

ABSTRACT

A communication system device for bomb disposal units at a frequency of 5.8 GHz is a wireless communication technology that can be used to send and receive information at a frequency of 5.8 GHz. This device is specifically designed for use by bomb disposal teams to help monitor and control activities in dealing with dangerous explosives. This receiving device has a 5.8 GHz antenna that allows users to receive a strong and stable communication signal, even in harsh and risky environmental conditions. In addition, the device is also equipped with important features such as signal processing modules, frequency filters and power regulators that can help amplify the signal and reduce interference.

The receiving device of this communication system can also be connected to other devices such as computers, smartphones, or other supporting equipment via wireless or wired connections. It allows users to acquire and process data quickly and efficiently, and also obtain up-to-date information in real time. In the context of bomb disposal, the receiving device of this communication system can help the bomb disposal team in making faster and more accurate decisions, as well as minimize the risks that may occur during the defuse process. Therefore, the receiving device of the communication system for the 5.8 GHz antenna-based bomb disposal is a very important technology and can help increase effectiveness in handling dangerous explosives.

This final project implements the Telkom University logo antenna on an unmanned vehicle communication system, specifically the aesthetic antenna-based receiver section as a communication system for monitoring long-distance bomb disposal areas. This communication system will be equipped with a 5.8 GHz Skydroid Receiver to receive signals from the Zipur Antenna, the resulting video becomes a video that can be displayed on a cellphone/monitor. Finally, videos can be recorded via OBS Studio to evaluate the results of the bomb generator. The antenna designed in this system uses microstrip antennas that are back to back and one side is blocked with an iron plate 1mm thick, so that the radiation pattern is straight in one direction with the aim of sending video data over a long range. Measurement data for the furthest distance in a field area without obstacles is up to 302.36 m, and for indoors it only reaches 20m, the signal is lost and video cannot be displayed

Keywords: *Receiving devices, Antenna, Microstrip, Defusing Unit, Measuring distance.*