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| Project | **IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16> |
| Title | **Definition of CDMA code range for RS dedicated CDMA codes** |
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| Re: | IEEE802.16j-07/19, "Call for Technical Comments Regarding IEEE Project 802.16j" |
| Abstract | This contribution proposes text to describe a new CDMA ranging code rage for relay stations. |
| Purpose | To propose text to describe a new CDMA ranging code rage for relay stations. |
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# Definition of CDMA code range for RS dedicated CDMA codes

*Masato Okuda*

## Introduction

As described in 6.3.10.3.5, RS may be assigned some dedicated ranging codes during initial network entry.

This contribution proposes definition of CDMA code range for those codes.

## Specific Text Changes

*Change the fourth paragraph of 8.4.7.3 as indicated:*

The number of available codes is 256, numbered 0..255. Each BS uses a subgroup of these codes, where the subgroup is defined by a number S, 0 <= S <= 255. The group of codes will be between S and ((S+O+N+M+L+P+Q) mod 256).

— The first N codes produced are for initial-ranging. Clock the PRBS generator 144 × (S mod 256) times to 144 × ((S + N) mod 256) – 1 times.
— The next M codes produced are for periodic-ranging. Clock the PRBS generator 144 × ((N + S) mod 256) times to 144 × ((N + M + S) mod 256) – 1 times.
— The next L codes produced are for bandwidth-requests. Clock the PRBS generator 144 × ((N + M + S) mod 256) times to 144 × ((N + M + L + S) mod 256) – 1 times.
— The next O codes produced are for handover-ranging. Clock the PRBS generator 144 × ((N + M + L + S) mod 256) times to 144 × ((N + M + L + O + S) mod 256) – 1 times.
— The next P codes produced are for RS initial-ranging. Clock the PRBS generator 144 × ((N + M + L + O + S) mod 256) times to 144 × ((P + N + M + L + O + S) mod 256) – 1 times
— The next Q codes produced are for RS bandwidth request. Clock the PRBS generator 144 × ((P + N + M + L + O + S) mod 256) times to 144 × ((Q + P + N + M + L + O + S) mod 256) – 1 times

*Insert the following row into Table 353(.16e)/Table 601(Rev2) in 11.3 UCD management message encoding:*

Table 353(.16e)/Table 601(Rev2)—UCD message encodings

| Name | Type (1 byte) | Length | Value (variable-length) |
|---|---|---|---|
| RS Bandwidth Request | TBA | 1 | Number of RS dedicated bandwidth request codes. Possible values are 0 – 255. [a] |

*Change the Table 353(.16e)/Table 601(Rev2) in 11.3 UCD management message encoding as indicated:*

Table 353(.16e)/Table 601(Rev2)—UCD message encodings

| Name | Type (1 byte) | Length | Value (variable-length) |
|---|---|---|---|
| Start of ranging codes group | 155 | 1 | Indicates the starting number, S, of the group of codes used for this UL. If not specified, the default value shall |

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| | | | be set to zero. All the ranging codes used on this UL will be between S and ((S+O+N+M+L) mod 256) where<br>N is the number of initial ranging codes<br>M is the number of periodic ranging codes<br>L is the number of BR codes<br>O is the number of HO ranging codes<br>P is the number of RS initial ranging codes<br>Q is the number of RS bandwidth request codes<br>The range of values is $0 \leq S \leq 255$. |

## References

[1] IEEE 802.16j-07_026r4