

ASSIGNMENT #1

TASK: Summarize the frequency bands and/or the frequencies allocated for **three (3)** applications from the Table I below.

INSTRUCTIONS

Instructions on how to pick the 3 applications assigned to you are provided after Table I.

Provide a brief (1 sentence) description of the service; for example: voice and audio, video, digital data, internet access, imaging, surveillance, positioning, power delivery, etc. Please provide references to the resources (online material/links, articles, conference papers, etc.) that you used in your answers. Acknowledging the literature sources is an essential requirement in professional documentation. These will also help the TAs to track down the sources of error if any.

You can use the online resources of Industry Canada such as the **Canadian Table for Frequency Allocation**, <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10759.html>, along with other online resources, especially those of the United States Federal Communications Commission (FCC). A useful resource is provided by *Microwaves101* at <https://www.microwaves101.com/encyclopedias/what-s-the-frequency>

Submit your answers as a PDF through A2L. Photos of handwritten notes are discouraged due to problems with readability.

TABLE I

LIST OF SOME COMMON APPLICATIONS OF WIRELESS AND WIRED ELECTRICAL TECHNOLOGIES

Application #	Application Description
0	TV broadcast
1	AM radio broadcast
2	FM radio broadcast
3	Satellite TV
4	Satellite radio
5	Satellite telephony
6	Global Positioning System (GPS)
7	Marine (or ship) radar
8	Air-traffic control radar, airport radar
9	Ship-to-coast, ship-to-air and ship-to-ship communications
10	Police mobile radio
11	Taxi-cab mobile radio
12	Amateur radio (or ham radio)
13	Microwave relay links
14	GSM mobile phones
15	Pagers
16	Indoor cordless phones
17	WiFi (wireless fidelity) networks
18	WiMAX (Worldwide Interoperability for Microwave Access) networks
19	Bluetooth

20	Fiber-optic networks
21	Landline telephony networks
22	Electric power distribution networks
23	Automotive radar
24	Air-borne (airplane) radar
25	Radar speed guns used by traffic police
26	MRI (magnetic resonance imaging)
27	Millimeter-wave whole-body imagers for airport security screening
28	Microwave ovens
29	Remote control of unmanned aerial vehicles (UAV), <i>aka</i> drones

Assignment Versions

1. Pick your 1st application from Table I so that its number equals the LAST digit in your student ID number.
2. Pick your 2nd application from Table I so that its number equals the SUM of the last 3 digits in your student ID plus 2.
3. You are free to pick your 3rd application as you wish as long as it is different from your previous two applications.