



AITI

Authority for
Info-Communications
Technology
Industry of Brunei Darussalam

SPECTRUM PRICING

by:
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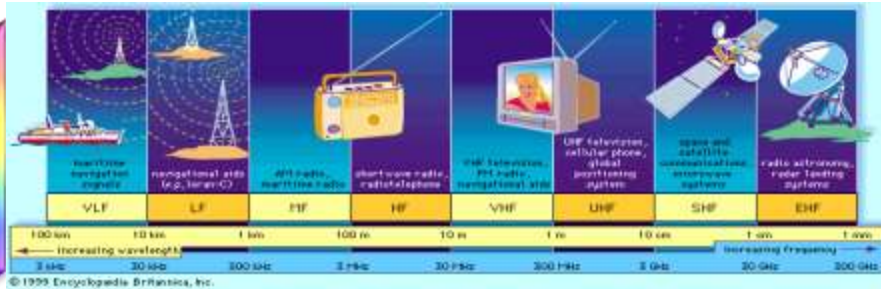
WHAT IS RADIOFREQUENCY SPECTRUM?

Means of transmission of signals

Wired
Copper Wires
Fibre Cables



Wireless
Radio waves



Radiofrequency spectrum is part of the electromagnetic spectrum corresponding to radio frequencies from 9 kHz to 300 GHz

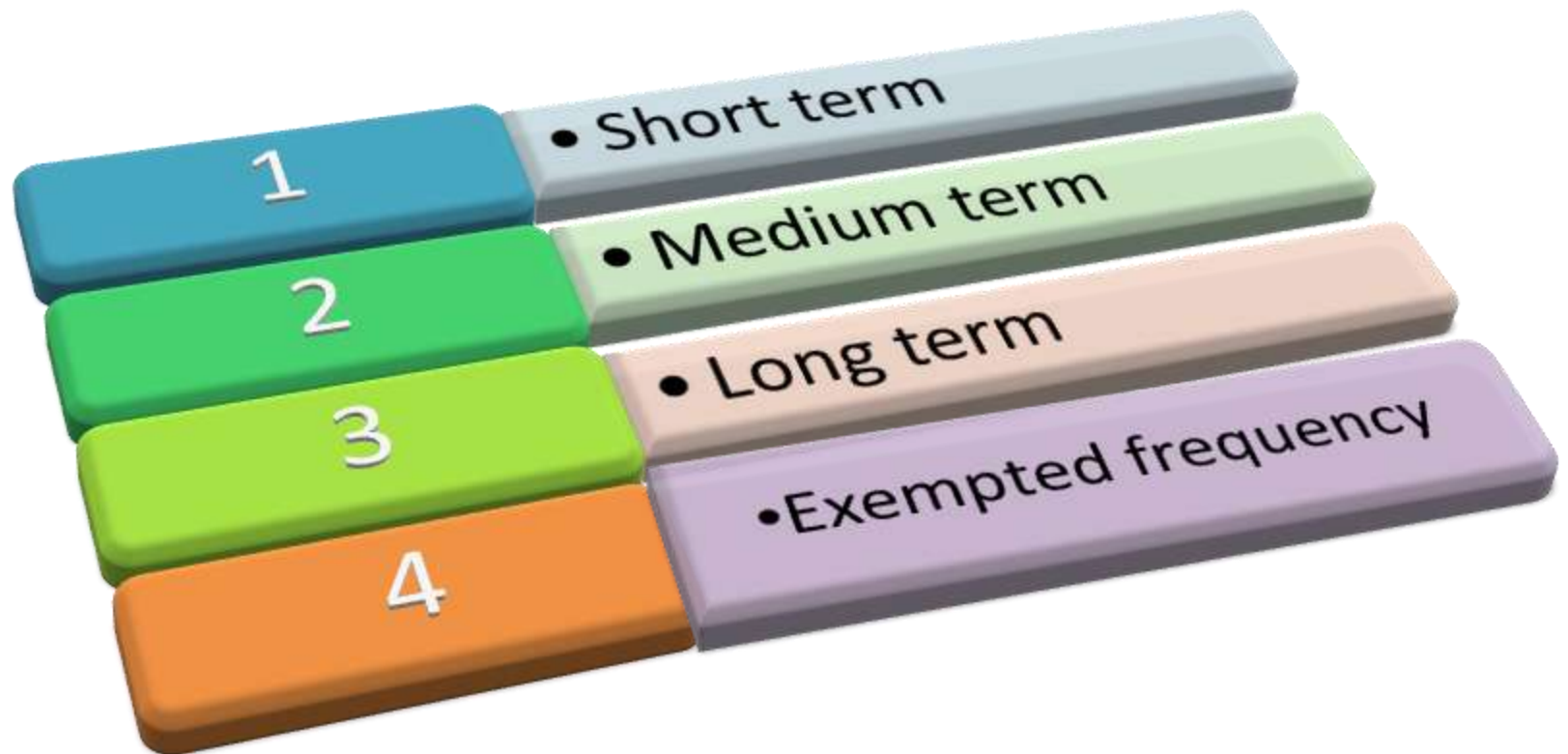
WHY SPECTRUM IS CHARGED?

Spectrum is very limited national resource

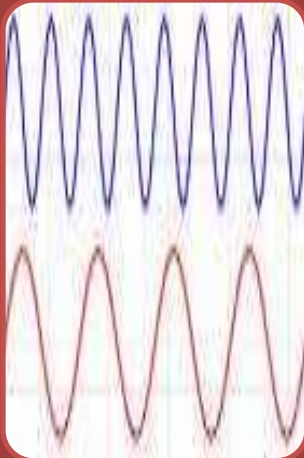
- ❑ For regulator:
 - Efficient use of spectrum
 - Reduce the chance of “spectrum hoarding”

- ❑ For users:
 - Fair opportunities to spectrum access
 - Encourage the introduction of new technologies

SPECTRUM CATEGORIES



Short term

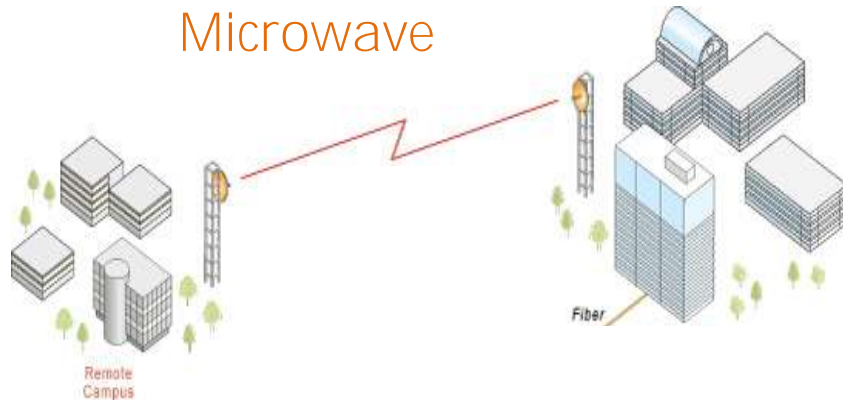


- Temporary use not more than 3 months
- Testing equipment, exhibition

Medium term

- Annual Basis (1 year)

Trunked Radio/Land Mobile



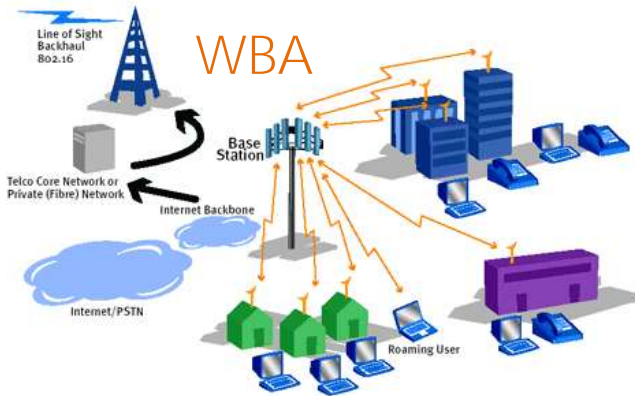
Satellite Uplink & Downlink



- Others include Telemetry, Fixed point to point, Aeronautical, Maritime, Radar and HF equipment

Long term

➤ InTi Licensee (5, 10, 15 and 20 years)

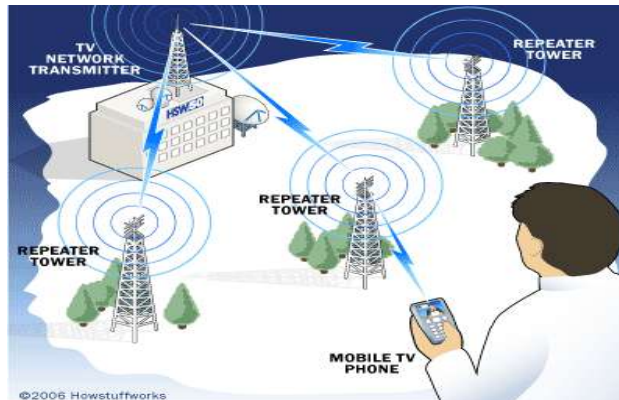


How mobile networks work

GSM/3G



Broadcasting



Exempted frequency * _



SPECTRUM FEE CATEGORIES

Application fees

Temporary usage

Fee for Medium term usage

Fee for Long term usage

Fee for Station assignment

1. APPLICATION FEES

<i>Bandwidth</i>	<i>Fee payable for frequency (B\$)</i>
1. Temporary use	100
2. All other frequencies	
i. $x \leq 25$ kHz	290
ii. $25 \text{ kHz} < x < 500 \text{ kHz}$	450
iii. $500 \text{ kHz} \leq x < 1 \text{ MHz}$	700
iv. $1 \text{ MHz} \leq x < 20 \text{ MHz}$	900
v. $x \geq 20 \text{ MHz}$	1,200
3. Satellite Frequencies	
Uplink	500
Downlink	500

2. TEMPORARY USAGE

Bandwidth (x)	Fee payable for frequency (B\$)
	0 – 90 days
$X \leq 25$ kHz	100
25 kHz $< x < 500$ kHz	150
500 kHz $\leq x < 1$ MHz	200
1 MHz $\leq x < 20$ MHz	400
$X \geq 20$ MHz	700

***excluding GSM, 3G, IMT, WBA and LTE band**

FORMULA FOR MEDIUM AND LONG TERM FREQUENCY USAGE

3. FEE FOR MEDIUM TERM

a. **Price per hop = Unit Price (F1) (F2) (N) per annum**

Unit Price = B\$ 500.00 (five hundred dollar)

F1 = Band Factor	F2 = Bandwidth Factor
1.2 = 1 - 4 GHz	2 = $x \leq 7$ MHz
1.0 = 5 – 8 GHz	4 = $7 \text{ MHz} < x \leq 14 \text{ MHz}$
0.8 = 9 – 14 GHz	6 = $14 \text{ MHz} < x \leq 28 \text{ MHz}$
0.7 = 15 – 18 GHz	8 = above 28 MHz
0.5 = 19 GHz and above	
N = Total number of RF Channel	

3. FEE FOR MEDIUM TERM - cont

b. LAND MOBILE, TRUNK RADIO, TELEMETRY, FIXED POINT TO POINT, AERONAUTICAL AND MARITIME (LOCALIZED USE)

Price per channel = B\$75.00 per 12.5 kHz of occupied bandwidth

c. FIXED FEE

High Frequency (HF) : B\$50 per channel

4. FEE FOR LONG TERM

Spectrum fee = (Unit Price) (B) (K1)

Unit Price = B\$ 1000.00 (one thousand dollar)

B = BUP + BDOWN (assigned bandwidth in MHz or spectrum size in MHz)

Band Factor	Description
1.0	Television Band
6.0	Radio Band
8.0	2.3 GHz and 2.5 GHz Band (WBA)
10.0	1.7 GHz to 2.1 GHz (Cellular and WBA) and land mobile/trunked radio (non-localized use)
12.0	700 MHz to 900 MHz Band (Cellular and WBA)

5. Fee for Station Assignment

- Based on type and number of assigned station
- The categories of the station assignment are as follows:
 - Fixed
 - Radiodetermination
 - Space
 - Mobile
 - Broadcasting
 - Amateur
 - Maritime
 - Aeronautical
- Proposed Table of Stations License Fees [*](#)

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