

From: Mark Heyman

To: Leann Nguyen

Date: November 12, 2020

Subject: Request for Info - File # 0932-EX-CN-2020

Message:

I attempted to add an attachment to the Tesco that covers more than I can here. I am not sure if that was successful. Consequently I tried to get the most important parts below, but, the calculations are not in text, they were done in Mathcad. I printed them to pdf format but can not enter them here.

Any suggestions on how to get them on record?

They do indicate that due to their low power, we can place our repeaters anywhere inside a building as long as they are distant from each other and be compliant. Other parts of the document show them approx 150ft apart.

a. Tesco fully understands that the GNSS signal is not to extend outside the building.

The Tesco GNSS system has two low power, short range repeaters. Their signals will cover only one small area at each repeater, on the third floor of the Grundy Commons building in our plant at Grundy Commons 925 Canal St. Bristol PA

b. Tesco GNSS Use:

Tesco manufactures several portable test instruments that incorporate an embedded GNSS system to determine the unit's location and from it allow location associated equipment configuration, test setup, and data, and to be available automatically. We need GNSS signals at several very close locations inside our plant at Grundy Commons 925 Canal St. Bristol PA in order to develop these units and insure they function properly during test prior to sale.

Objective: To provide low level short range 1.5611 GHz, 1.57542 GHz, and 1.602 GHz GNSS signals indoors at our facility to allow testing of embedded GNSS receivers.

c. Yes, please enter any frequency assignment in the GMF

d. Tesco fully understands that the its’ repeater license will have to be renewed every two years.

Tesco is a manufacturer of electronic instruments (among other things). It intends to be in business for a long time and expects its’ use of GNSS to grow. Tesco will comply and renew its GNSS repeater license as required.

e. The area of potential interference from Tesco's GNSS repeaters are fully under its control, and Tesco will take responsibility for maintaining that control, and of the areas they may effect.

f. The following calculations indicate that 30 meters of free space will attenuate Tesco GNSS repeater signal to below the allowed level anywhere within our walls.

Note that d, the distance from an outside wall to a repeater is set to 0.

g. All GPS users in the area of potential influence will be Tesco employees aware of the GNSS repeaters and their interference.

h. Yes, Tesco's use of its GNSS repeaters will be limited to its test of GNSS receivers.

i. I, Mark Heyman am the point of contact for this GNSS repeater system. My number at Tesco is 215-228-0500. Tesco will make all pertinent staff aware of the systems power switch, and we will put it on a timer with a timed override to insure the system is not powered after hours or when not in use.