

Fundamentals of SDR:RAHSDR480

Module-6:Application of SDRs

RAHSDR480_L06_P01_R01: Radio Access Network- (RAN)



Radio Access Network- (RAN)

- The RAN is the link between the network and the phone and it provide radio access and coordinate the management of resources across the radio sites.
- Part of mobile communication system.



Radio Access Network- (RAN)

- GRAN: GSM Radio access network
- GERAN: GSM-Enhanced Data rates for GSM Evolution (EDGE) RAN
- UTRAN: Universal Mobile Telecommunications Service (UMTS) RAN
- E-UTRAN: Evolved UMTS Terrestrial RAN
- C-RAN: Cloud RAN or Centralized RAN
- V-RAN: Virtual RAN
- O-RAN: Open RAN



In this topic we have learnt about the

- ✓ Radio Access Network- (RAN)
- ✓ Next we are going to learn Open Radio Access Network- (O-RAN)



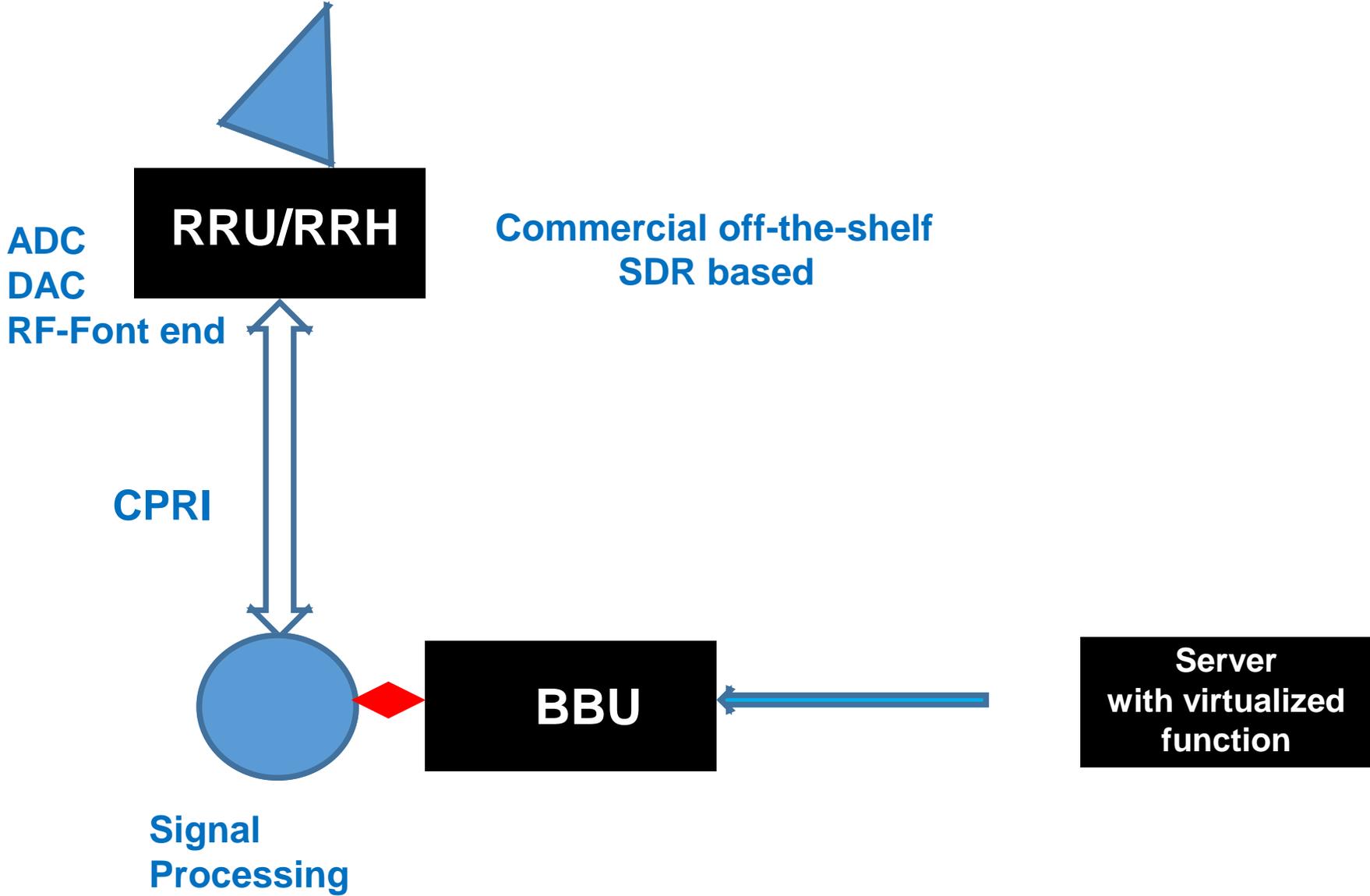
Fundamentals of SDR:RAHSDR480

Module-6:Application of SDRs

RAHSDR480_L06_P02_R01: Open-Radio Access Network- (O-RAN)



Open-Radio Access Network- (O-RAN)



In this topic we have learnt about the

- ✓ **Open Radio Access Network- (O-RAN)**
- ✓ **Next we are going to learn Global Navigation Satellite System (GNSS)**



Fundamentals of SDR:RAHSDR480

Module-6:Application of SDRs

RAHSDR480_L06_P03_R01: Global Navigation Satellite System (GNSS)



Global Navigation Satellite System (GNSS)

- European GNSS Agency the GNSS refers to a constellation of satellites providing signals from space that transmit positioning and timing data to GNSS receivers. The receivers then use this data to determine location. By definition, GNSS provides global coverage.
- Using SDR software program the focus on signal processing also it control multiple processes inside the receiver.
- Europe's Galileo, the USA's NAVSTAR Global Positioning System (GPS), Russia's Global'naya Navigatsionnaya Sputnikovaya Sistema (GLONASS) and China's BeiDou Navigation Satellite System. Indian Regional Navigation Satellite System NavIC (Navigation with Indian Constellation)



In this topic we have learnt about the

- ✓ **Global Navigation Satellite System (GNSS)**
- ✓ **Next we are going to learn Radar applications**



Fundamentals of SDR:RAHSDR480

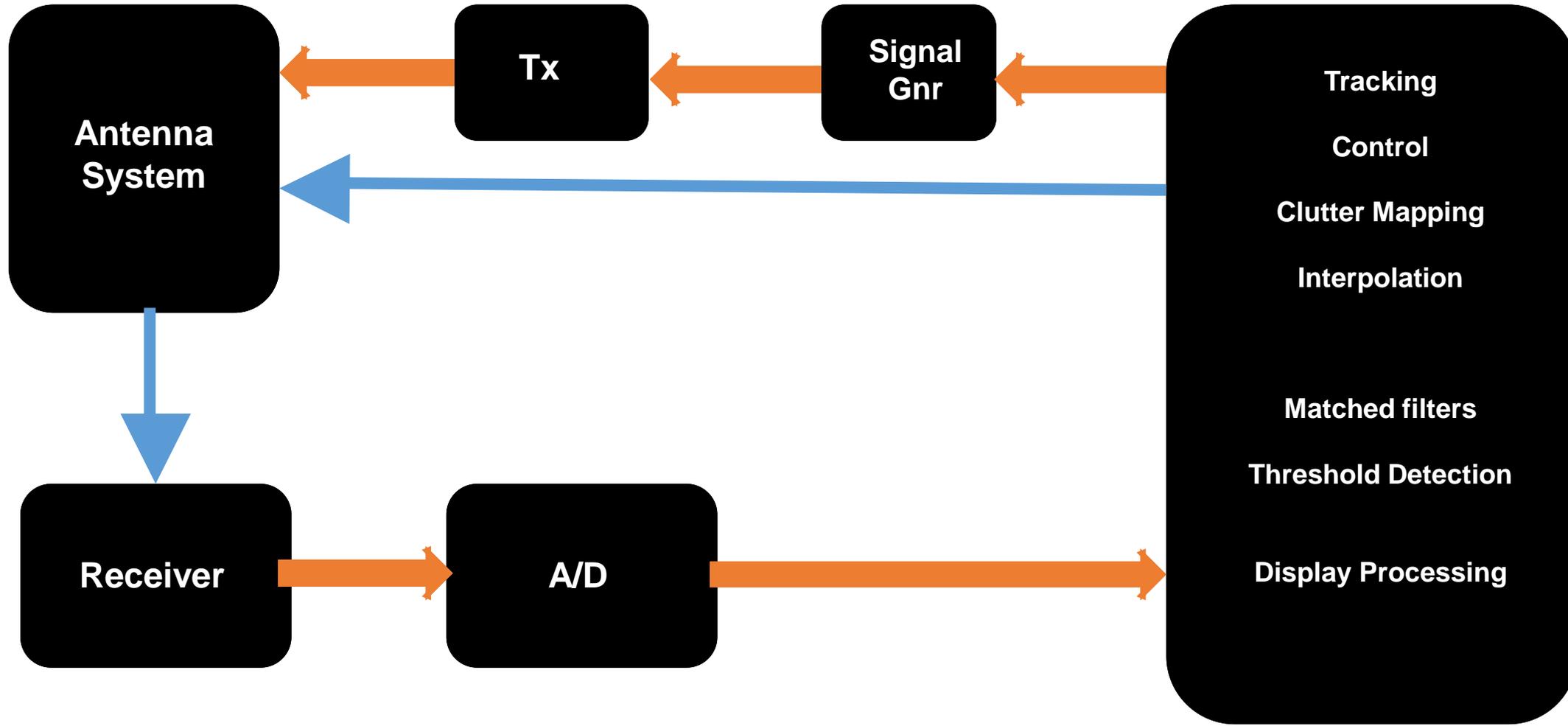
Module-6:Application of SDRs

RAHSDR480_L06_P04_R01:Radar applications



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Radar applications



In this topic we have learnt about the

- ✓ **Radar applications**
- ✓ **Next we are going to learn Ham Radio**



Fundamentals of SDR:RAHSDR480

Module-6:Application of SDRs

RAHSDR480_L06_P05_R01:Ham Radio



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Ham Radio

- Amateur radio, also known as ham radio, is the use of radio frequency spectrum for purposes of non-commercial exchange of messages, wireless experimentation, self-training, private recreation, radio sport, contesting, and emergency communication.
- The term "amateur" is used to specify "a duly authorized person interested in radio electric practice with a purely personal aim and without commercial interest“.



In this topic we have learnt about the

- ✓ **Ham Radio**
- ✓ **Next we are going to learn Signal Generator**



Fundamentals of SDR:RAHSDR480

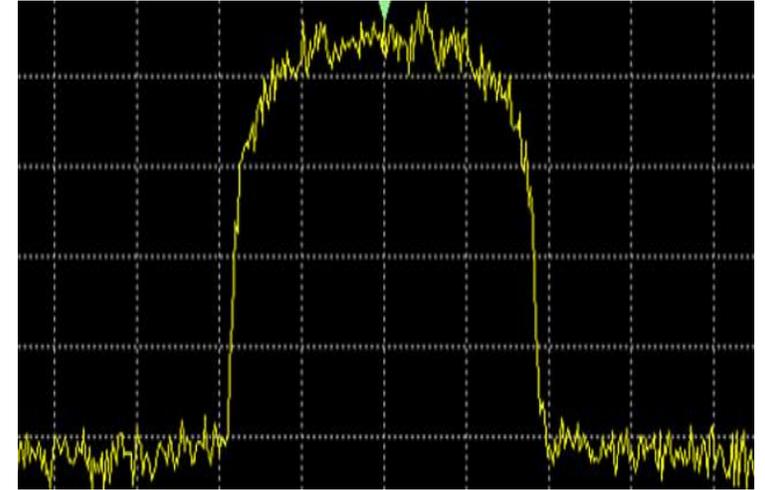
Module-6:Application of SDRs

RAHSDR480_L06_P06_R01: Signal Generator



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Signal Generator



In this topic we have learnt about the

- ✓ **Signal Generator**
- ✓ **Next we are going to learn Signal Analyzer**



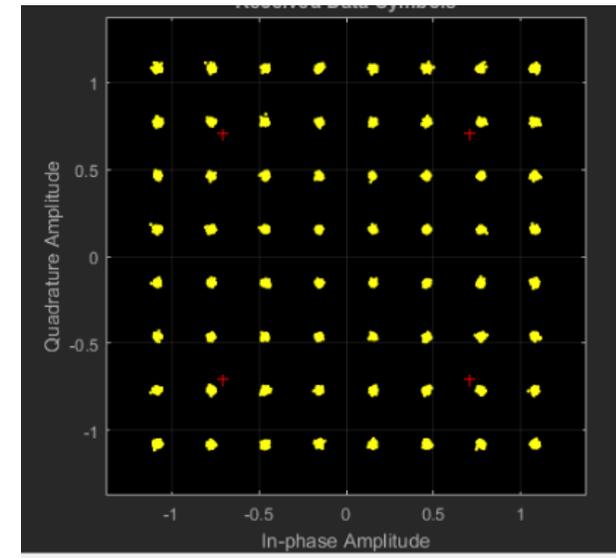
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Module-6:Application of SDRs

RAHSDR480_L06_P07_R01:Signal Analyzer



Signal Analyzer

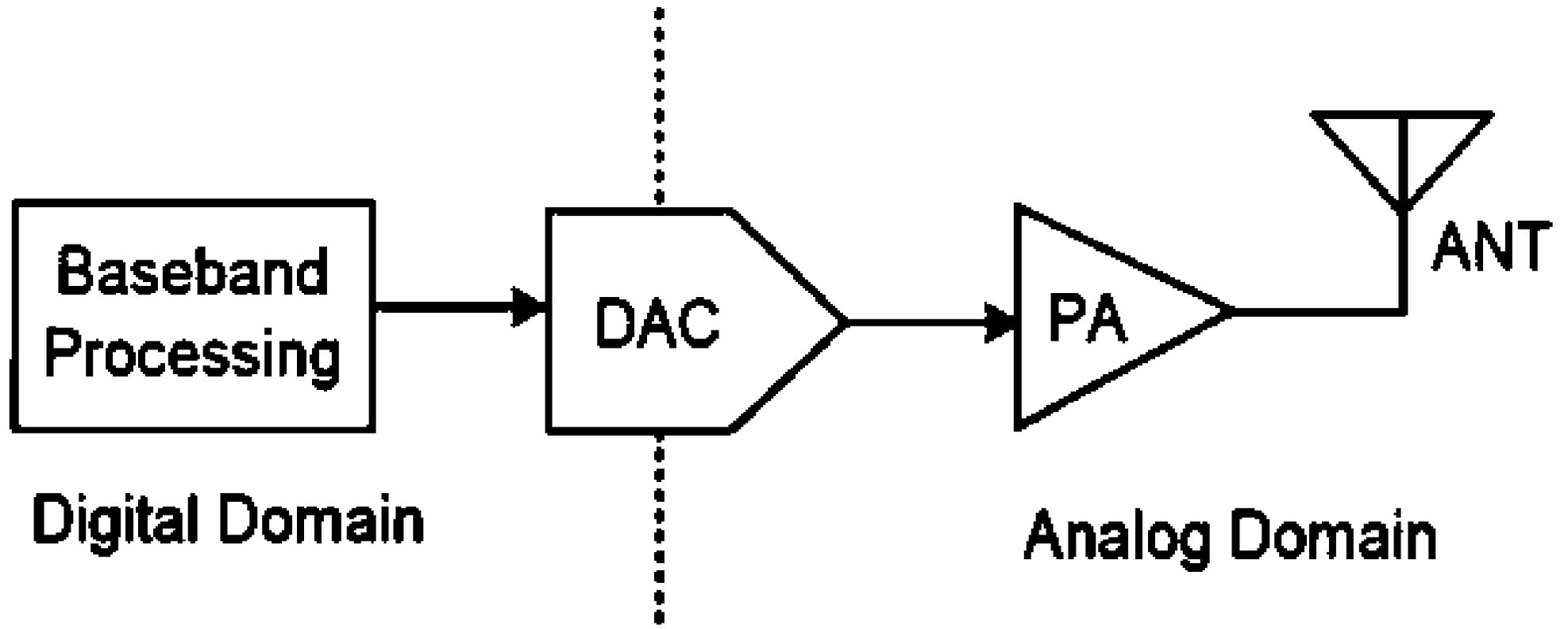


In this topic we have learnt about the

✓ **Signal Analyzer**

✓ **Next we are going to learn _____**





Please comply with local laws when performing radio experiments