

## Appendix 1

### CALCULATION STANDARDS TABLE OF MOBILE TELECOMMUNICATIONS FREQUENCY

1. Payment of the utilization fee shall be made annually by the mobile communications operator  

$$= \text{utilization fee per MHz} * \text{assigned frequency bandwidth} * \text{Annual adjustment factor} * (\text{remote area coverage factor} - \text{mountain coverage factor}) * \text{frequency adjustment factor} * \text{territory factor} - \text{discount fee of participate in vertical application service}$$

2. The determinants of mobile communication businesses are in the following table:

Business category	Utilization fee per MHz ( NT\$/ MHz )
Wireless Broadband Access Services	1,476,000
Mobile Broadband	7,630,000

3. Annual adjustment factor:

(1)Wireless Broadband Access Services: 1.

(2)Mobile Broadband:

i. 3500 MHz frequency band (3300 MHz to 3570 MHz) and 28000 MHz frequency band (27000 MHz to 29500 MHz): 0.1 in the first year, 0.1 in the second year, 0.5 in the third year, 0.7 in the fourth year, and shall return to 1 after five years.

ii. Other frequency bands: 0.1 in the first year, 0.4 in the second year, 0.7 in the third year, and 1 in the fourth year.

4. Remote area coverage factor

Designated area coverage (L)	Population coverage rate for remote villages established with high-speed transmission station (C)	Remote area coverage factor
L < 50%	$C < 85\%$	1
	$85\% \leq C < 90\%$	1
	$90\% \leq C < 95\%$	1
	$95\% \leq C$	1
$50\% \leq L < 90\%$	$C < 85\%$	0.995
	$85\% \leq C < 90\%$	0.975
	$90\% \leq C < 95\%$	0.95
	$95\% \leq C$	0.925
$90\% \leq L$	$C < 85\%$	0.99
	$85\% \leq C < 90\%$	0.95
	$90\% \leq C < 95\%$	0.9
	$95\% \leq C$	0.85

5. Mountain coverage factor

Designated area coverage (M)	Mountain coverage factor
$M < 20\%$	0
$20\% \leq M < 40\%$	0.01
$40\% \leq M < 60\%$	0.02
$60\% \leq M < 80\%$	0.03
$80\% \leq M < 100\%$	0.04
$M = 100\%$	0.05

(1) The identity of designated area coverage shall be announced by the competent authority before April 30 of previous year of the charging year.

- (2) Frequency users shall submit the self-evaluation report for “Designated area coverage (L)” and “Population coverage rate for remote villages established with high-speed transmission station (C)” before January 31 of each year. Upon verification of the competent authority, the “remote area coverage factor” and “mountain coverage factor” shall be determined according to the aforesaid rate.
- (3) Population under the electromagnetic wave coverage in the remote area: where the village has more than one high-speed transmission station (where the maximum RF output power of the transmitter is more than 7.94 Watts) or the coverage of electromagnetic wave is above 85% of the village’s surface area, the population shall be calculated based on the village’s entire population.
- (4) Population coverage rate for high-speed transmission base in the remote area: population under the electromagnetic wave out of the total population of villages in the remote area

6. Frequency adjustment factor

Range of used frequency (F)	Frequency adjustment factor
$F < 1\text{GHz}$	1
$1\text{GHz} \leq F < 3\text{GHz}$	0.75
$3\text{GHz} \leq F < 6\text{GHz}$	0.18
$6\text{GHz} \leq F$	0.004

7. Discount fee of participate in vertical application service:

- (1) In order to promote the development of innovative vertical applications, the mobile communications operator cooperated with specific field demanders and providing vertical application services on the frequencies obtained through auctions, may submit an application before January 31 of each year, and after examination by the competent authority, the discount fees of participate in vertical application service can be determined for the current year according to the following calculation methods. The application method, examination and confirmation shall be determined by the competent authority.

The aforementioned innovative vertical application service areas combine with field owners to provide application services covering hardware, software, and cloud services, such as unmanned driving, drones, smart factories, smart medical care, smart agriculture, smart cities, etc.

- (2) The discount fee for participating in vertical application services shall be the contract amount of the cooperation agreement proposed by the mobile communications operator with the specific field demanders one year before the billing year multiplied by the discount ratio of the current year; the discount rate from 2021 shall be 30%, and the discount rate shall decrease by 5% year by year, and be 10% from 2025 onwards; during the aforementioned implementation period and discount rate, the competent authority shall undertake an annual review of the development situation of innovative vertical applications and cancel discount fees when the application is mature and stable.
- (3) The upper limit of the discount fee for a single industry participate in vertical application services  

$$= 7,630,000 \text{ NT\$ / MHz} * \text{Assigned frequency bandwidth (including uplink and downlink bandwidth)} * \text{Annual adjustment factor} * \text{frequency adjustment factor} * 0.15$$

Remarks:

1. Both up link and down link frequencies shall be charged.
2. Territory factors are detailed in Annex 1.
3. The territory factor of Wireless Broadband Access Service shall be determined by calculating all the territory factors of counties included in the service area.
4. WBA operators shall remit spectrum usage fees according to the billing standards of Mobile Broadband Service after the expiry of its concession license in one category and license renewal in another.

5. “Remote area” refers to the same “remote area” defined in Paragraph 12 of Article 2 of Telecommunications Universal Service Regulations; “high-speed transmission station” refers to the “high-speed transmission station” defined in Paragraph 5 of Article 2 of Regulations for Administration of Mobile Broadband Businesses.