



Radio Spectrum

Existing Allocation and Assignment

Statement – ECS 13/2009

1 September 2009

1. Introduction

One of the main objectives of electronic communications policy under the Communications Act (“Comms Act”) 2009 is to further the interests of consumers by promoting competition and promoting the optimal use of state assets, including the radio spectrum.

Part V of the Comms Act gives URCA exclusive rights to manage, allocate and assign all frequencies in the radio spectrum in The Bahamas. Section 31 of the Comms Act requires URCA to publish a spectrum plan that is consistent with international standards and for the proposed plan to be approved by the Minister. Section 32 requires URCA to manage the radio spectrum in an open, objective, transparent and non-discriminatory manner.

The Comms Act came into force on 1 September 2009. Although a National Spectrum Plan as envisaged under the Comms Act has not been published, URCA is required to act to ensure maximum continuity. For this purpose, all existing regulatory measures, including those relating to management of radio spectrum, adopted by the Public Utilities Commission (“PUC”) continue in force to the extent that they do not conflict with provisions of the Comms Act, the Utilities Regulation & Competition Authority Act, 2009; the Utilities Tribunal Act, 2009 and any new regulatory measures adopted under these Acts.

This Statement is published in compliance with URCA’s obligation of transparency, fairness and non-discrimination, under section 5 of the Comms Act.

URCA is issuing this Statement to inform all stakeholders about the existing spectrum allocation and assignment, in force until a National Spectrum Plan, approved in accordance with the Comms Act, is published. .

Under the Comms Act, the use of the radio spectrum will require either an individual spectrum licence or a class spectrum licence, unless an exemption applies. Please refer to the Licensing Guidelines available on www.urbahamas.bs

2. Existing Spectrum Allocation in Context

The Radio Spectrum is a limited national resource and serves as the primary medium for the propagation of Electronic Communication Services (ECS) by means of wireless transmission of electromagnetic frequencies (EMF).

The demand for radio spectrum is growing with advances in wireless technologies that make use of radio spectrum. This dictates that spectrum must be efficiently managed to ensure sufficient resources are available so that the electronic communications sector is able to develop with cutting edge technology, promoting the growth of the economy in The Bahamas.

URCA will use the existing Spectrum Allocation to allocate, allot and assigns frequencies to licensees to provide various services in the electronic communications sector, ensuring that all spectrum management processes are fair, efficient and transparent.

This allocation and assignment (already followed by the PUC) were set in compliance with ITU Recommendations for spectrum use in Region 2 to ensure that The Bahamas remains compliant with best practices; capable of providing competitive services to other countries; able to procure equipment taking advantage with the economies of scale present in larger economies that translate to lower prices to end-users; and facilitates the avoidance of adjacent country harmful interference issues.

2.1 International Standards

One of the primary considerations in this plan is conformity with international standards. This ensures that the public will have the greatest possible access to the host of communication products and services available in the global marketplace. Therefore, it is incumbent upon URCA to ensure that its plan is consistent with international standards.

2.2 ITU Geographic Regions

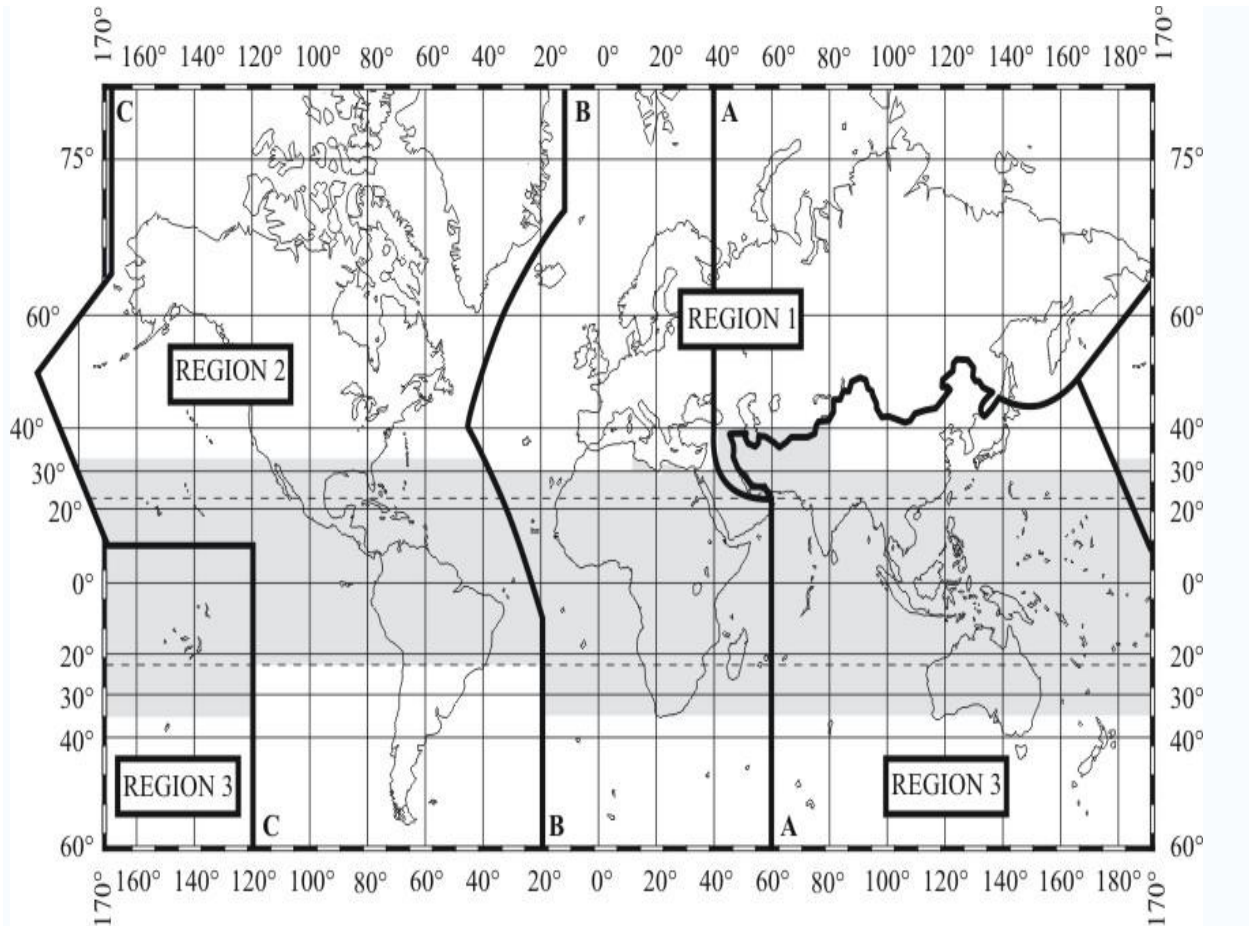
International Telecommunication Union (ITU) is one of the specialised agencies of the United Nations that has global responsibility for determining standards and recommendations for the regulation of the radio frequency spectrum.

The ITU has divided the world into three Radio Regulatory Regions (see Figure 1 below). These regions are defined below:

- Region I: Europe, Middle East, Africa, the former Soviet Union, including Siberia; and Mongolia;
- Region II: North and South America and Pacific (East of the International Date Line);
- Region III: Asia, Australia and the Pacific Rim (West of the International Date Line).

The Commonwealth of the Bahamas therefore is in Region II (the Americas). It follows that the Bahamas National Spectrum Allocation confirms to ITU Spectrum Allocation Plan for Region II.

Figure 1 - ITU Radiocommunication Regulatory Regions



3. Existing Spectrum Allocation

At a high level, the radio frequency spectrum is divided into 7 groups as follows:

- Medium Frequency (MF) 300 kHz to 3 MHz
- High Frequency (HF) 3 MHz to 30 MHz
- Very High Frequency (VHF) 30 MHz to 300 MHz
- Ultra High Frequency (UHF) 300 MHz to 3 GHz
- Super High Frequency (SHF) 3 GHz to 30 GHz
- Extremely High Frequency (EHF) 30 GHz to 300 GHz

URCA manages the spectrum through a system of frequency allocations, allotment and assignments and the EMF spectrum is further divided into bands of frequencies allocated to general groups of services. These bands may be sub-divided and allotted to specific services that are further divided where specific channel plans are identified for assignment.

Assignment refers to that final sub-division of the spectrum that is awarded to a licensee.

The National Spectrum Plan to be issued in accordance with section 31 will cover the entire range of electromagnetic frequencies used to provide communications. This could include all frequencies in the range of electromagnetic spectrum essentially just above the human audio range and below the visual light spectrum range. In general most spectrum plans are defined as the frequency range of 9 kHz to 300 GHz.

A summarised Spectrum Allocation Table currently used for The Bahamas is shown below. These allocations conform to the ITU Region 2 Allocation Table.

SUMMARY OF SPECTRUM ALLOCATIONS			
REF#	LOWER FREQ	UPPER FREQ	ALLOCATED SERVICES
1	30.0000	30.560	Bahamas Government Fixed/Mobile
2	30.5600	31.980	Business / Industry Land Mobile
3	31.9900	32.0000	Public Safety
4	32.0000	33.0000	Bahamas Government
5	33.0000	33.1000	Public Safety
6	33.1200	33.4000	Business / Petroleum
7	33.4200	34.0000	Fire
8	34.0000	35.0000	Bahamas Government
9	35.0200	36.0000	Business / Paging
10	36.0000	37.0000	Bahamas Government
11	37.0200	37.4200	Police / Local Govt
12	37.4600	37.8600	Power, Water, Pipeline
13	37.9000	38.0000	Highway Maint / Special Emergency
14	38.0000	39.0000	Bahamas Government
15	39.0200	40.0000	Police / Local Govt
16	40.0000	42.0000	Bahamas Government
17	42.0200	42.9400	Police
18	42.9600	43.6800	Business / Paging
19	43.7000	44.6000	Transportation - Bus, Truck
20	44.6200	45.0600	Police /Cultural Conservation
21	45.0800	45.8600	Police / Local Govt / Highway Maint
22	45.9000	46.0400	Police / Emergency
23	46.0600	46.5000	Fire
24	46.5200	46.5800	Local Govt
25	46.6100	46.9700	Cordless Phones - Base
26	47.0200	47.400	Highway Maint
27	47.4400	47.6800	Industry / Emergency
28	47.7000	49.5800	Industry
29	49.6700	49.9900	Cordless Phones - Handset
31	50.0000	54.0000	Amateur (6-Meter)
32	54.0000	72.0000	Broadcast Tv Chs 2-4
33	72.0000	76.0000	(Various)
34	76.0000	88.0000	Broadcast Tv Chs 5-6
35	88.0000	108.0000	Fm Broadcast
36	108.0000	118.0000	Aero - Navigation
37	118.0000	136.0000	Aero - Communications
38	136.0000	138.0000	Satellite
39	138.0000	144.0000	Bahamas Government
40	144.0000	148.0000	Amateur (2-Meter)

41	148.0000	150.8000	Bahamas Government
43	150.8150	150.965	Auto Emergency
44	150.9950	151.5950	Highway / Industry
45	151.6250	151.9550	Business
46	152.0300	152.2400	Mobile Phone (Base) / Page
47	152.2700	152.4500	Taxi (Base)
48	152.5100	152.8400	Mobile Phone (Base) / Page
49	152.8700	153.7250	Industry
50	153.7400	154.4450	Fire / Govt (Mobile)
51	154.4520	154.4820	Industry (Telemetry)
52	154.4900	154.6250	Industry
53	154.6500	156.2400	Police / Govt /
54	156.0250	157.4250	Maritime (Ship)
55	157.4700	157.5150	Auto Emergency
56	157.5300	157.7100	Taxi (Mobile) / Business
57	157.7700	158.1000	Mobile Phone (Mobile) / Paging
58	158.1300	158.4600	Industry
59	158.4900	158.7000	Mobile Phone (Mobile) / Paging
60	158.7300	159.2100	Police / Govt /
61	159.2250	159.4650	Land Mobile
62	159.4950	160.2000	Transportation - Bus, Truck
63	160.2150	161.6100	Land Mobile
64	160.6250	160.950	Maritime – Coast
65	161.6400	161.760	Broadcast Pickups
66	161.5000	162.025	Maritime – Coast
68	162.0200	174.0000	(Various, Mainly Bahamas Government)
69	174.0000	216.0000	Broadcast Tv Chs 7-13
70	216.0000	218.0000	Maritime, Coast
71	218.0000	219.0000	Ivds - Interactive Video & Data
72	219.0000	220.0000	Maritime - Amts, Ship
73	220.0000	221.0000	(Private Land Mobile) – Base
74	221.0000	222.0000	(Private Land Mobile) – Mobile
75	222.0000	225.0000	Amateur (1.25-Meter)
76	225.0000	400.0000	Bahamas Government - Aero (Am)
77	400.0000	406.0000	Bahamas Govt - Meteorological / Space
78	406.0000	420.0000	Bahamas Government
79	420.0000	450.0000	Amateur (70cm) / Defence Force Radar /
81	450.0500	450.9250	Auxiliary Broadcasting
82	451.0250	452.025	Industry

83	452.0500	452.5000	Taxi / Industry / Transport
84	452.5250	452.6000	Automobile Emergency
85	452.6250	452.9500	Transportation - Trucks / Railroad
86	452.9750	453.0000	Relay Press
87	453.0250	453.9750	Local Govt / Public Safety
88	454.0250	454.6500	Mobile Telephone
89	454.6750	454.9750	Mobile Telephone Air (Ground)
90	455.0500	455.9250	Auxiliary Broadcasting
91	456.0250	457.0250	Industry
92	457.0500	457.5000	Taxi / Industry / Transport
93	457.5250	457.600	Maritime - Shipboard Repeater
94	457.6250	457.9500	Transportation – Trucks
95	457.9750	458.0000	Land Mobile
96	458.0250	458.9750	Public Safety / Local Govt
97	459.0250	459.6500	Mobile Telephone
98	459.6750	459.9750	Mobile Telephone
100	460.0250	460.5500	Police / Public Safety
101	460.5750	460.6250	Fire
102	460.6500	460.8750	Business - Airport Use
103	460.9000	461.0000	Business - Central Alarms
104	461.0250	462.1750	Business
105	462.2000	462.5250	Manufacturers / Industry
106	462.5500	462.7250	Gmrs
107	462.7500	462.9250	Business (Paging)
108	462.9500	463.1750	Med (Ambulance/Hospital)
109	463.2000	465.0000	Business
110	465.0250	465.5500	Police / Public Safety
111	465.5750	465.6250	Fire
112	465.6500	465.8750	Business - Airport Use
113	465.9000	466.0000	Business - Central Alarms
114	466.0250	467.1750	Business
115	467.2000	467.525	Manufacturers / Industry
116	467.5500	467.7250	Gmrs
117	467.7500	467.925	Business (2w, Telemetry)
118	467.7500	467.825	Maritime - Shipboard)
119	467.9500	468.1750	Med (Ambulance/Hospital)
120	468.2000	469.9750	Business
122	470.0000	512.000	Broadcast Tv, Chs 14-20
123	512.0000	806.000	Broadcast Tv, Chs 21-69
125	806.0120	809.7375	General – Conventional
126	809.7620	810.9875	General - Single Channels
127	811.0120	815.9875	General – Trunked
128	816.0120	820.9875	Smr – Trunked

129	821.0120	823.9875	Public Safety – Trunked
130	824.0400	834.3600	Cellular Telephone
131	834.3900	835.6200	Cellular Telephone (Data)
132	835.6500	848.9700	Cellular Telephone
133	849.0000	851.0000	Aircraft Telephone
134	851.0120	854.7375	General – Conventional
135	854.7620	855.9875	General - Single Channels
136	856.0120	860.9875	General – Trunked
137	861.0120	865.9875	Smr – Trunked
138	866.0120	868.9875	Public Safety – Trunked
139	869.0400	879.3600	Cellular Telephone
140	879.3900	880.6200	Cellular Telephone (Data)
141	880.6500	893.9700	Cellular Telephone
142	894.0000	896.0000	Aircraft Telephone
144	896.0000	901.0000	Smr/Business/Industry – Mobile
145	901.0000	902.000	Personal Communications Services
146	902.0000	928.000	Amateur (33cm) / Various Secondary
147	928.0000	929.0000	Fixed
148	929.0000	930.000	Paging
149	930.0000	931.000	Personal Communications Services – Base
150	931.0000	935.0000	Fixed
151	935.0000	940.000	Smr/Business/Industry – Base
152	940.0000	941.000	Personal Communications Services – Base
153	941.0000	960.0000	Fixed
154	960.0000	1215.000	Aeronautical Navigation
155	1215.0000	1240.000	Bahamas Govt - Radiolocation / Space
156	1240.0000	1300.000	Amateur (23cm)
157	1300.0000	1350.0000	Aeronautical Radionavigation / Radiolocation
158	1350.0000	1390.0000	Fixed Mobile /Radiolocation
159	1390.0000	1392.0000	Fixed Mobile / Fixed-Sat (E_S)
170	1392.0000	1395.0000	Mobile / Fixed
171	1395.0000	1400.0000	Landmobile
172	1400.0000	1427.0000	Radio Astronomy Earth Expl Sat(Passive) / Space Research (Passive)
173	1427.0000	1429.5000	Landmobile / Fixed (TIm)
174	1430.0000	1432.0000	Fixed-Sat (S-E)/Fixed (TIm)/ Landmobile (TIm)

175	1432.0000	1435.0000	Fixed / Mobile
176	1435.0000	1525.0000	Mobile (Aeronautical Telemetry)
177	1525.0000	1530.0000	Mobile / Mobile Sat (Space To Earth)
178	1530.0000	1535.0000	Maritime Mobile Sat (Space To Earth)/Mobilesat (Space To Earth)/Mobile (Aero-Tlm)
179	1535.0000	1544.0000	Maritime Mobile Satellite (Space To Earth)/Mobile Satellite (S-E)
180	1544.0000	1545.0000	Mobile Satellite (S-E)
181	1545.0000	1549.5000	Aeronautical Mobile Satellite (Space To Earth)/Mobile Satellite (Space To Earth)
182	1558.50000	1559.0000	Aeronautical Mobile Satellite (Space To Earth)
183	1559.0000	1610.0000	Aeronautical Radionavigation/Radionav. (Space To Earth)
184	1610.0000	1610.6000	Aero. Radionavigation/Radio Det.Sat (E-S)/Mobilesat (E-S)
185	1610.6000	1613.8000	Aero.Radionav/Radio Det. Sat.(E-S)/Mobile Sat. (E-S)/Radio Astronomy
186	1613.8000	1626.5000	Aero.Radionav/Radio Det. Sat. / Mobile Sat (S-E)
187	1625.5000	1660.0000	Mobile Satellite (E-S)
188	1660.0000	1660.5000	Radioastronomy / Mobile Sat (E-S)
189	1660.5000	1668.4000	Radio Astronomy/Space Research (Passive)
200	1668.4000	1670.0000	Radio Astronomy/Meteorological Aids (Radiosonde)
201	1670.0000	1675.0000	Mobile/Fixed
202	1675.0000	1700.0000	Meteorological Satellite (S-E)/Meteorological Aids (Radiosonde)
203	1700.0000	1710.0000	Met. Sat (S-E)/Fixed/Fixed
204	1710.0000	1755.0000	Fixed/Mobile
205	1755.0000	1850.0000	Fixed/Mobile
206	1850.000	2000.0000	Cellular
207	2000.0000	2020.0000	Mobile Satellite (E-S)
208	2020.0000	2025.0000	Fixed / Mobile
209	2025.0000	2110.0000	Space Res. (E-S) (S-S)/Earth Expl Sat. (E-S)(S-S)/Space Op (E-S)(S-S)/Mobile/Fx
210	2110.0000	2155.0000	Fixed / Mobile
211	2155.0000	2160.0000	Fixed
212	2160.0000	2180.0000	Fixed / Mobile
213	2180.0000	2200.0000	Mobile Satellite (S-E)
214	2200.0000	2290.0000	Fixed (Los)/Mobile (Los)/Space Research (S-E)(S-S)/Space Operation (S-E)(S-S)/Earth Exploration Sat (S-E)(S-S)
215	2290.0000	2300.0000	Space Res. (S-E)/Fixed/Mobile
216	2300.0000	2305.0000	Amateur

217	2305.0000	2310.0000	Amateur/Radiolocation/Mobile/Fixed
218	2310.0000	2320.0000	Amateur/Radiolocation/Mobile/Fixed
219	2320.0000	2345.0000	Mobile/Radiolocation/Fixed/Bcst-Satellite
220	2345.0000	2360.0000	Radiolocation/Mobile/Fixed/Mobile/Fx/R-Loc/B-Sat
221	2360.0000	2385.0000	Mobile/Radiolocation/Fixed
222	2385.0000	2390.0000	Mobile/Fixed
223	2390.0000	2400.0000	Amateur
224	2400.0000	2417.0000	Amateur
225	2417.0000	2450.0000	Radiolocation/Amateur
226	2450.0000	2483.5000	Fixed/Mobile/Radiolocation
227	2483.5000	2500.0000	Radio Determination Sat (S-E)/Mobile Satellite (S-E)
228	2500.0000	2655.0000	Bcst-Sat/Mobile/Fx_Sat(S-E)/Fixed
229	2655.0000	2690.0000	E.Expl Sat/Radio Ast./Space Res/Mob/B-Sat/Fx/Fx-Sat
230	2690.0000	2700.0000	Radio Aston/Space Research/Earth Expl Sat
231	2700.0000	2900.0000	Aeronautical Radionavigation/Meteorological Aids/Radiolocation
232	2900.0000	3000.0000	Maritime Radionavigation/Radiolocation
233	3000.0000	3100.0000	Maritime Radionavigation / Radiolocation
234	3100.0000	3300.0000	Radiolocation / Radiolocation
235	3300.0000	3500.0000	Radiolocation / Radiolocation / Amateur
236	3500.0000	3600.0000	Aeronautical Radionavigation (Ground)/ Radiolocation / Radiolocation
237	3600.0000	3650.0000	Aeronautical Radionavigation (Ground)/Radiolocation/Fixed Sat (S-E)/Radiolocation
238	3650.0000	3700.0000	Mobile / Fixed Sat (S-E) / Fixed
239	3700.0000	4200.0000	Fixed / Fixed Satellite (S-E)
240	4200.0000	4400.0000	Aeronautical Radionavigation
241	4400.0000	4500.0000	Fixed / Mobile
242	4500.0000	4800.0000	Fixed Satellite (S-E) / Mobile / Fixed
243	4800.0000	4940.0000	Fixed / Mobile
244	4940.0000	4990.0000	Fixed / Mobile
245	4990.0000	5000.0000	Radio Astronomy / Space Research (Passive)
246	5000.0000	5150.0000	Aeronautical Radionavigation
247	5150.0000	5250.0000	Aeronautical Radionavigation/Fixed Sat (S-E)
248	5250.0000	5350.0000	Radiolocation / Radiolocation
249	5350.0000	5460.0000	Aeronautical Radionav / Radiolocation / Radiolocatio
250	5460.0000	5470.0000	Radionavigation / Radiolocation
251	5470.0000	5600.0000	Maritime Radionavigation / Radiolocation

252	5600.0000	5650.0000	Maritime Radionavigation / Meteorological Aids / Radiolocation
253	5650.0000	5830.0000	Radiolocation /Amateur
254	5830.0000	5850.0000	Radiolocation / Amateur-Sat (S-E) / Amateur
255	5850.0000	5925.0000	Mobile / Fixed Sat (S-E) / Amateur
256	5925.0000	6425.0000	Fixed / Fixed Satellite (S-E)
257	6425.0000	6525.0000	Fixed Satellite (S-E) / Mobile
258	6525.0000	6700.0000	Fixed Satellite (S-E) / Fixed
259	6700.0000	6875.0000	Fixed Satellite (S-E) / Fixed
260	6875.0000	7025.0000	Mobile / Fixed Satellite (E-S) / Fixed
261	7025.0000	7075.0000	Mobile / Fixed Satellite (E-S) / Fixed
263	7075.0000	7125.0000	Mobile / Fixed
264	7125.0000	7190.0000	Fixed
265	7190.0000	7235.0000	Fixed
266	7235.0000	7250.0000	Fixed
267	7250.0000	7300.0000	Fixed Satellite (S-E) / Mobile Satellite (S-E)/ Fixed
268	7300.0000	7450.0000	Fixed Satellite / Fixed / Mobile Satellite (S-E)
269	7450.0000	7550.0000	Fixed Satellite / Met Satellite (S-E)
270	7550.0000	7750.0000	Fixed Fixed-Satellite (Space-To-Earth) Mobile-Satellite (Space-To-Earth)
271	7750.0000	7900.0000	Fixed
272	7900.0000	8025.0000	Fixed Fixed-Satellite (Earth-To-Space)/ Mobile-Satellite (Earth-To-Space)/Fixed
273	8025.0000	8175.0000	Earth Exploration Satellite (S-E)/ Fixed/ Fixed-Satellite (E-S) Mobile Satellite (E-S)
274	8175.0000	8215.0000	Earth Exploration Satellite (S-E) / Fixed/ Fixed Satellite (E-S) / Meteorological Satellite (E-S) / Mobile Satellite (E-S)
275	8215.0000	8400.0000	Earth Exploration Satellite (S-E) / Fixed / Fixed Satellite (E-S) / Mobile Satellite (E-S)
276	8400.0000	8450.0000	Fixed
277	8450.0000	8500.0000	Fixed
278	8500.0000	9000.0000	Radiolocation
279	9000.0000	9200.0000	Aeronautical Radionavigation/Radiolocation
280	9200.0000	9300.0000	Maritime Radionavigation/Radiolocation
281	9300.0000	9500.0000	Radionavigation/Meteorological Aids/Radiolocation
282	9500.0000	10000.0000	Radiolocation
283	10(GHZ)	10.45(GHZ)	Radiolocation
284	10.45	10.5	Radiolocation
285	10.5	10.55	Radiolocation
286	10.55	10.6	Fixed
287	10.6	10.68	Earth Exploration Satellite

288	10.68	10.7	Earth Exploration Satellite/Radio Astronomy
289	10.7	11.7	Fixed-Satellite (Space-To-Earth)
290	11.7	12.2	Fixed-Satellite (Space-To-Earth)
291	12.2	12.7	Fixed Broadcasting Satellite
292	12.7	12.75	Fixed-Satellite (Earth To Space)/Mobile
293	12.75	13.25	Fixed-Satellite (Earth To Space)
294	13.25	13.4	Aeronautical Radionavigation/Standard Frequency And Time Signal Satellite(Earth To Space)
295	14	14.2	Fixed-Satellite (Earth To Space)/Radionavigation
296	14.2	14.3	Fixed-Satellite(Earth To Space)
297	14.3	14.4	Fixed-Satellite(Earth To Space)
298	14.4	14.5	Fixed-Satellite(Earth To Space)
299	14.5	14.7145	Fixed/Mobile
300	14.7145	15.1365	Mobile/Fixed
301	15.1365	15.35	Fixed/Mobile
302	15.35	15.4	Earth Exploration Satellite/ Government
303	15.4	15.7	Aeronautical Radionavigation
304	15.7	16.6	Radiolocation
305	16.6	17.1	Radiolocation/Government/(Earth-To-Space)
306	17.1	17.2	Radiolocation/Government
307	17.2	17.3	Radiolocation/Government
308	17.3	17.7	Radiolocation(Government)/Fixed Satellite (Earth To Space) Industry
309	17.7	17.8	Fixed Satellite (Space To Earth)/ Mobile (Earth To Space)
310	17.8	18.6	Fixed Satellite (Space To Earth)
311	18.6	18.8	Fixed Satellite (Space To Earth)
312	18.8	19.7	Fixed Satellite (Space To Earth)/Mobile
313	19.7	20.1	Fixed Satellite (Space To Earth)/ Mobile (Earth To Space)