CLAIMS

1. An apparatus for wireless communications, comprising:

at least one memory; and

at least one processor coupled to the at least one memory and configured to:

determine a subset of radio frequency (RF) sensing devices from a plurality of available RF sensing devices for performing an RF sensing technique for a target object, the subset of RF sensing devices being determined based on a plurality of factors associated with the plurality of available RF sensing devices; and

transmit, to at least one RF sensing device of the subset of RF sensing devices, at least one message instructing the subset of RF sensing devices to perform the RF sensing technique for the target object to obtain one or more characteristics of the target object.

2. The apparatus of claim 1, wherein, to determine the subset of RF sensing devices from the plurality of available RF sensing devices based on the plurality of factors, the at least one processor is configured to determine a metric associated with performing RF sensing of the target object based on the plurality of factors.

3. The apparatus of claim 2, wherein the metric includes a geometric dilution of precision (GDOP) associated with performing RF sensing of the target object.

4. The apparatus of claim 2, wherein the at least one processor is configured to:

determine a respective metric for each subset of a plurality of subsets of RF sensing devices from the plurality of available RF sensing devices based on the plurality of factors; and

determine, based on the respective metric determined for each subset of the plurality of subsets of RF sensing devices, the subset of RF sensing devices from the plurality of available RF sensing devices for performing the RF sensing technique for the target object.

5. The apparatus of claim 2, wherein the metric is determined at least in part based on an estimate of a location of the target object based on prior knowledge of the location of the target object.

6. The apparatus of claim 1, wherein the plurality of factors comprise at least one of one or more regions of interest related to the target object, self-positioning accuracy of each of the plurality of available RF sensing devices, or one or more capabilities of each of the plurality of available RF sensing devices.

7. The apparatus of claim 6, wherein the one or more capabilities of each of the plurality of available RF sensing devices comprise at least one of transmit functionality, receive functionality, duplexing capabilities, time variance of the one or more capabilities, antenna capabilities, frequency capabilities, or movability capabilities.

8. The apparatus of claim 1, wherein the one or more characteristics include at least one of a location of the target object, a velocity of the target object, or a heading of the target object.

9. The apparatus of claim 1, wherein the at least one processor is configured to:

determine, based on the plurality of factors, the RF sensing technique to be used by the subset of RF sensing devices to obtain the one or more characteristics of the target object.

10. The apparatus of claim 1, wherein the RF sensing technique comprises at least one of monostatic RF sensing, bistatic RF sensing, or multistatic RF sensing utilizing at least one of round trip time (RTT), time of arrival (TOA), or time difference of arrival (TDOA) measurements.

11. The apparatus of claim 1, wherein the at least one processor is configured to:

receive, from a requesting device, a request to obtain the one or more characteristics of the target object.

12. The apparatus of claim 11, wherein the at least one processor is configured to:

receive, from the requesting device, one or more regions of interest related to the target object, wherein the plurality of factors include the one or more regions of interest.

13. The apparatus of claim 12, wherein the at least one processor is configured to:

determine the plurality of available RF sensing devices located within the one or more regions of interest.

14. The apparatus of claim 1, wherein the at least one processor is configured to:

receive one or more capabilities of each of the plurality of available RF sensing devices, wherein the plurality of factors include the one or more capabilities.

15. The apparatus of claim 1, wherein the at least one processor is configured to:

receive RF sensing measurements from at least one RF sensing device of the subset of RF sensing devices based on the RF sensing technique performed by the subset of RF sensing devices for the target object; and

determine the one or more characteristics of the target object using the RF sensing measurements.

16. The apparatus of claim 1, wherein the at least one processor is configured to:

receive RF sensing measurements from at least one RF sensing device of the subset of RF sensing devices based on the RF sensing technique performed by the subset of RF sensing devices for the target object; and

transmit the RF sensing measurements to a computing device for determining the one or more characteristics of the target object using the RF sensing measurements.

17. The apparatus of claim 1, wherein the apparatus is configured as a user equipment (UE), and further comprising:

a transceiver configured to transmit the at least one message.

18. The apparatus of claim 1, wherein the apparatus is configured as a network entity, and further comprising:

a transceiver configured to transmit the at least one message.

19. A method for wireless communications, the method comprising:

determining a subset of radio frequency (RF) sensing devices from a plurality of available RF sensing devices for performing an RF sensing technique for a target object, the subset of RF sensing devices being determined based on a plurality of factors associated with the plurality of available RF sensing devices; and

transmit, to at least one RF sensing device of the subset of RF sensing devices, at least one message instructing the subset of RF sensing devices to perform the RF sensing technique for the target object to obtain one or more characteristics of the target object.

20. The method of claim 19, wherein determining the subset of RF sensing devices from the plurality of available RF sensing devices based on the plurality of factors includes determining a metric associated with performing RF sensing of the target object based on the plurality of factors.

21. The method of claim 20, the metric includes a geometric dilution of precision (GDOP) associated with performing RF sensing of the target object.

22. The method of claim 20, further comprising:

determining a respective metric for each subset of a plurality of subsets of RF sensing devices from the plurality of available RF sensing devices based on the plurality of factors; and

determining, based on the respective metric determined for each subset of the plurality of subsets of RF sensing devices, the subset of RF sensing devices from the plurality of available RF sensing devices for perform the RF sensing technique for the target object.

23. The method of claim 19, wherein the plurality of factors comprise at least one of one or more regions of interest related to the target object, self-positioning accuracy of each of the plurality of available RF sensing devices, or one or more capabilities of each of the plurality of available RF sensing devices.

24. The method of claim 19, wherein the one or more characteristics include at least one of a location of the target object, a velocity of the target object, or a heading of the target object.

25. The method of claim 19, further comprising:

determining, based on the plurality of factors, the RF sensing technique to be used by the subset of RF sensing devices to obtain the one or more characteristics of the target object.

26. The method of claim 19, further comprising:

receiving, from a requesting device, a request to obtain the one or more characteristics of the target object.

27. The method of claim 26, further comprising:

receiving, from the requesting device, one or more regions of interest related to the target object, wherein the plurality of factors include the one or more regions of interest.

28. The method of claim 27, further comprising:

determining the plurality of available RF sensing devices located within the one or more regions of interest.

29. The method of claim 19, further comprising:

receiving RF sensing measurements from at least one RF sensing device of the subset of RF sensing devices based on the RF sensing technique performed by the subset of RF sensing devices for the target object; and

determining the one or more characteristics of the target object use the RF sensing measurements.

30. The method of claim 19, further comprising:

receiving RF sensing measurements from at least one RF sensing device of the subset of RF sensing devices based on the RF sensing technique performed by the subset of RF sensing devices for the target object; and

transmitting the RF sensing measurements to a compute device for determine the one or more characteristics of the target object use the RF sensing measurements.