

<b>Domain</b>	<b>TELECOMMUNICATION AND WIRELESS TECHNOLOGY</b>	<b>Unit ID: 2289</b>
<b>Title:</b>	<b>Demonstrate an understanding of antenna and duplex technology</b>	
<b>Level: 5</b>		<b>Credits: 12</b>

### **Purpose**

This unit standard is intended for those who demonstrate an understanding of antenna and duplex technology. People credited with this unit standard are able to demonstrate an understanding of different types of antenna properties, demonstrate an understanding of different types of antennas and demonstrate an understanding of duplexers and repeaters.

This unit standard is intended for those who work in the telecommunication and wireless technology working environment.

### **Special Notes**

1. Entry information:

Prerequisites:

- None

2. This unit standard is to be delivered and assessed in the context of information and communication technology.

3. Assessment evidence may be collected from a real or a simulated workplace in which telecommunication and wireless technology operations are carried out.

4. Tools and equipment may include but are not limited to computer, external devices, storage devices and other and basic computer applications.

5. Performance of all elements in this unit standard must comply with industry standards.

6. Regulations and legislation relevant to this unit standard include the following:

- Labour Act 2007(Act No 11, 2007).
- Regulations relating to the health & Safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007 and all subsequent amendments.

## **Quality Assurance Requirements**

This unit standard and others within this sub-field may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on [www.namqa.org](http://www.namqa.org) and the Namibia Training Authority on [www.nta.com.na](http://www.nta.com.na)

## **Elements and Performance Criteria**

### **Element 1: Demonstrate an understanding of different types of antenna properties**

#### **Performance Criteria**

- 1.1 Antenna gain is explained.
- 1.2 Aperture properties are explained.
- 1.3 Directivity and bandwidth are explained.
- 1.4 Polarization antenna is explained.
- 1.5 Effective length of antenna is explained.
- 1.6 Polar diagram properties are explained.

### **Element 2: Demonstrate an understanding of different types of antennas**

#### **Range**

Travelling and standing wave antennas may include but not limited to microwave antennas and quarter wave antennas.

#### **Performance Criteria**

- 2.1 Travelling wave antennas are illustrated and described.
- 2.2 Standing wave antennas are illustrated and described.

### **Element 3: Demonstrate an understanding of duplexers and repeaters**

#### **Performance Criteria**

- 3.1 Duplexers properties and functions are explained.
- 3.2 Graphical representation of duplexer functionalities is illustrated.

3.3 Repeaters properties and functions are explained.

3.4 Graphical representation of repeater functionalities is illustrated.

### **Registration Data**

<b>Subfield:</b>	Information and Communication Technology
<b>Date first registered:</b>	30 July 2020
<b>Date this version registered:</b>	30 July 2020
<b>Anticipated review:</b>	2025
<b>Body responsible for review:</b>	Namibia Training Authority