|  |  |  |
| --- | --- | --- |
| APTlogogreen3 | ASIA-PACIFIC TELECOMMUNITY | **Document No.:** |
| **The 23rd Meeting of the APT Wireless Group (AWG-23)**  | **AWG-23/INP-15** |
| 9 – 13 April 2018, Da Nang City, Socialist Republic of Viet Nam | 28 March 2018 |

I.R. of iran

**response to questionnaire ON regulatory information for implementation IMT network in Asia-Pacific Region**

**Question 1:**

**Institution/Company Information and Profile**

Name of the institution : Communications Regulatory Authority of Iran

Name of contact person : A. Darvishi

Mailing Address : CRA building, Seyed khandan bridge, Shariati Str., Tehran, Iran

Phone : +9821 89662201

Email Address : darvishi@cra.ir

My institution is :Regulator

**Question 2:**

Which IMT technology being use and will be used or technology neutral in these bands?

Please fill in the frequency bands used for IMT and specify which IMT technology (e.g. WCDMA, HSPA, LTE, LTE-A, TDD-LTE, 3GPP Release 10, …) being used, if not IMT please answer “non-IMT”.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Frequency band****(MHz)** | **Frequency Block (MHz)** | **Operator** | **IMT Technology** | **Channel bandwidth (MHz)** |
| **Uplink** | **Downlink** |
| 880-914.9/925-959.9In capital(Tehran) | 880-890 | 925-935 | Ritel | 3G | 2\*10 |
| 890-896.25 | 935-941.25 | MTN | 2G | 2\*6.25 |
| 896.3-914.9 | 941.3-959.9 | TCI | 2/3G, LTE | 2\*18.6 |
| 880-914.9/925-959.9In other provinces | 880-890 | 925-935 | Ritel | 3G | 2\*10 |
| 890-898 | 935.1-943 | Irancell | 2G | 2\*8 |
| 898.1-902.7 | 943.1-947.7 | TCI | 2G, LTE | 2\*4.6 |
| 902.7-906.7 | 947.7-951.7 | Kish Telecom in Kish Island | 2G | 2\*4 |
| TCI in rural | non-IMTGSM900-WLL |
| 906.7-914.9 | 951.7-959.9 | TCI | 2G, LTE | 2\*8.2 |
| 1710-1785/1805-1880 | 1710-1713 | 1805.1-1808.1 | Hiweb/Iraphon(rural operators) | non-IMTGSM1800-WLL | 2\*3 |
| 1725.1-1739.9 | 1820.1-1834.9 | TCI | 2/3G, LTE | 2\*14.8 |
| 1740-1752 | 1835-1847 | Ritel | 3G | 2\*12 |
| 1765-1785 | 1860-1880 | Irancell | 3G | 2\*20 |
| 1880-1900 | - | non-IMT(DECT-WLL) | 20 |
| 1925-1980/2110-2170 | 1925-1935 | 2115-2125 | HiWeb Trunk | LTE | 2\*10 |
| 1935-1950 | 2125-2140 | Irancell | 3G | 2\*15 |
| 1950-1965 | 2140-2155 | Ritel | 3G | 2\*15 |
| 1965-1980 | 2155-2170 | TCI | 3G | 2\*15 |
| 2500-2570/2620-2690 | 2500-2515 | 2620-2635 | Irancell | LTE | 2\*15 |
| 2540-2545 | 2665-2670 | Kish TelecomIn Kish island | LTE | 2\*5 |
| 2550-2565 | 2670-2685 | TCI | LTE | 2\*15 |
| 2520-2535 | 2640-2655 | Ritel | LTE | 2\*15 |

**Question 3:**

Please provide (or refer to) characteristics, and protection criteria, for implementing the IMT systems/networks in Question 2, and similar information for non-IMT services, within the IMT band and in the neighboring bands.

**Answer**:

1. There are not any protective channels or regulations between operator's frequency bands in FDD mode. To avoid any interference, operators should coordinate together on their first and last radio channels.
2. For TDD operation mode:
	1. Regulator takes a 5 MHz spacing between the FDD and TDD frequency bands in both ends, but inside the frequency range designated for TDD operation;
	2. Regulator imposes a license-condition by which the operators utilizing adjacent frequency bands in same frequency range:
		1. should synchronize their uplink and downlink sessions, or
		2. should coordinate eachother to consider a small bandwith as guardband.
3. To avoid any interference to/from neighbor countries' operator:
	1. Regulator signs an arrangement with administration of neighbor country to limit radiation beyond cross-border range/zone, and
	2. domestic operators should limit their RF planning and coverage into inside the national border and territorial water.

1. In the frequency band 1 880-1 900 MHz, where the probability of harmful interference exists with WLL-DECT systems, the two beginning RF channels of the WLL-DECT systems should be left unused.
2. CRA Decision No. CRA-DEC 5008-04 provides the list of utilized frequency bands by operators for provision of public cellular mobile services, technology neutral.

**Question 4:**

Which case of coexistence as illustrated below and the technical conditions must be applied to each IMT block (e.g. power limit, emission mask for spectrum block, pfd limit …) to support technology neutrality and spectrum efficiency?

|  |  |  |
| --- | --- | --- |
| **Frequency band (MHz)** | **Case** | **Technical condition** |
| 880-914.9/925-959.9 | A | According to answer of question 3 |
| B | No |
| C | ITU Radio Regulations(aeronautical services) |
| D | No |
| E | 902.7-906.7/947.7-951.7 MHz non-IMT used in rural area according to ITU Radio Regulations and 3GPP standards. |
| 1710-1785/1805-1880 | A | According to Answer of question 3 |
| B | No |
| C | 1880-1900 MHz used by DECT-WLLaccording to ITU Radio Regulations and international standards |
| D | No |
| E | No |
| 1925-1980/2110-2170 | A | CRA-DEC 5008-4 national Regulations and according to answer of question 3 |
| B | No |
| C | No |
| D | No |
| E | No |
| 2500-2570/2620-2690 | A | According to Answer of question 3 |
| B | No |
| C | No |
| D | No |
| E | No |



Case A: coexistence between IMT block and IMT in adjacent block in same IMT band

Case B: coexistence between IMT block and non-IMT in adjacent block in same IMT band

Case C: coexistence between IMT block in IMT band and non-IMT block in adjacent band

Case D: coexistence between IMT block and non-IMT block co-channel but adjacent geographical area

Case E: coexistence between IMT block and other IMT block co-channel but adjacent geographical area

\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_