Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 200554

In the Matter of	)	
	)	ET Docket 01-278
Review of Part 15 and other Parts	)	RM-9375
Of the Commission's Rules	)	RM-10051

COMMENTS OF PANAMSAT CORPORATION

PanAmSat Corporation ("PanAmSat"), by its attorneys, hereby submits comments in the above-referenced proceeding.[1] PanAmSat's comments are limited to the portion of the *NPRM* addressing radar detection devices. PanAmSat urges the Commission to adopt rules that would set emission limits on these devices. These devices have caused, and absent the adoption of adequate emission limits will continue to cause, harmful levels of interference to fixed satellite earth station operations.[2]

I. The Commission Should Adopt Emission Limits For Radar Detectors.

Currently, the Commission's rules do not require receivers operating above 960 MHz to meet Part 15 emission limits or to receive prior equipment authorization.[3] Instead, the Commission allows these devices to operate subject only to the requirement that they cease operations if interference is caused.[4]

Radar detectors fit within this exemption because they tune above 960 MHz. Radar detector manufacturers have taken full advantage of these circumstances. As the

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[1] In the Matter of Review of Part 15 and other Parts of the Commission's Rules, *Notice of Proposed Rulemaking and Order*, ET No. 01-278 (rel. Oct. 15, 2001) [hereinafter the "*NPRM*"].

[2] PanAmSat owns and operates a global fixed satellite service system, a major portion of which is dedicated to providing service within the United States

[3] *See* 47 C.F.R. §15.101(b).

[4] *See* 47 C.F.R. §15.5(b).

Commission stated in the *NPRM*, radar detector emissions are "typically far above the Part 15 limits."[5]

These emissions jeopardize the reliability of satellite communications. "Because radar detectors are mobile and can emit strong signals, their use has a real impact on satellite operations in many locations."[6] The Commission has received a number of reports concerning harmful interference that radar detectors have caused to very small aperture satellite terminals ("VSATs"). As a result of this interference, VSAT customers have experienced problems ranging "from data transmission errors to a complete disruption of message transmissions."[7]

This interference violates Part 15, because the manufacturers have developed no capability for ceasing transmissions when interference occurs. The potential for interference from radar detectors has increased recently, moreover, because manufacturers have made design changes the goal of which, among other things, is "making it more difficult for police to detect the presence of radar detectors in vehicles."[8]

In PanAmSat's experience, the interference problems presented by radar detectors are not limited to VSATs. To the contrary, PanAmSat has experienced interference with a critical link, one of its telemetry, tracking and control ("TT&C") stations, caused by the presence of a radar detector near a satellite teleport. This event illustrates how easily a radar detector can cause potentially catastrophic interference.

In July of 2000, a PanAmSat employee drove his automobile into the parking lot of the PanAmSat teleport located in Ellenwood, Georgia. In his car, the employee had

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[5] *NPRM* at ¶ 12.
[6] *Id. at* ¶ 11.
[7] *Id.*
[8] *Id.* at ¶ 12.

in operation a common radar detector, the Whistler 1660. The presence of this radar detector within 50 feet of the TT&C antenna caused the PanAmSat TT&C antenna to fall out of sync with PAS-9, the satellite it was controlling.

It took several days for PanAmSat to deduce that the interference might be emanating from one of the cars in its parking lot, and to determine which car was causing interference and why. Although PanAmSat's engineers were able to resynchronize the TT&C link as soon as the interference was traced to the radar detector and the radar detector was powered off, a subsequent test of radar detector interference with satellite operations illustrates that synchronization is difficult, if not impossible, as long as the interfering radar detector remains proximate to the teleport and fully powered.

In January of 2002, PanAmSat conducted a test using the same radar detector in the identical location. The emissions of the radar detector are attached as Appendix A. Although PAS-9 had since been moved to 155° W.L., PanAmSat personnel locked a video IRD onto a signal transmitted via the satellite that replaced PAS-9 at 58° W.L, and viewed by the same antenna at issue in 2000. The effect on the digital transmission was comparable to the impact on the TT&C in 2000.

Interference with the digital transmission of satellites can have disastrous consequences. TT&C functions are vital to the health and welfare of the spacecraft. Any prolonged loss of communication, especially during critical commanding (*i.e.*, battery management on older spacecraft) with an active satellite due to interference, can have irreparable consequences to the communications payload or spacecraft power bus, up to and including permanent loss of the asset. A single radar detector that cannot be located has the potential to cause any or all of these consequences.

II. The Commission Should Develop Radar Detector Emission Limits For All Bands.

The Commission has asked whether it should adopt emission limits for radar detectors in all frequency bands or only in those bands where interference may be most likely to occur.[9] PanAmSat urges the Commission to use this rulemaking not simply to end current interference, but also to protect against potential interference. Accordingly, at a minimum the Commission should establish emission limits for radar detectors in all satellite bands.

Currently, radar detectors pose the greatest potential for interference in the Ku band, where most VSAT operations exist, and in the C band, where limited VSAT operations occur. Limiting emissions only in these bands, however, could pose problems for TT&C stations, which operate in other bands. Additionally, focusing solely on Ku-band and C-band frequencies would enable radar detectors to operate with high emissions in other bands, such as the Ka band, thereby endangering future satellite operations.

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[9] *See id.* at ¶ 14.

CONCLUSION

For the reasons stated herein, PanAmSat urges the Commission to adopt radar detector emission limits that will guard against harmful interference in all satellite bands. In light of the fact that harmful interference to satellite operations already is occurring, moreover, the Commission should implement these changes as soon as possible.

Respectfully submitted,

PANAMSAT CORPORATION

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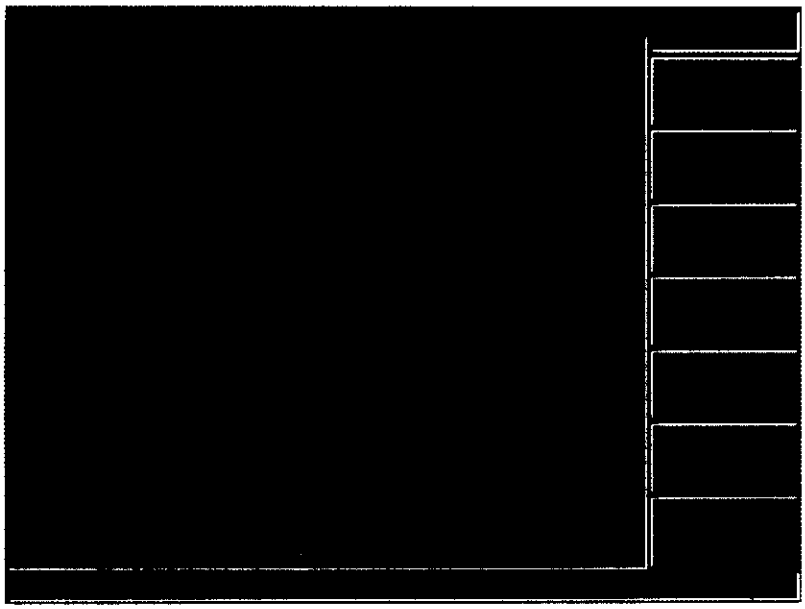
Appendix A

Emissions Broadcast By Whistler 1660 Radar Detector Located Fifty Feet From Nine Meter Antenna

January 22, 2002

I. Plot with Whistler 1660 Series detector powered off:



II. Plot with Whistler 1660 Series detector powered on: