

# Hope Christian Church of Marlton, Inc.

Exhibit 12-1 - Compliance with CFR 47 §74.1204  
NEW-T, Channel 241, 96.1 MHz, M12, Wye Mills, MD

## Interference Analysis Overlap Requirements

According to CFR 47 §74.1204(a), translators are required to protect all existing FM stations from interference due to overlap of the protected contours of the existing stations with the interfering contours of the new translators.

One station has been identified with outgoing 2<sup>nd</sup> or 3<sup>rd</sup> adjacent contour overlap from the proposed translator and is listed below. According to CFR 47 §74.1204(d),

**“The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to ... lack of population ... .”**

The F(50,50) signals from this station at the proposed site has been computed based upon the ERP and HAAT in the direction towards the proposed translator, as well as the distance, and has been found to be as follows:

Station	Power	ERP	HAAT	Distance	Protected F(50,50)	Allowable Interfering F(50,10)
WCEI-FM	25 kW	25 kW	78 m	20.6 km	70.0 dBu	110.0 dBu

A 40 dB ratio of undesired to desired signal strength gives an allowable interfering F(50,10) field strength of up to 110.0 dBu. With the proposed translator output power of 10 Watts ERP, the free-space equations give the distance to this contour of 70.2 meters. Since the antenna is located 128 meters from the ground, the interfering contour never touches the ground, and never comes any closer to the ground than 57.8 meters.

An analysis of a USGS 7.5' topographical map shows that there are no habitable buildings in the area of sufficient height to reach up and intersect this interfering contour. Hence CFR 47 §74.1204(d) applies, and the predicted area of interference is acceptable to the Commission.