Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**MAC header format for radio signature**
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Re:	IEEE 802.16 Working Group Letter Ballot #29
Abstract	This contribution proposes a MAC header format for radio signature.
Purpose	Discussion and accept.
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MAC Header Format for Radio Signature

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Introduction

Radio signatures are used for inter-system interference identification. Downlink radio signature may carry a MAC message including BSID information and uplink radio signature may carrier a MAC message including SSID.

If we use the traditional MAC PDU format, to carry BSID information in radio signature, at least 136 bits is needed as shown in following table.

GMH (48bits)	Management message type (48bits)	BSID (48bits)	CRC (32bits)

Table 1

But many IEs in GMH are useless for inter-system communication. For example, CID IEs in GMH is for intra-system communication, it is useless for inter-system communication.

The bandwidth for inter-system communication is very limited. It is necessary to redesign the MAC header for inter-system communication to improve the bandwidth efficiency.

To no MAC PDU appended, then the following table may be suitable for radio signature. ID field is the transmitter's ID. For downlink, it is the MAC address of BS. For uplink, it is the MAC address of SS. HCS is CRC-8.

ID (48bits)	HCS (8bits)

Table 2

If MAC PDU appended, the table 3 may be more suitable. ID field is the transmitter's ID. For downlink, it is the MAC address of BS. For uplink, it is the MAC address of SS.

ID (48bits)	Length (8bits)	HCS (8bits)	MAC PDU (variable)	CRC (32bits)

Table 3

If used for radio signature only, then table 2 is better. If used for both radio signature and SSURF, then table 3 is better.

Or considering radio signature and SSURF are transmitted in specific zone and can be identified by the receiving slot, we may let MAC message in radio signature following the table 2 and SSURF message following the table 3.

Proposed Text

15.3.6 Interference Identification

[tbd]

Reference

[1] C802.16h-07/106, Action Items from Session #52

[2] 80216h-07/053r2, Comment database on 16h draft D3