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London, 19 October 2001

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Federal Communications Commission
To the attention of
Mrs. Magalie ROMAN SALAS
445 12th street, S.W.
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USA

With the Memorandum Opinion and Order and Further Notice of Proposed Rulemaking (MO&O and FNPRM /FCC 01-224) published the 20 August 2001, the Federal Communication Commission offers to Industry the possibility to comment on additional options and their potential to work in conjunction with the previously identified options in the NPRM concerning new advanced wireless services.

Orange Group is pleased to submit some comments to this MO&O and FNPRM encouraging those scenarios which give the opportunity of a possible global harmonisation of spectrum usage for third generation systems and applications. Orange Group is happy to see the importance given by the US Administration to study a complete set of options before taking their final decision on third generation spectrum.

Yours sincerely

Paul Franklin
Group Vice President of Carrier Services & Regulatory Affairs

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Orange Group comments

to

Memorandum Opinion and Order and

Further Notice of Proposed Rulemaking

MO&O and FNPRM /FCC 01-224

of

Federal Communications Commission

October 19, 2001

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1 Introduction

This paper contains Orange Group comments on the 'Memorandum Opinion and Order and Further Notice of Proposed Rule Making (MO&O and FNPRM)'[1] which considers the possible use of frequency bands below 3GHz to support the introduction of new advanced terrestrial wireless services, including third generation.

Orange Group would like to contribute to this consultation process on the spectrum for 3G in the spirit of Ambassador Gail Schoettler thoughts about international spectrum management, as expressed on Thursday, September 21, at the Center for Strategic and International Studies.

2 Orange Group Comments

In this MO&O and FNPRM, the FCC seeks comments on reallocating spectrum in the following bands :

A) 1910-1930 MHz and 2390-2400 MHz,
B) 1990-2025 MHz and 2165-2200 MHz,
C) 2150-2160 MHz,

for new advanced wireless services.

This paper supplements proposals already addressed in the Notice of Proposed Rulemaking (NPRM) and seeks to determine how these additional options might work in conjunction with the previously identified options.

Orange Group is pleased that the US Administration is studying a complete set of options before making a final decision on third generation spectrum. Orange Group encourages and supports the global harmonisation of spectrum usage for third generation systems and applications. Global harmonisation of spectrum will enable third generation services to be deployed with significant economies of scale on terminal and infrastructure equipment benefiting not only manufacturers and operators but also the consumer.

2.1 Possible use of part of the bands mentioned in section B, with the perspective of world-wide compatibility

Beyond the global harmonisation, which would be possible in the 1.8 GHz band i.e. 1710-1755 MHz paired with 1805-1850 MHz, as already expressed by Orange in the previous consultation process; this MO&O and FNPRM offers the opportunity to harmonise globally also parts of the bands identified for IMT-2000 by WARC-92.

[1] FCC 01-224

Orange Group believes that there are possibilities to achieve a certain degree of harmonisation also in part of the bands 1920-2010 MHz paired with 2110-2200 MHz.
The bands 1980-2010/2170-2200 MHz are identified world-wide in the RR for Mobile and for Mobile Satellite Services. These bands could complement the existing frequency arrangements in the WARC-92 Bands i.e. 1920-1980 MHz paired with 2110-2170 MHz where initial deployment of IMT-2000 is planned in most countries of Region 1 and Region 3 by using the same duplex separation of 190 MHz. Since MSS cannot be offered in urban areas we believe that 3G terrestrial component could be developed in those areas in US while 3G satellite component would offer services in remote areas.

Recommendation 1:

The bands 1990-2010 MHz (four blocks of 5 MHz) paired with the band 2180-2200 MHz could be used for short-term introduction of IMT-2000 terrestrial component in urban areas in the USA, depending on the regulatory feasibility, in the context of the licenses already awarded in this band.

The use of duplex separation of 190 MHz would allow easier manufacture and design of terminal equipment which would enable economies of scale and global roaming.

2.2 Possible use of part of the bands mentioned in section A, in the perspective of worldwide harmonisation

The addition of 1910-1930 MHz band to the studied options gives the possibility to have also in USA, spectrum use in line with global arrangements giving the USA manufacturers and operators the opportunity to achieve some of the benefits of the global roaming and economies of scale of terminal and infrastructure equipment.

- 1920-1930 MHz (two 5 MHz blocks) paired with 2110-2120 MHz for FDD operation and
- 1910-1920 MHz with two 5 MHz blocks for TDD operation.

It yields to spectrum block comprising 10 MHz TDD and 2x10 MHz FDD inclusive guard bands.

Recommendation 2:

IMT-2000 could be deployed in USA with FDD mode in the 1920-1930 / 2110-2120 MHz and with TDD mode in 1910-1920 MHz in a harmonised manner with Region 1 and Region 3 countries.

2.3 Preferred harmonised scenario in the 1.8 GHz band for new advanced wireless services success in USA

In parallel to the IMT-2000 deployment in the available part of the band identified by WARC-92, the 1.8 GHz band identified by WRC-2000 could be also used for new advanced wireless services in the USA.

This band is already used in Region 1 and Region 3 countries for 2G applications widely deployed and could become global for IMT-2000, if the USA could take the decision on the scenario in line with the current frequency arrangements in this band, thus giving the USA manufacturers and operators the opportunity to achieve some of the benefits of the global roaming and economies of scale of terminal and infrastructure equipment.

Recommendation 3 :

The solution allowing refarming of the 1805 – 1850 MHz band would make feasible the success of 3G in the USA in the global context by permitting the following pairing :

2 x 45 MHz at 1710 – 1755 MHz (up-link) with 1805 – 1850 MHz (down-link).

Such a solution would maintain the transmit direction and the duplex spacing of 95 MHz used internationally and would allow economy of scale of terminal equipment.

2.4 Other non-harmonised scenarios in the 1.8 GHz band in relation with the band mentioned in section C

Scenario proposed in Recommendation 3 was also supported by the majority of the US industry players to the previous NPRM. However some manufacturers propose the implementation of 3G systems in the band 1710-1755 MHz paired with part of the band 2110-2165 MHz. This solution appears as the easiest for short-term implementation in the USA however it would lead to a lack of harmonisation and some further isolation of the US mobile market from the rest of the world. As a consequence, both market players and consumers would not benefit from economies of scale for reduced infrastructure and terminal costs.

Recommendation 4:

In order to maximise the opportunities for world-wide harmonisation Orange Group proposes that scenario enabling pairing of the lower part of the 1710 – 1785 MHz band with the 2110-2170 MHz band should not be further considered until the attempts to elaborate solutions for the refarming of the existing systems in the band 1755-1850 MHz have been worked-out.

In case these systems could not be removed from the band 1805-1850 MHz within an adequate time schedule the spectrum arrangement pairing the bands 1755 - 1805 MHz and 2120 - 2170 MHz (including guard bands) would be preferable because still compatible with a implementation in long term in USA of recommendation 3 thus allowing in future the full usage of the 1,8 GHz band identified for IMT-2000 with part of it harmonised worldwide in long term.

If an unharmonised spectrum arrangement in the 1,8 GHz band is finally adopted it should at least be compatible with the solutions suggested by recommendations 1 and 2 allowing a fast introduction of third generation services in USA compatible with the rest of the world.

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3 Conclusion

Orange Group encourages and supports US investigations on the frequency arrangements for IMT-2000 in the WARC-92 and WRC-2000 bands. This paper makes recommendations which aim to ensure that the USA is able to take full opportunity of global roaming and economies of scale of terminal and infrastructure equipment.

Harmonised use of spectrum further consolidates the benefits of global spectrum identification. The harmonisation of frequency arrangements is a key element in order to reduce cost and complexity of IMT-2000 implementation allowing successful worldwide deployment (for USA as well for developing countries). It would thus echoed to the wishes expressed by Ambassador Gail Schoettler, the head of the World Radiocommunication Conference 2000 delegation : " We need to help the developing countries get what they want".