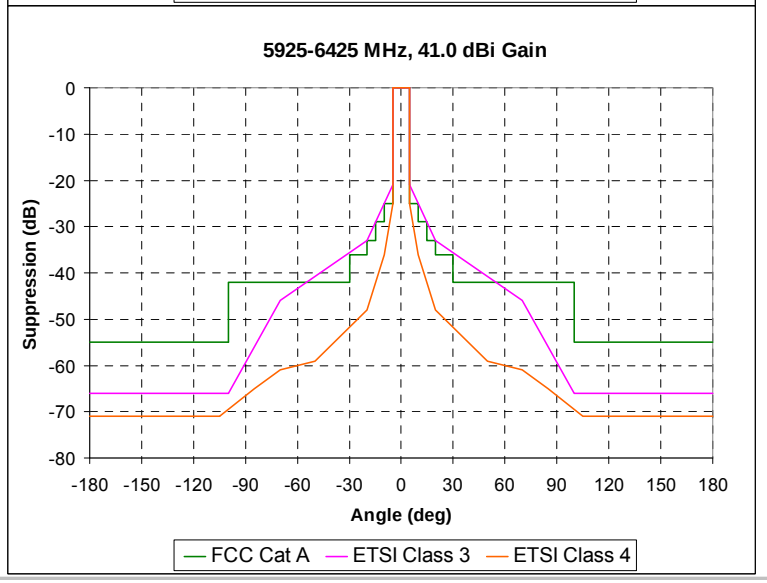
Antenna Standards

- ETSI vs. FCC Standards







Other Items

Comsearch Recommends the FCC Should:

- Align rules on geostationary orbital intersections of microwave antennas with ITU Radio Regulations (§101.145(b) and (c))
- Streamline filing requirements for systems using adaptive modulation
- Delete Section 101.147(s)(8) that authorizes 23 GHz low power limited coverage systems

Thank you!

Chris Hardy
Vice President
(703) 726-5641
chardy@comsearch.com

Will Perkins
Principal Engineer
(703) 726-5681
wperkins@comsearch.com

www.comsearch.com