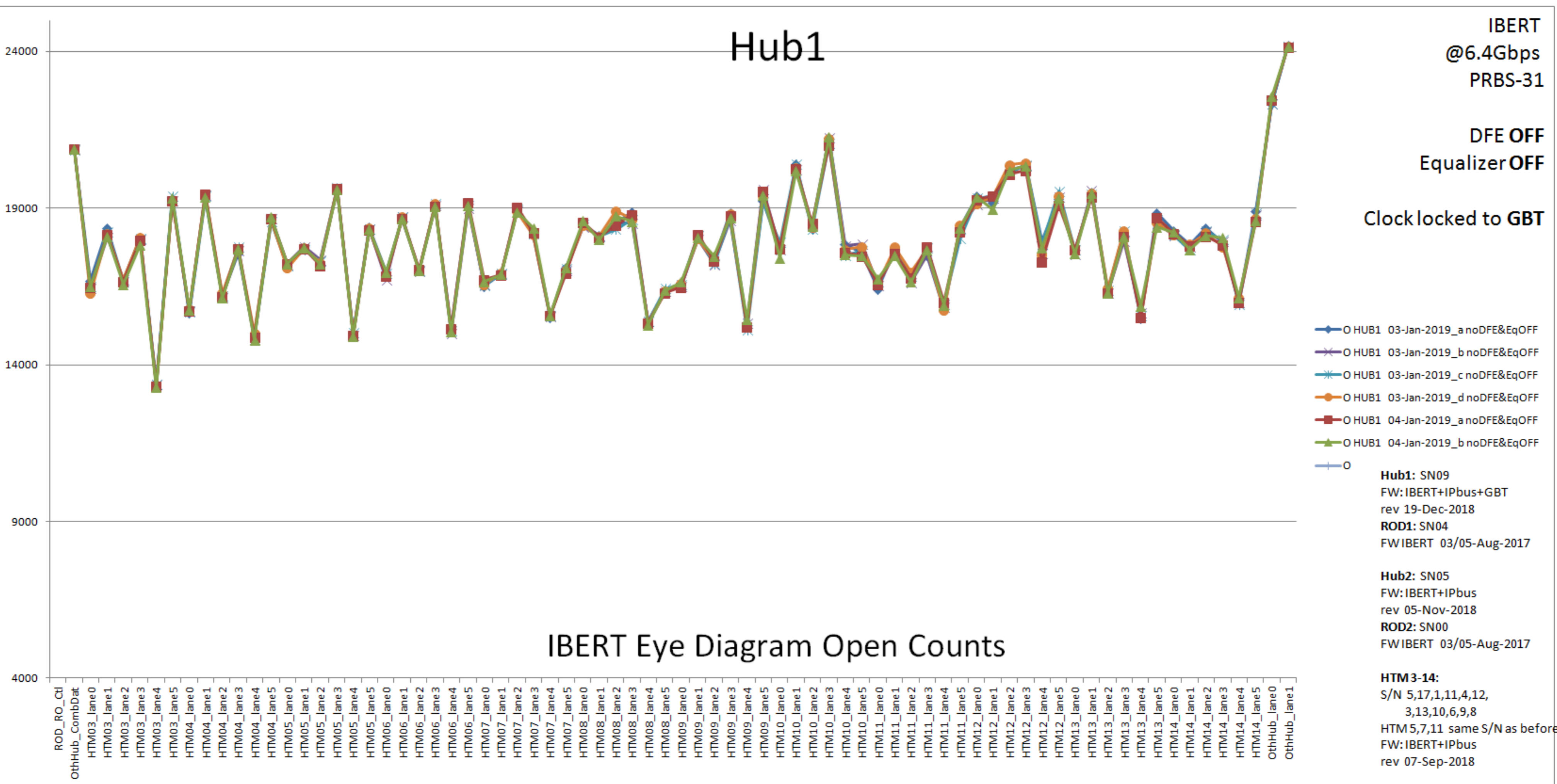


Hub1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Open Counts

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

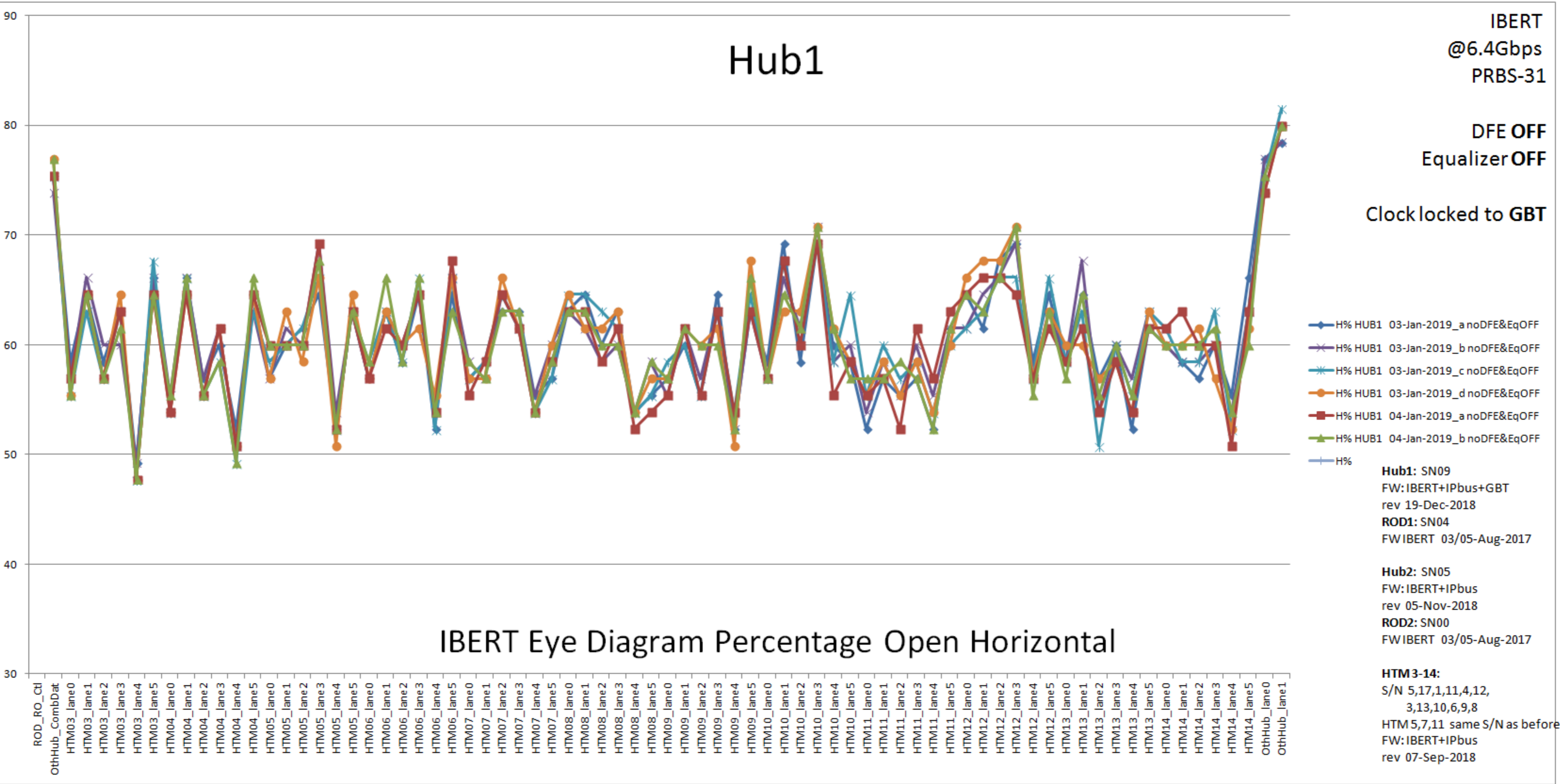
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

Hub1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Horizontal

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

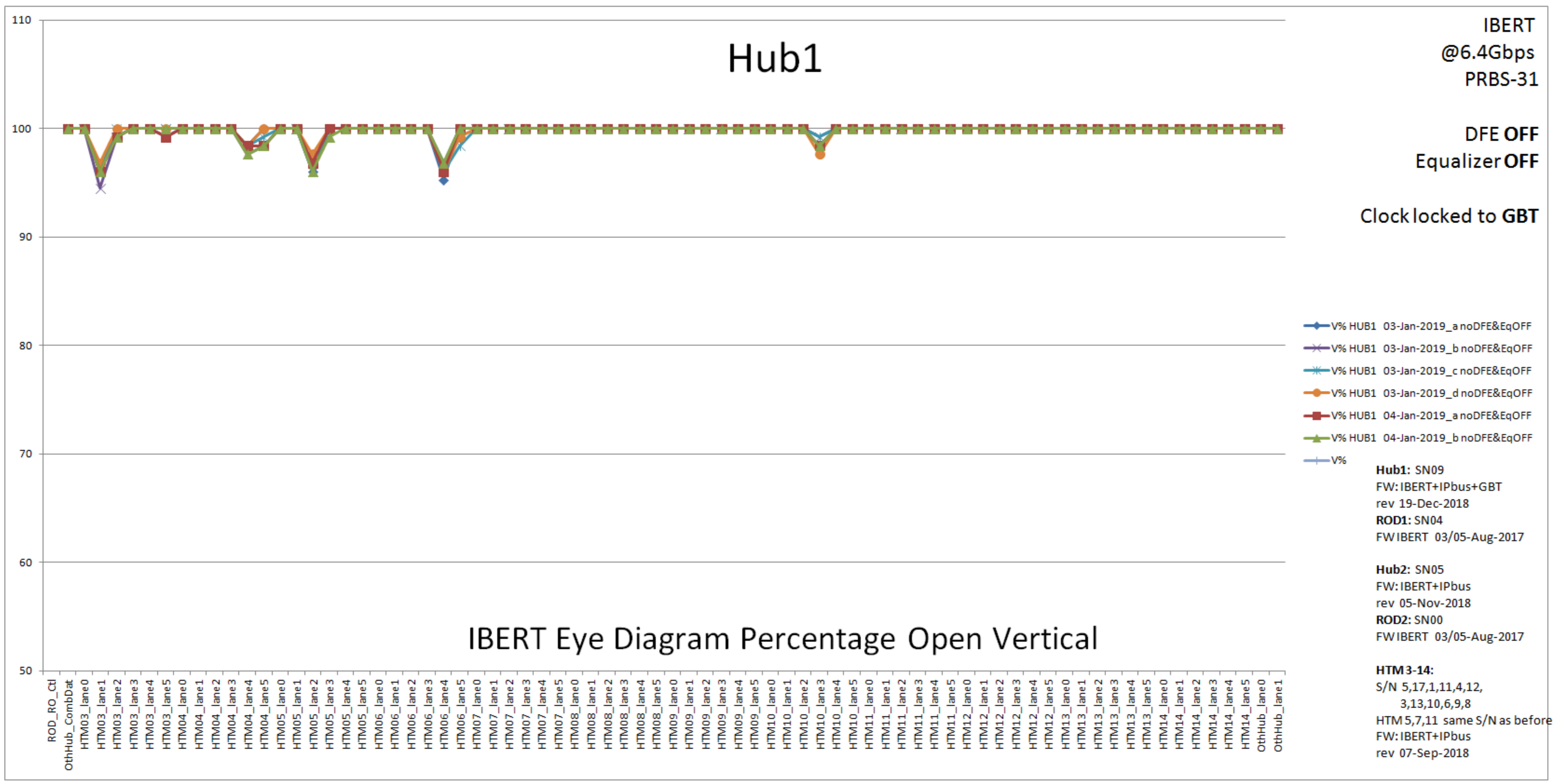
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

Hub1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT

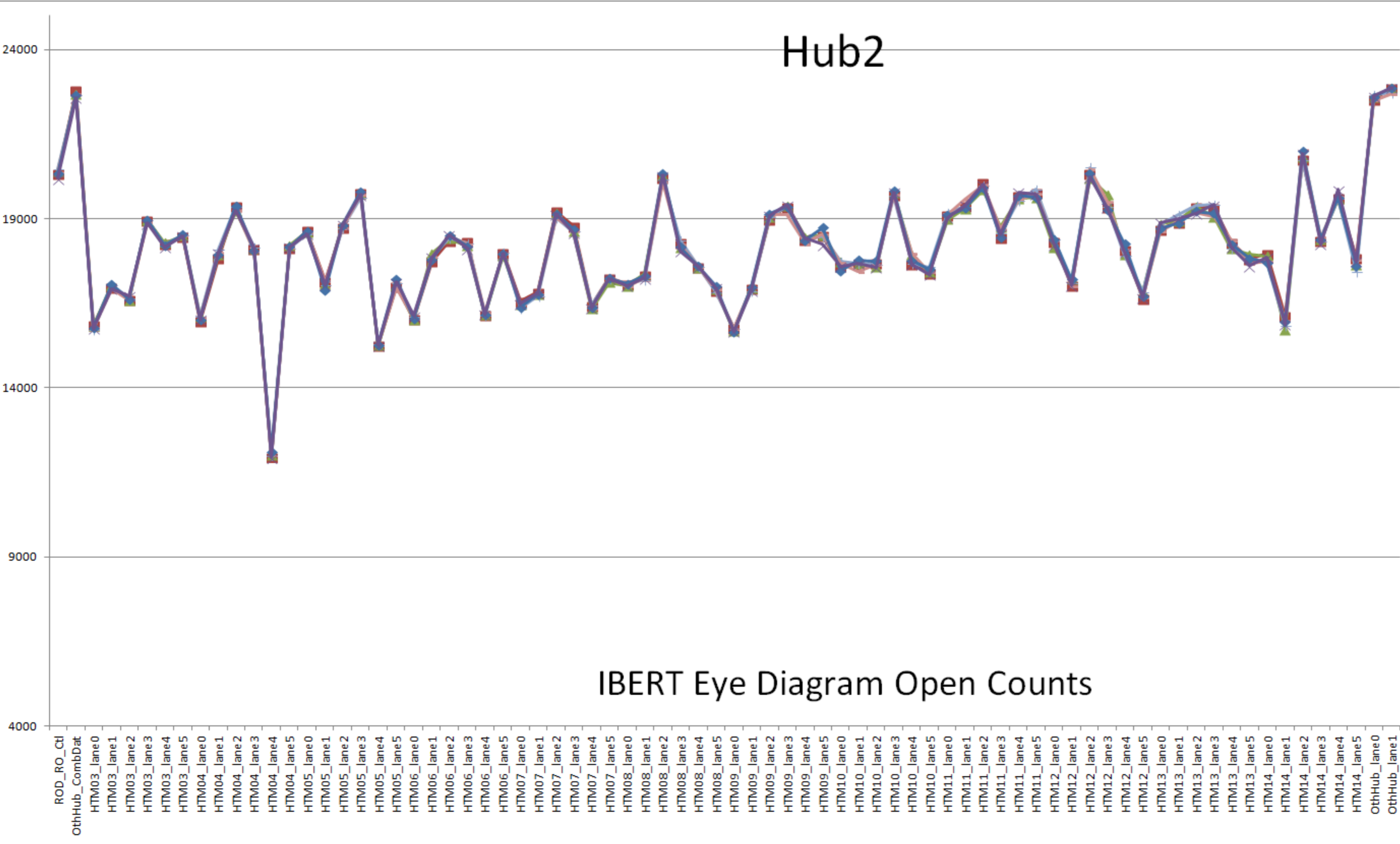


Hub2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clocklocked to GBT



- O HUB2 03-Jan-2019_a noDFE&EqOFF
- O HUB2 03-Jan-2019_b noDFE&EqOFF
- O HUB2 03-Jan-2019_c noDFE&EqOFF
- O HUB2 03-Jan-2019_d noDFE&EqOFF
- O HUB2 04-Jan-2019_a noDFE&EqOFF
- O HUB2 04-Jan-2019_b noDFE&EqOFF
- O

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

HTM 3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

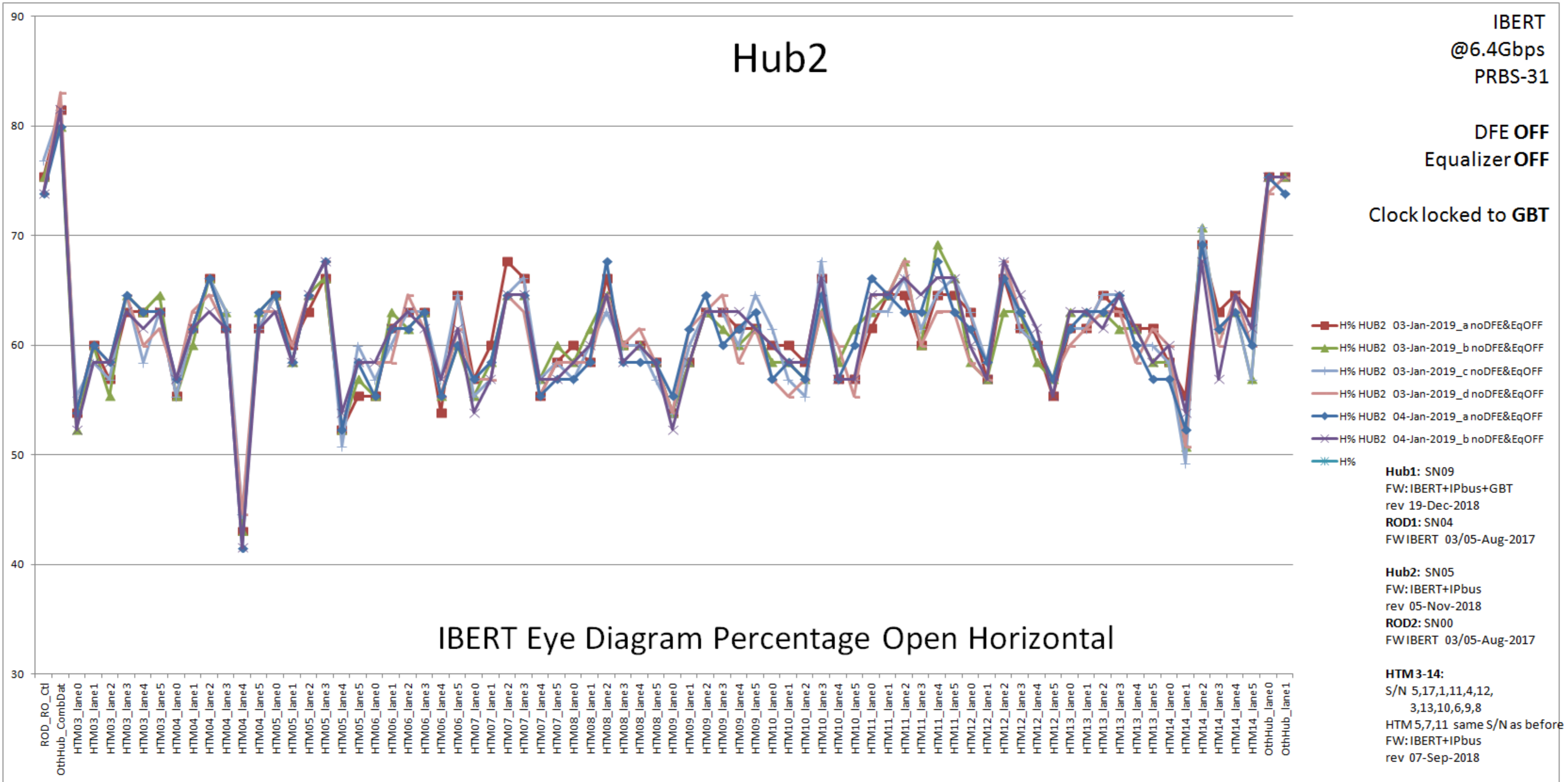
IBERT Eye Diagram Open Counts

Hub2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT

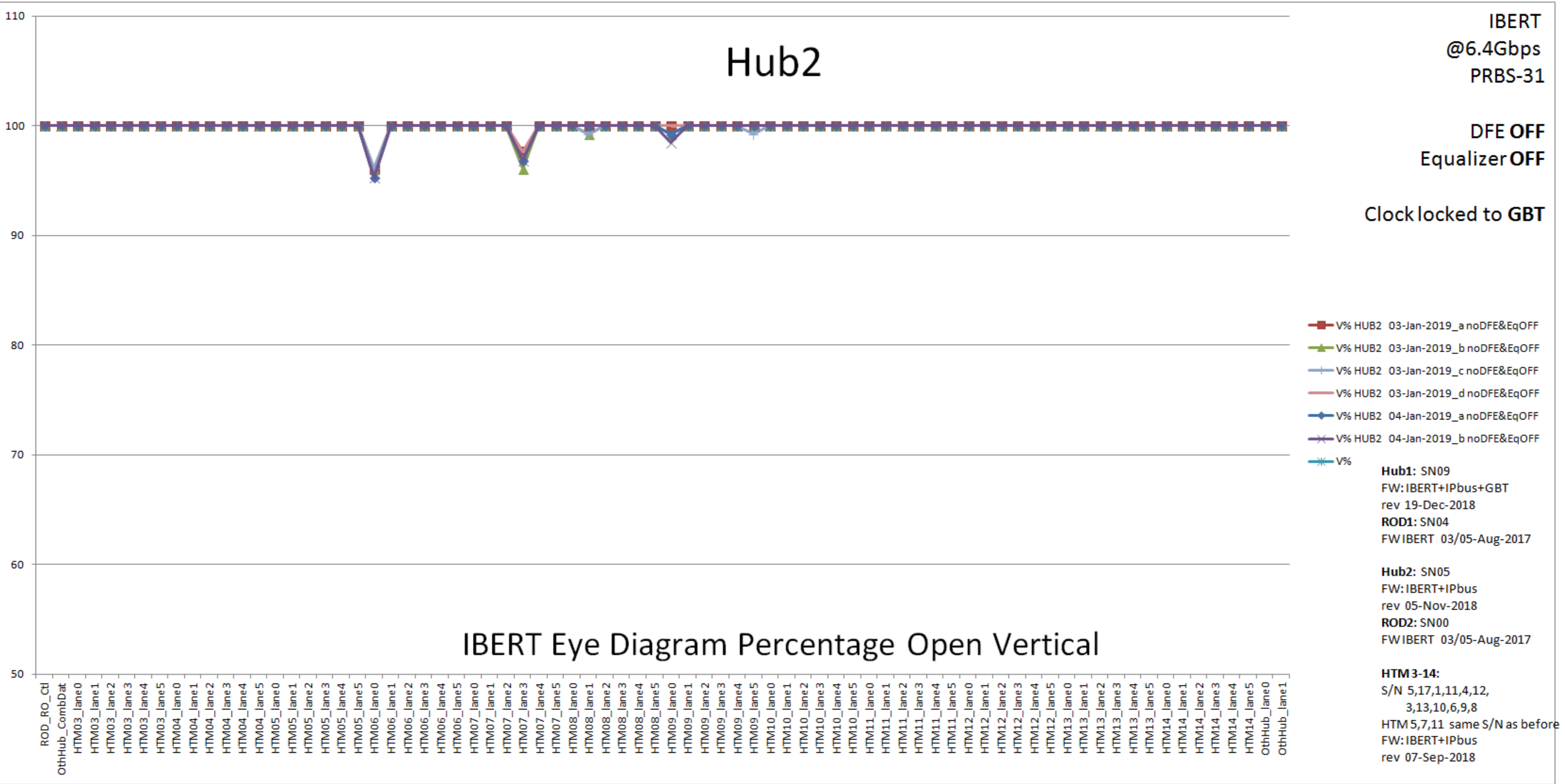


Hub2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



- V% HUB2 03-Jan-2019_a noDFE&EqOFF
- V% HUB2 03-Jan-2019_b noDFE&EqOFF
- V% HUB2 03-Jan-2019_c noDFE&EqOFF
- V% HUB2 03-Jan-2019_d noDFE&EqOFF
- V% HUB2 04-Jan-2019_a noDFE&EqOFF
- V% HUB2 04-Jan-2019_b noDFE&EqOFF
- V%

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

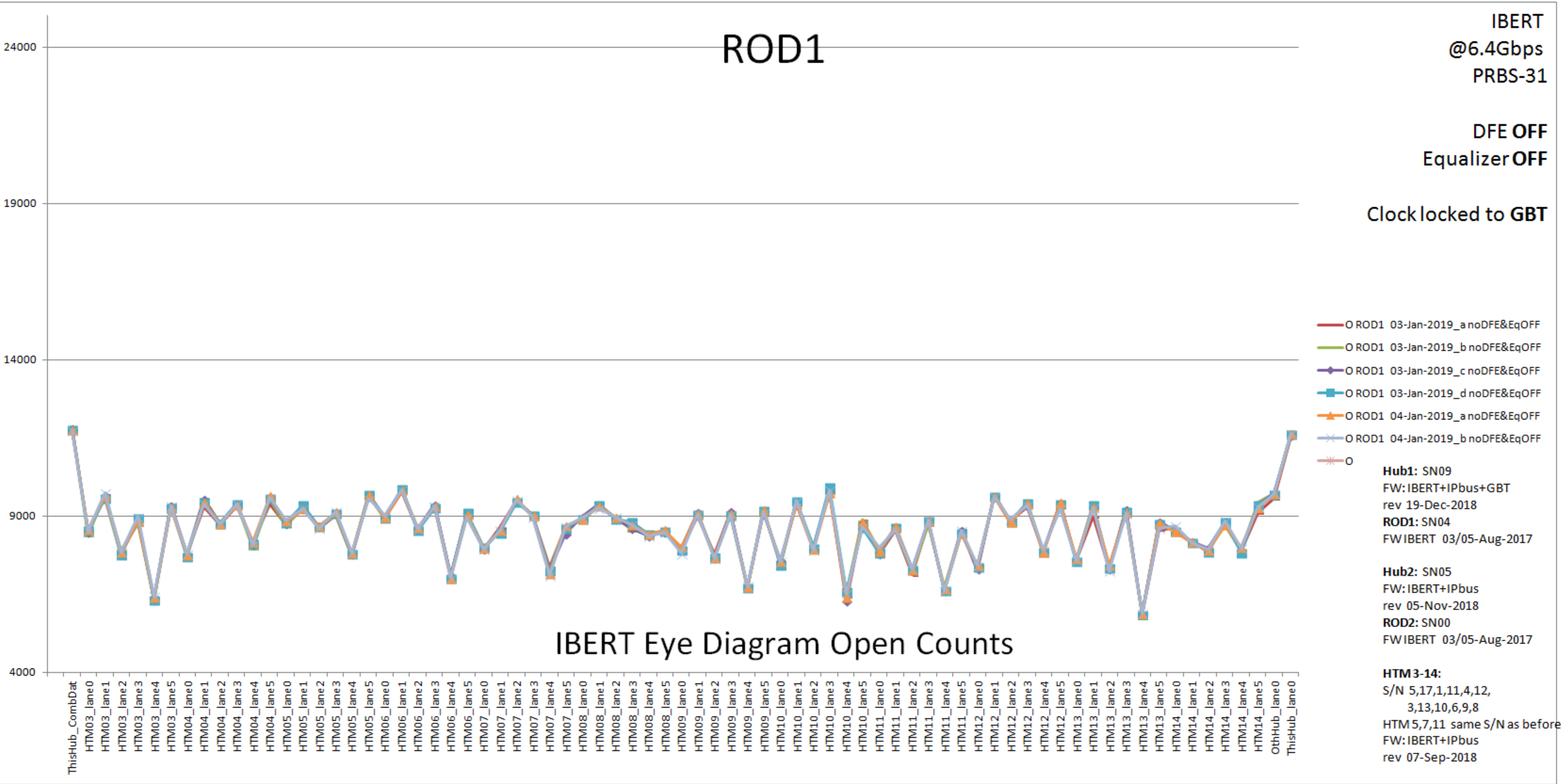
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clocklocked to GBT



Legend:
O ROD1 03-Jan-2019_a noDFE&EqOFF
O ROD1 03-Jan-2019_b noDFE&EqOFF
O ROD1 03-Jan-2019_c noDFE&EqOFF
O ROD1 03-Jan-2019_d noDFE&EqOFF
O ROD1 04-Jan-2019_a noDFE&EqOFF
O ROD1 04-Jan-2019_b noDFE&EqOFF
O

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

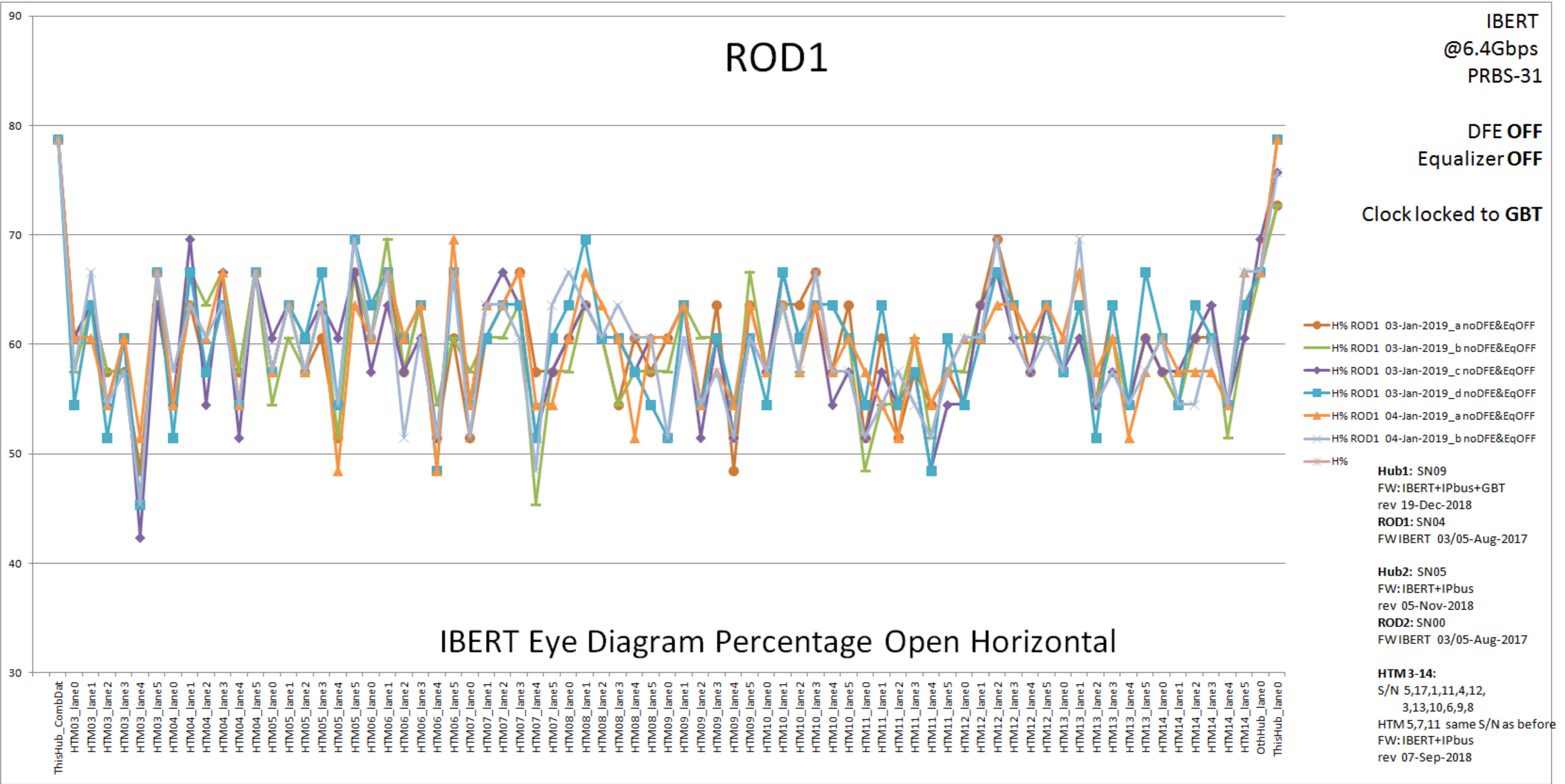
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Horizontal

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

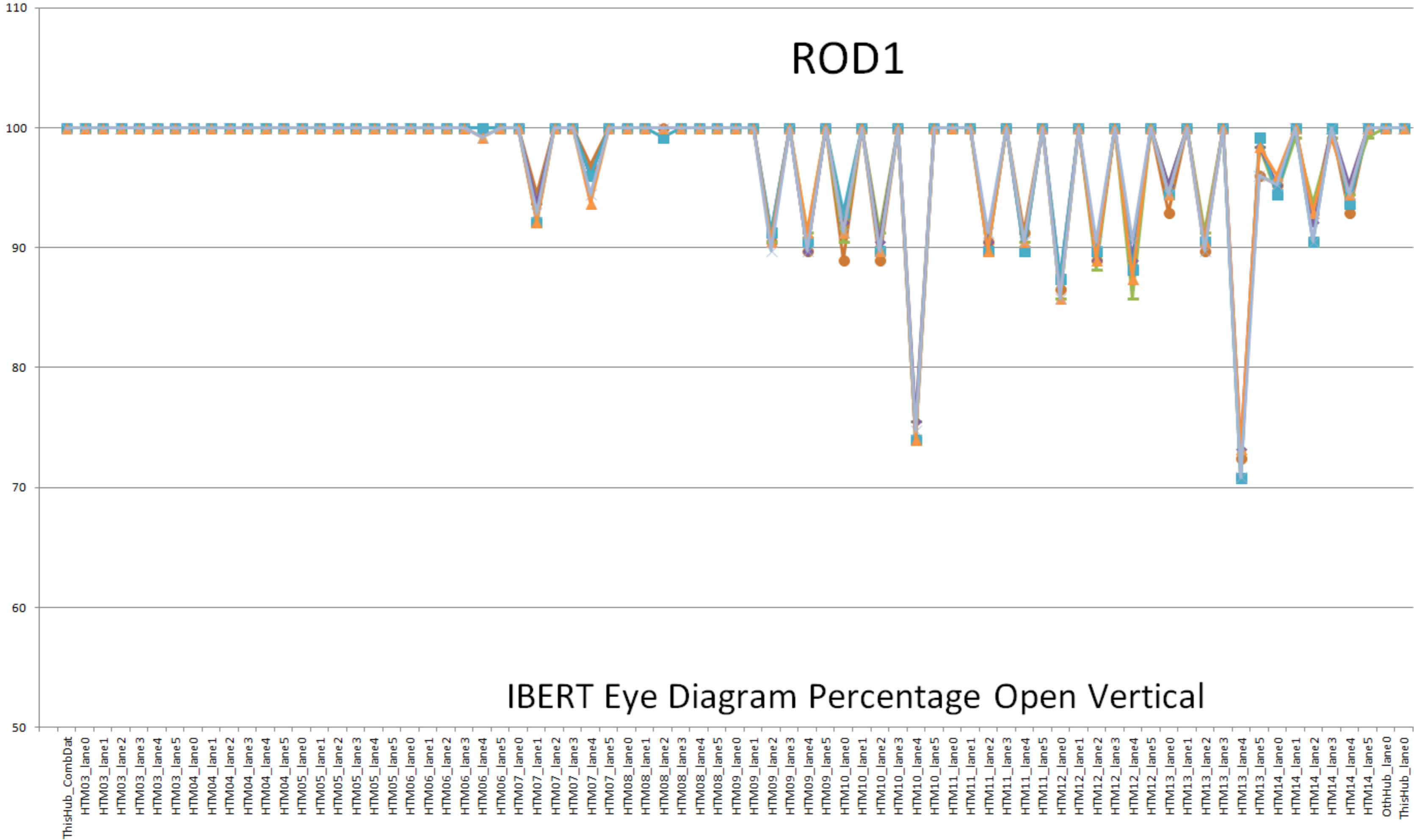
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Vertical

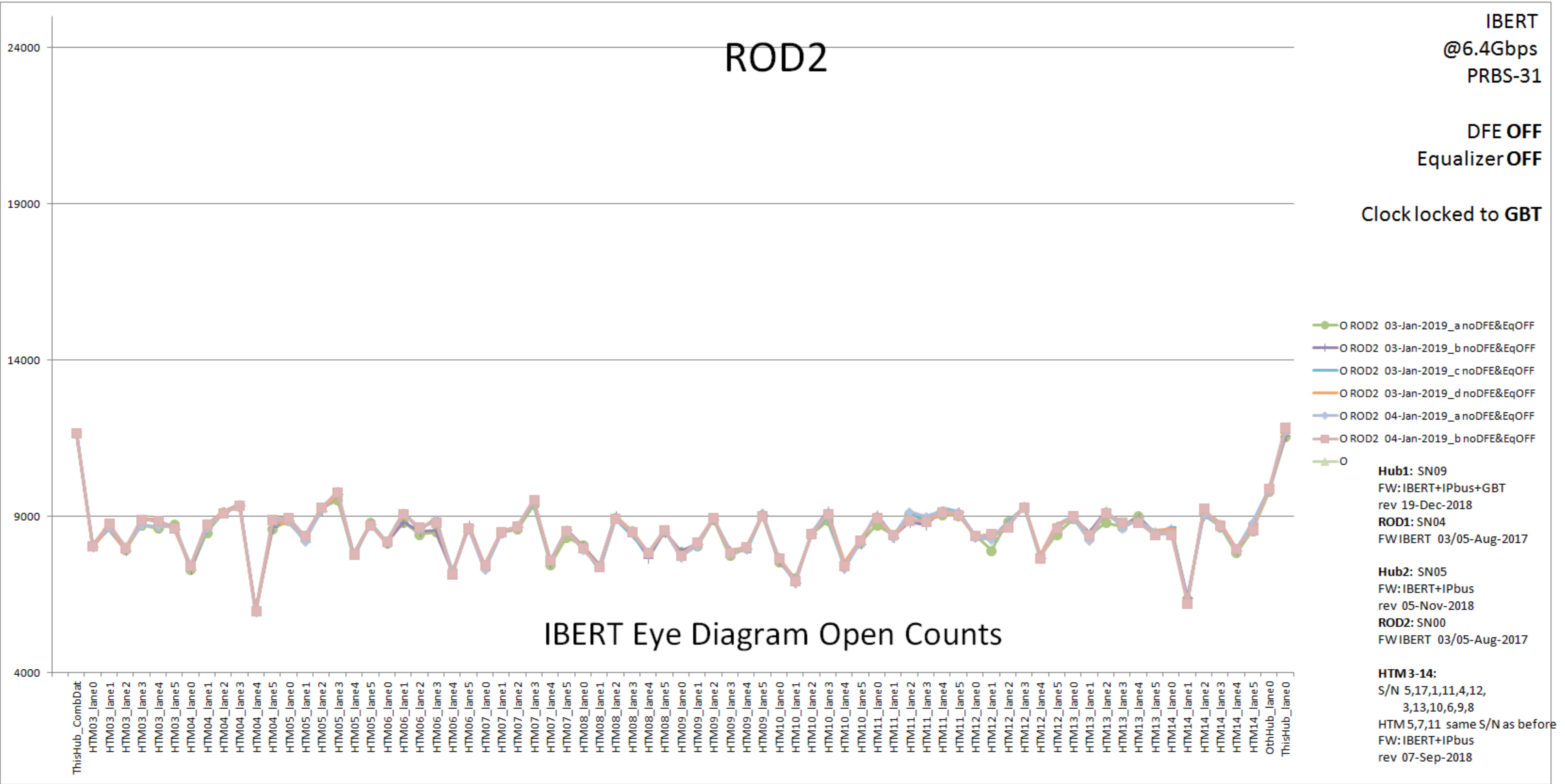
- V% ROD1 03-Jan-2019_a noDFE&EqOFF
 - V% ROD1 03-Jan-2019_b noDFE&EqOFF
 - V% ROD1 03-Jan-2019_c noDFE&EqOFF
 - V% ROD1 03-Jan-2019_d noDFE&EqOFF
 - V% ROD1 04-Jan-2019_a noDFE&EqOFF
 - V% ROD1 04-Jan-2019_b noDFE&EqOFF
 - V%
- Hub1:** SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017
- Hub2:** SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017
- HTM3-14:**
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Open Counts

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

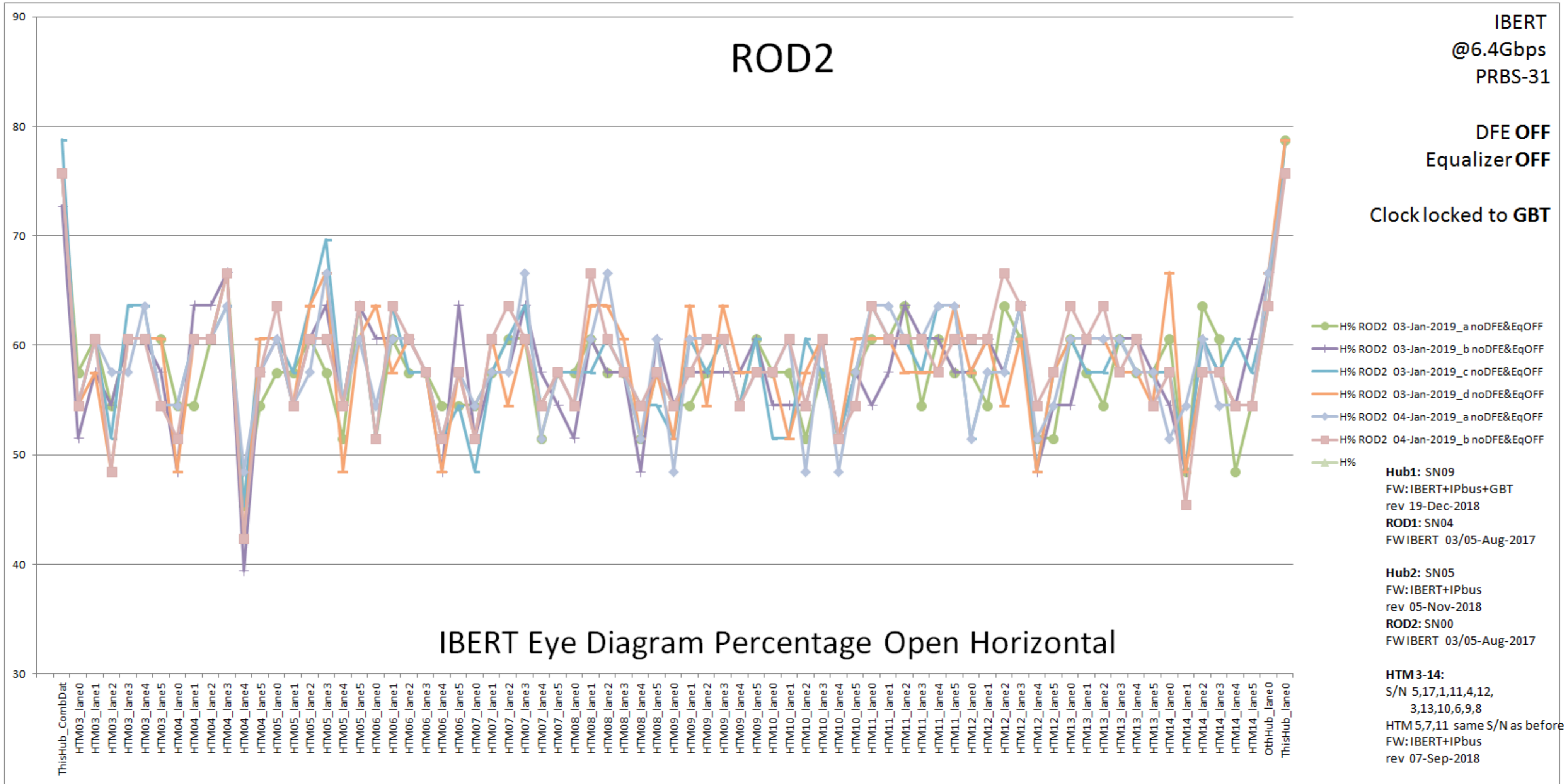
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT

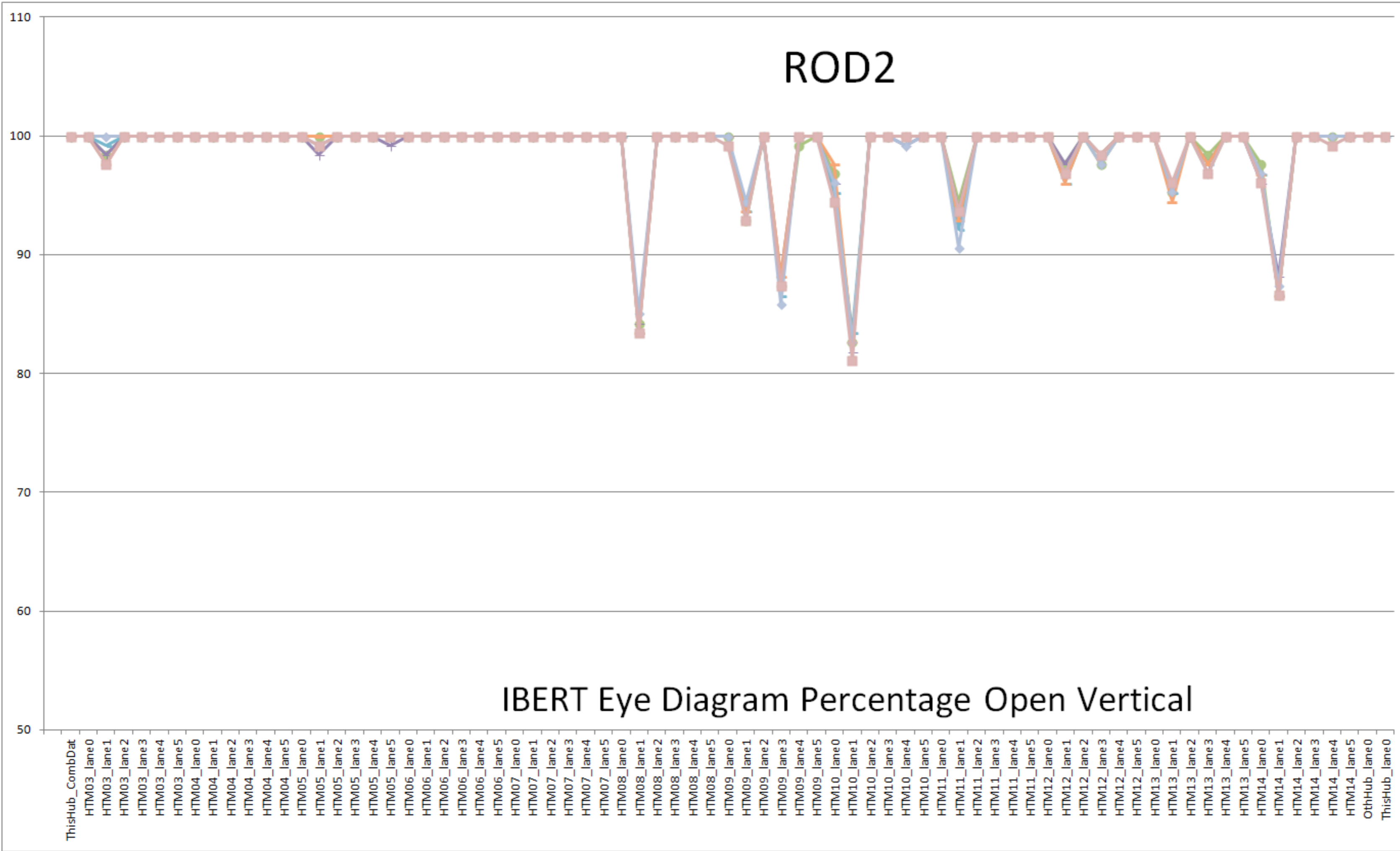


ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Vertical

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

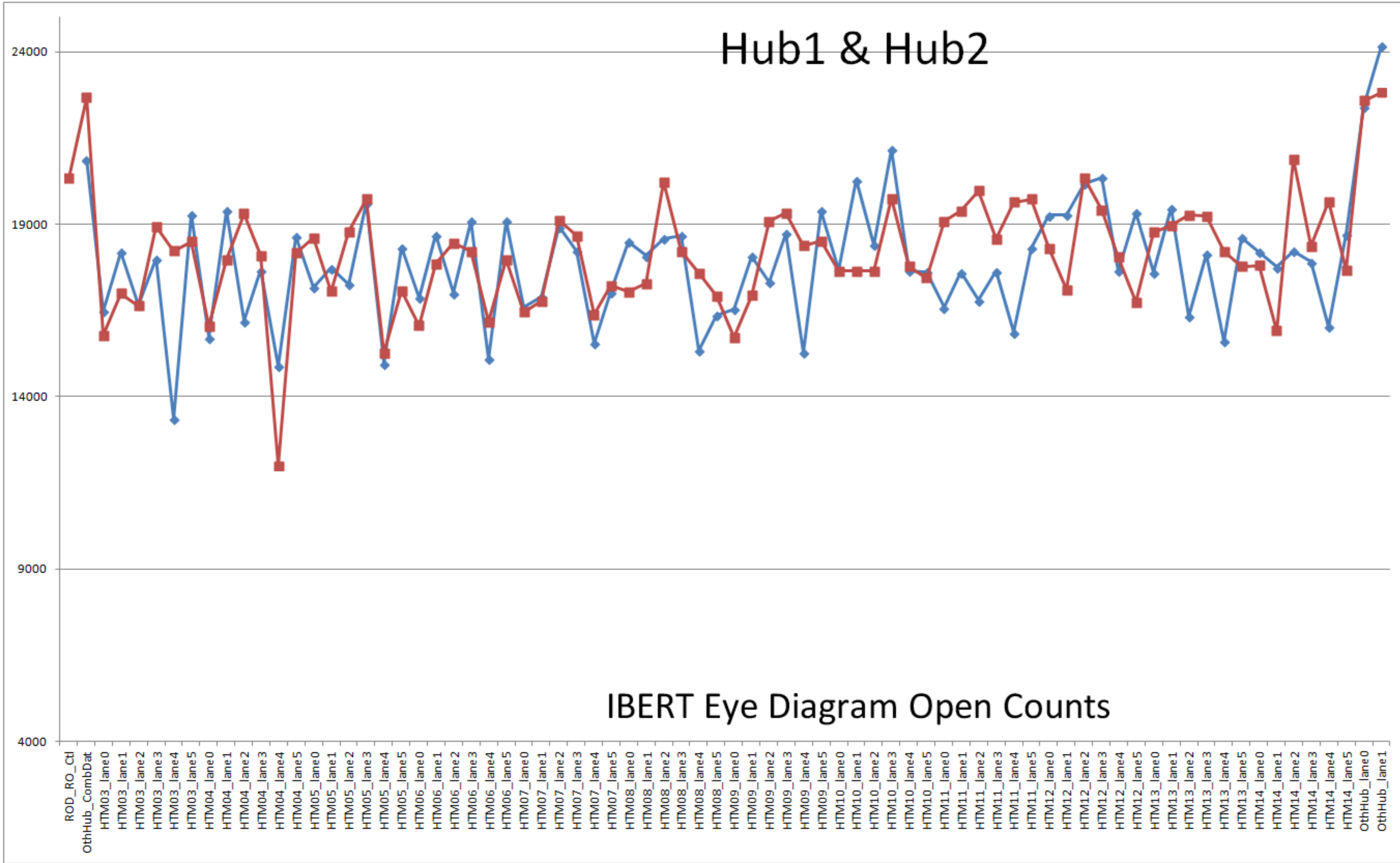
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

Hub1 & Hub2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



—◆— O HUB1 03:04-Jan-2019_avg noDFE&EqOFF
—■— O HUB2 03:04-Jan-2019_avg noDFE&EqOFF

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

HTM 3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

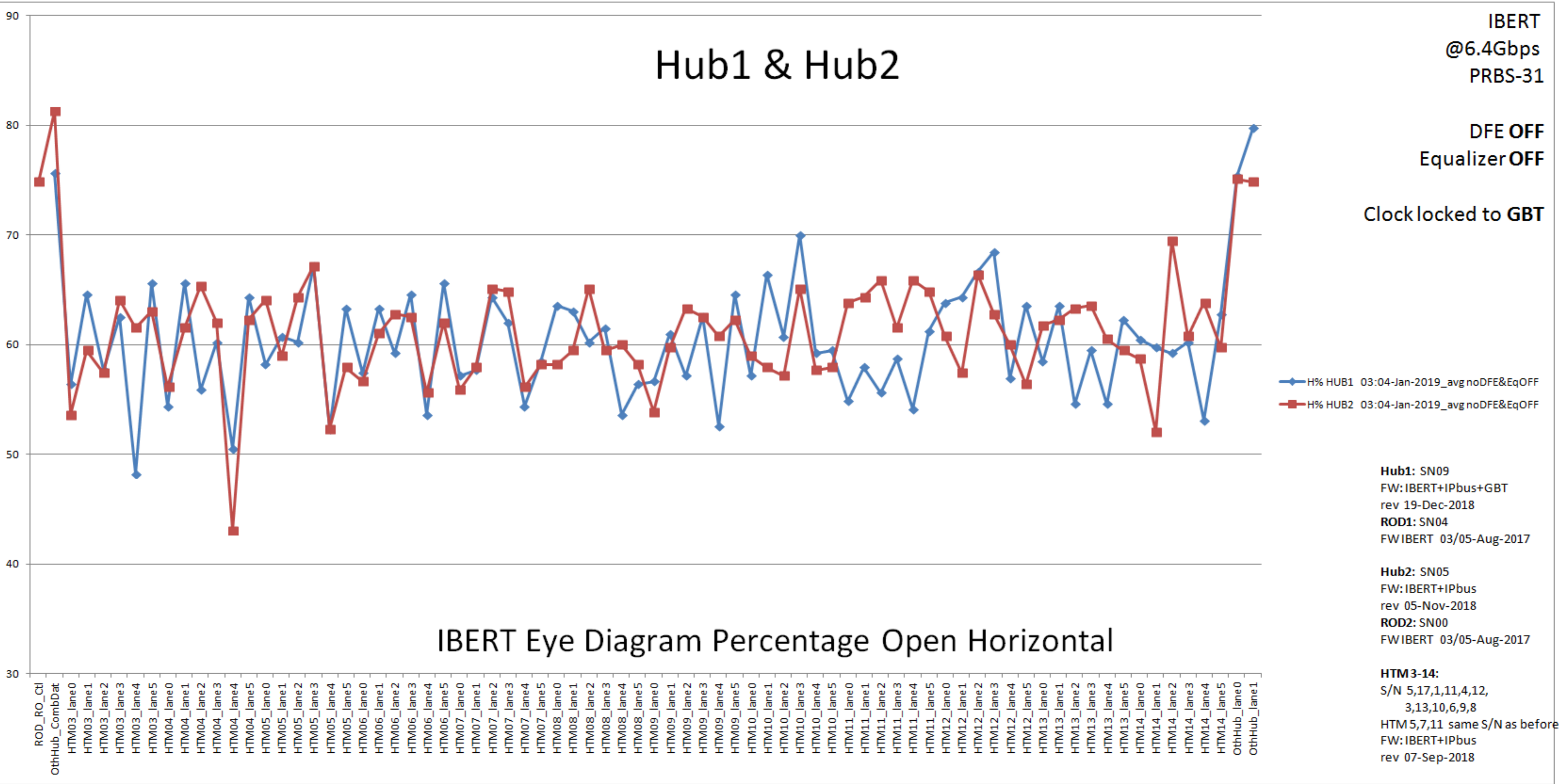
IBERT Eye Diagram Open Counts

Hub1 & Hub2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Horizontal

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

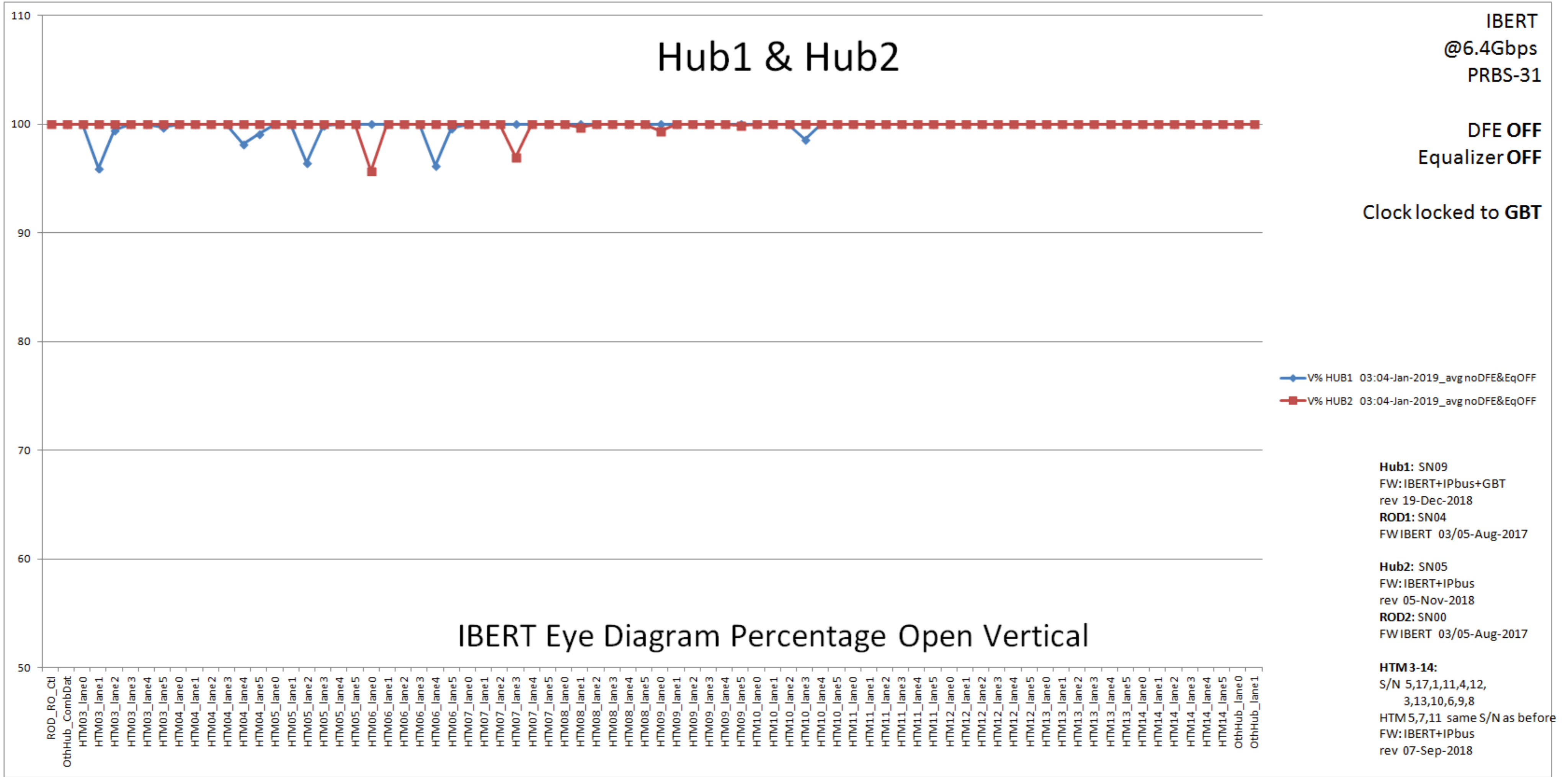
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

Hub1 & Hub2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Vertical

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

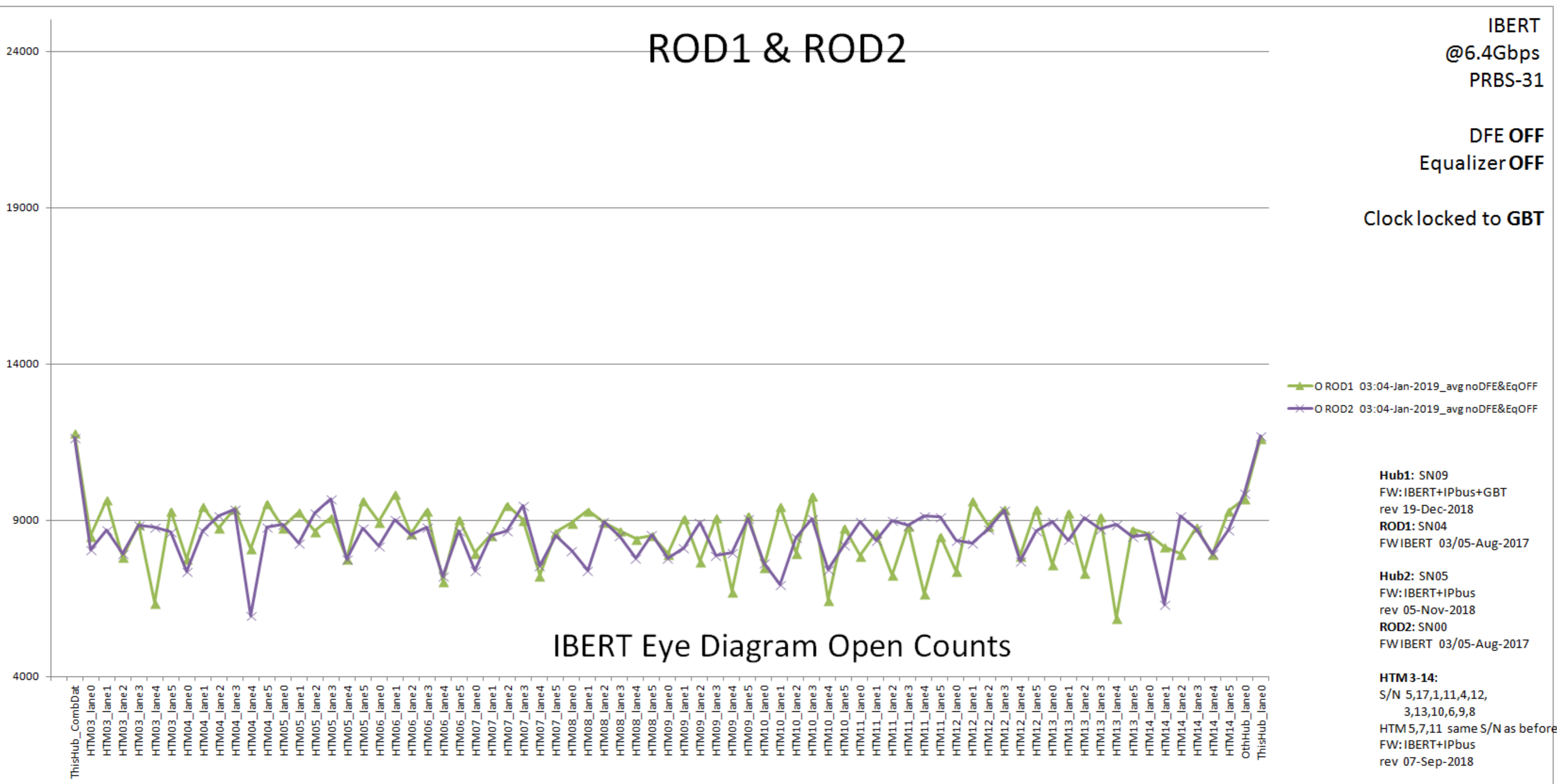
HTM 3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD1 & ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Open Counts

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

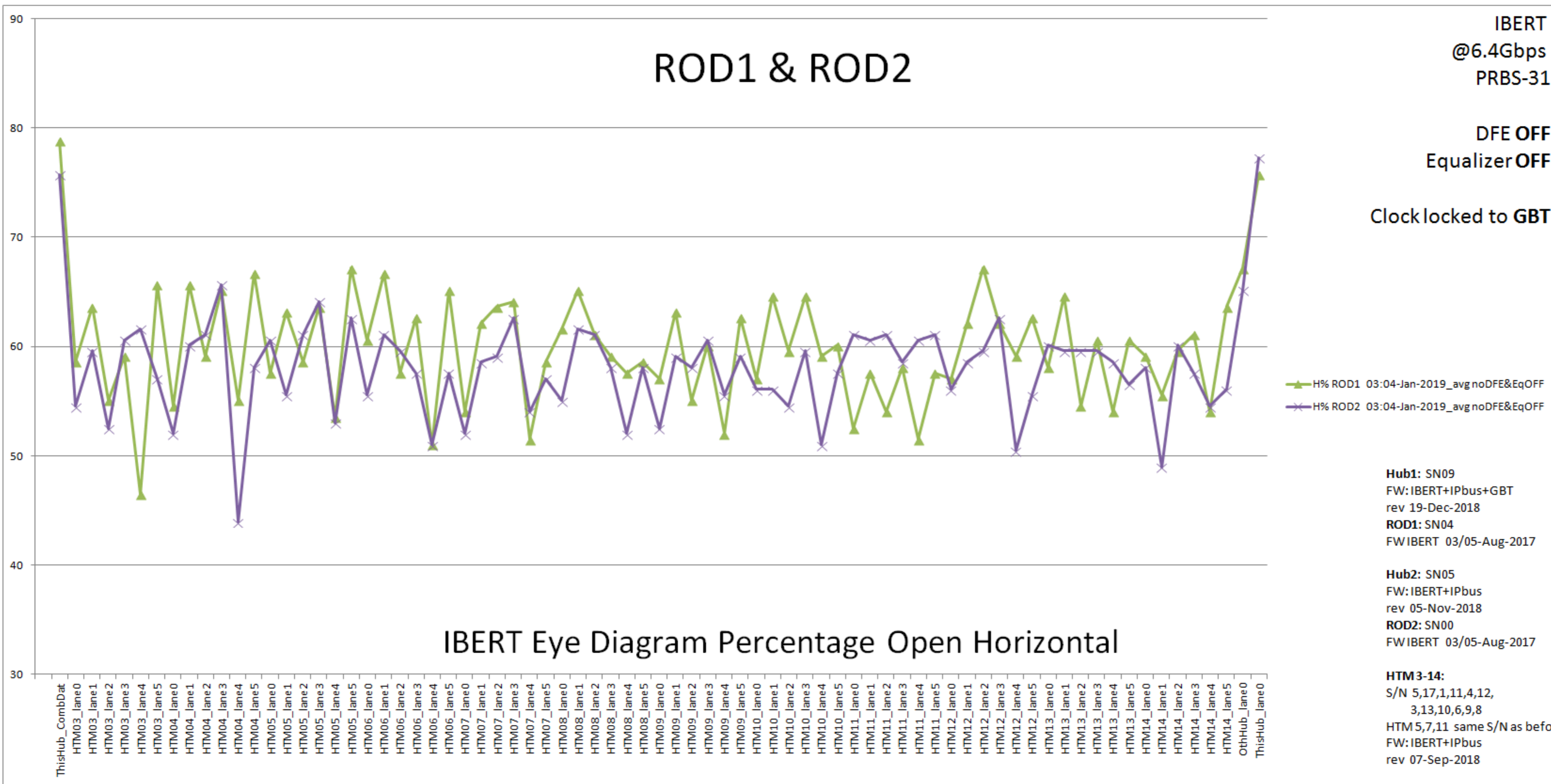
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD1 & ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Horizontal

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

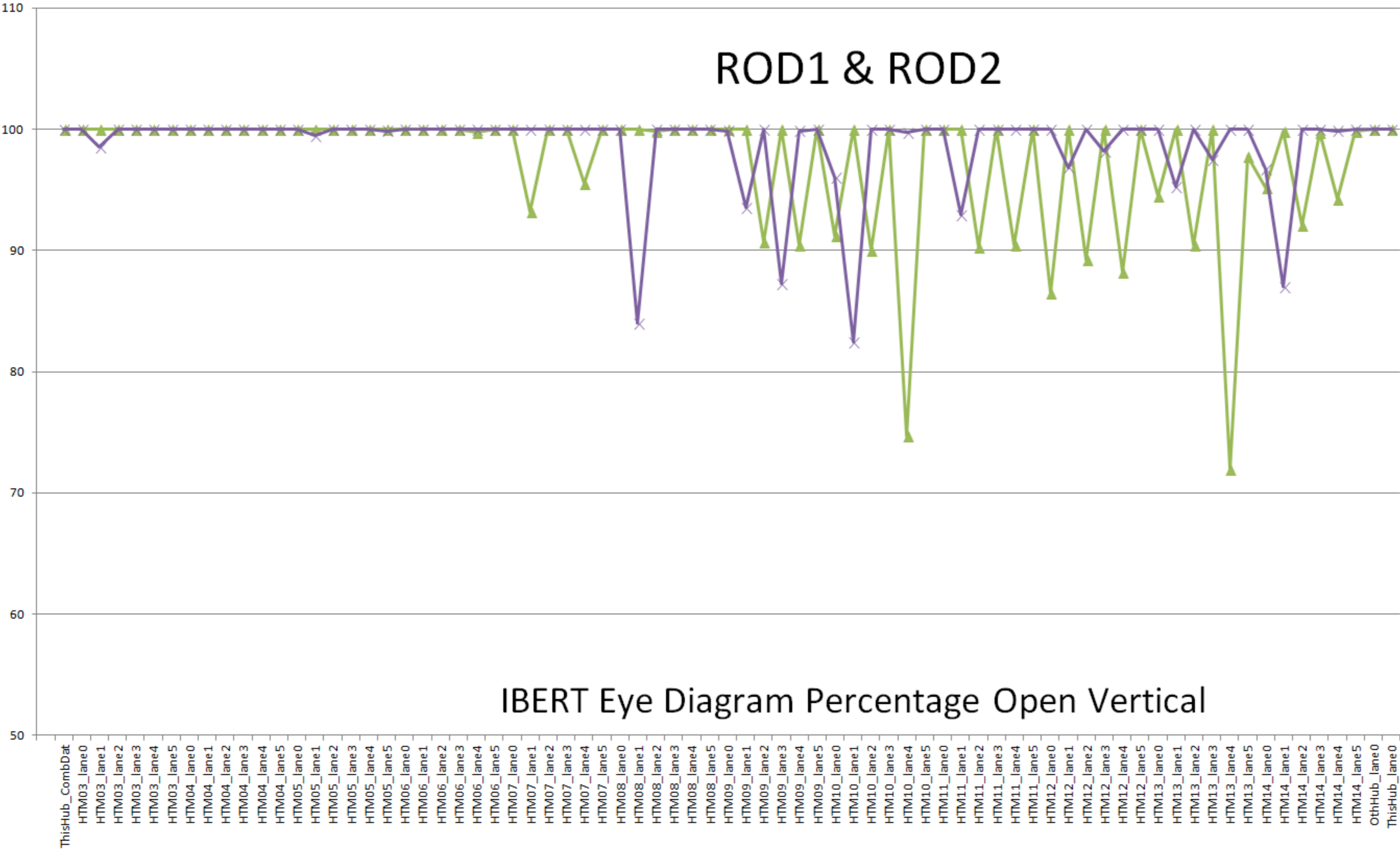
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

ROD1 & ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



▲ V% ROD1 03:04-Jan-2019_avg noDFE&EqOFF
✕ V% ROD2 03:04-Jan-2019_avg noDFE&EqOFF

Hub1: SN09
 FW: IBERT+IPbus+GBT
 rev 19-Dec-2018
ROD1: SN04
 FWIBERT 03/05-Aug-2017

Hub2: SN05
 FW: IBERT+IPbus
 rev 05-Nov-2018
ROD2: SN00
 FWIBERT 03/05-Aug-2017

HTM 3-14:
 S/N 5,17,1,11,4,12,
 3,13,10,6,9,8
 HTM 5,7,11 same S/N as before
 FW: IBERT+IPbus
 rev 07-Sep-2018

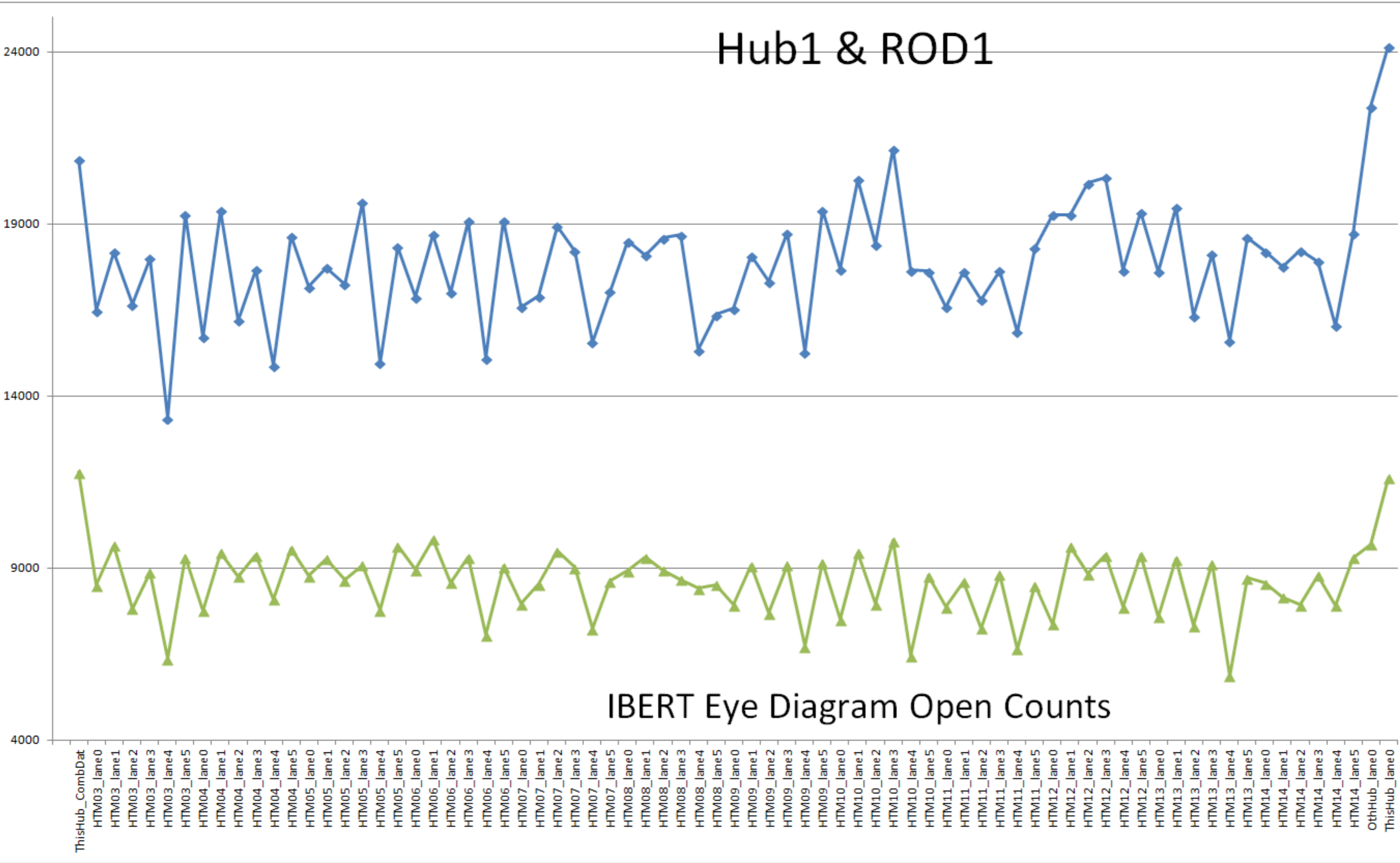
IBERT Eye Diagram Percentage Open Vertical

Hub1 & ROD1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



O HUB1 03:04-Jan-2019_avg noDFE&EqOFF
O ROD1 03:04-Jan-2019_avg noDFE&EqOFF

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

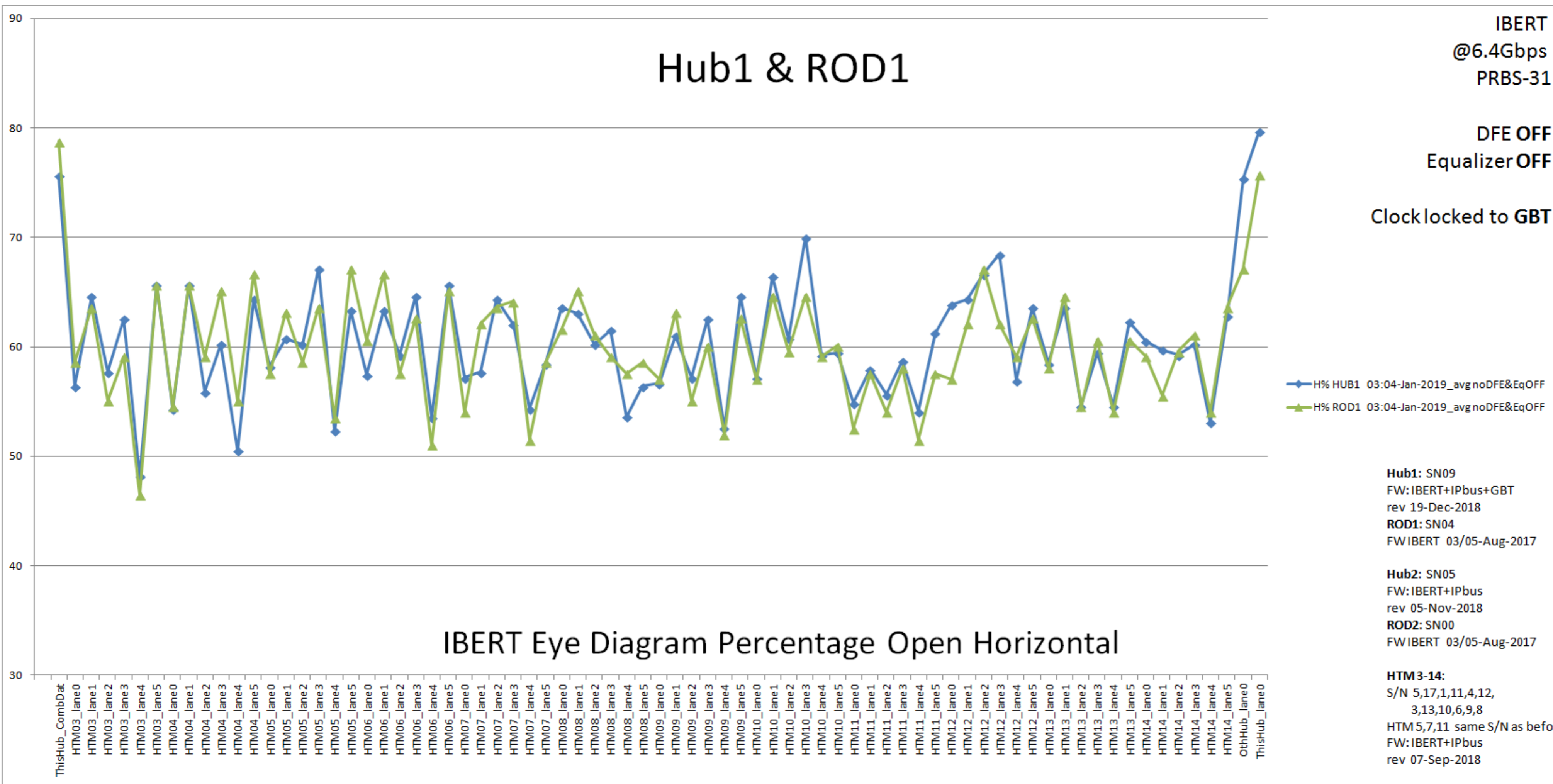
IBERT Eye Diagram Open Counts

Hub1 & ROD1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Horizontal

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

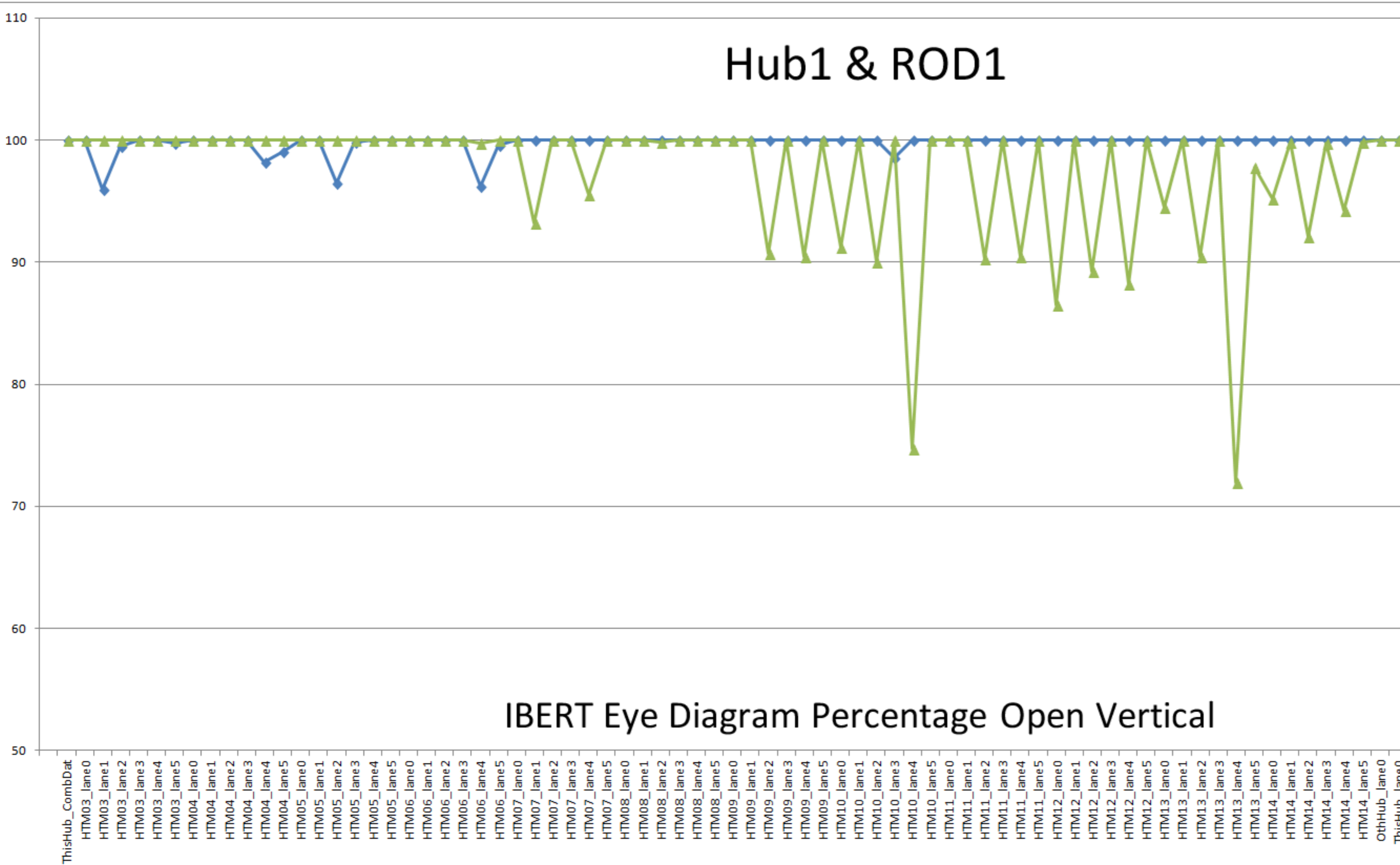
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

Hub1 & ROD1

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



◆ V% HUB1 03:04-Jan-2019_avg noDFE&EqOFF
▲ V% ROD1 03:04-Jan-2019_avg noDFE&EqOFF

Hub1: SN09
 FW: IBERT+IPbus+GBT
 rev 19-Dec-2018
ROD1: SN04
 FW: IBERT 03/05-Aug-2017

Hub2: SN05
 FW: IBERT+IPbus
 rev 05-Nov-2018
ROD2: SN00
 FW: IBERT 03/05-Aug-2017

HTM3-14:
 S/N 5,17,1,11,4,12,
 3,13,10,6,9,8
 HTM5,7,11 same S/N as before
 FW: IBERT+IPbus
 rev 07-Sep-2018

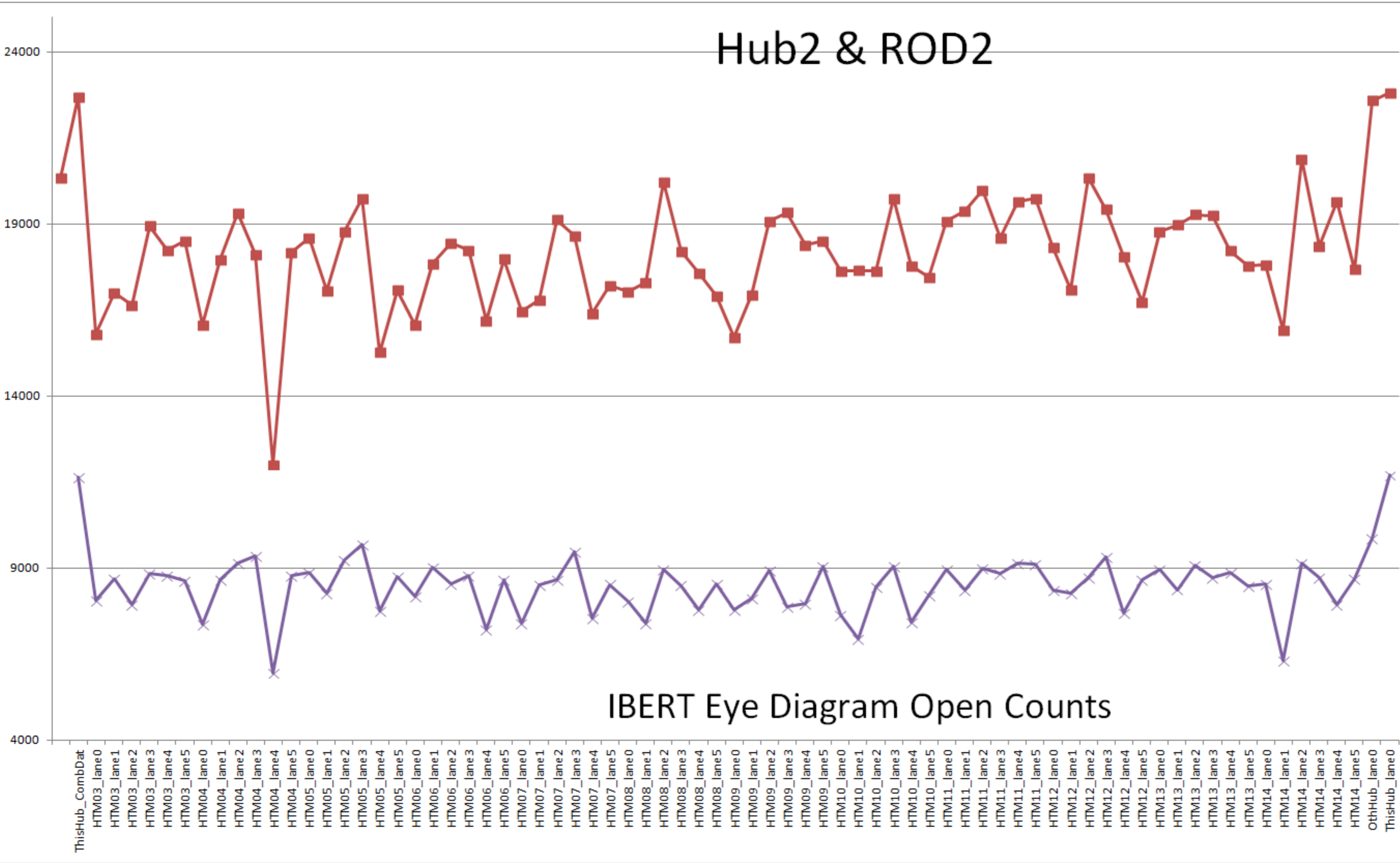
IBERT Eye Diagram Percentage Open Vertical

Hub2 & ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clocklocked to GBT



—■— O HUB2 03:04-Jan-2019_avg noDFE&EqOFF
—x— O ROD2 03:04-Jan-2019_avg noDFE&EqOFF

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FWIBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FWIBERT 03/05-Aug-2017

HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

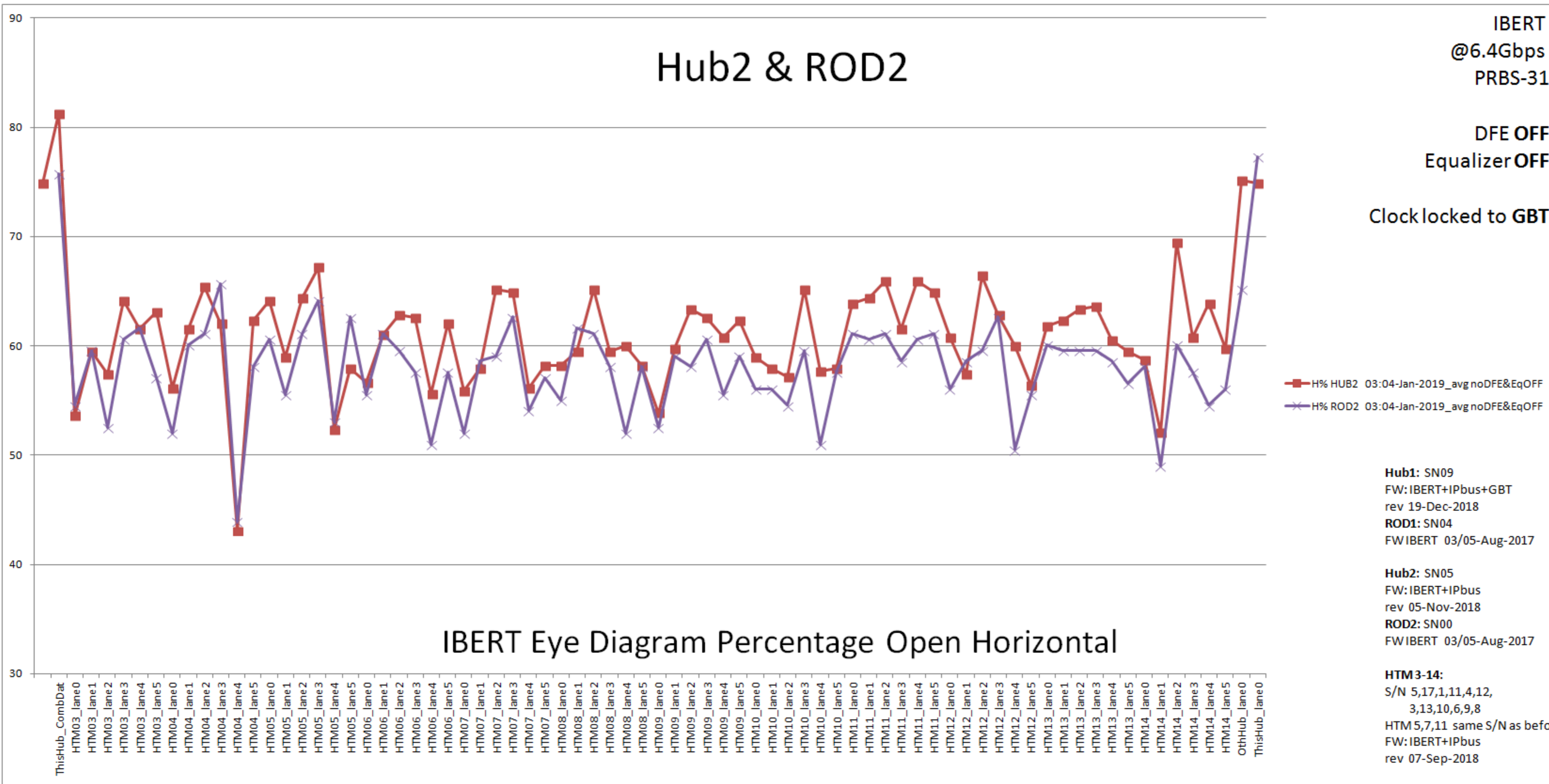
IBERT Eye Diagram Open Counts

Hub2 & ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Horizontal

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW IBERT 03/05-Aug-2017

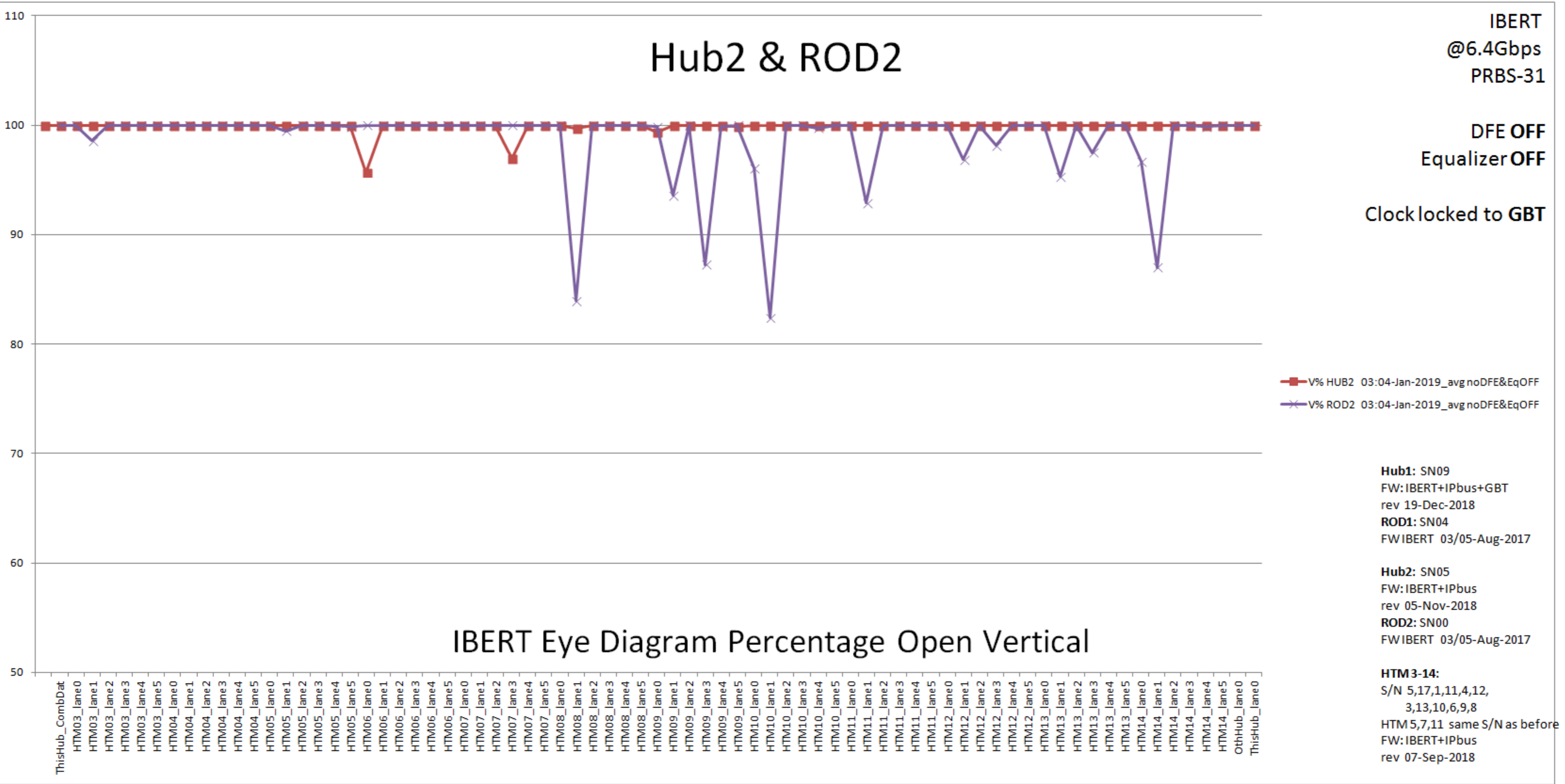
HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM 5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018

Hub2 & ROD2

IBERT
@6.4Gbps
PRBS-31

DFE OFF
Equalizer OFF

Clock locked to GBT



IBERT Eye Diagram Percentage Open Vertical

Hub1: SN09
FW: IBERT+IPbus+GBT
rev 19-Dec-2018
ROD1: SN04
FW: IBERT 03/05-Aug-2017

Hub2: SN05
FW: IBERT+IPbus
rev 05-Nov-2018
ROD2: SN00
FW: IBERT 03/05-Aug-2017

HTM3-14:
S/N 5,17,1,11,4,12,
3,13,10,6,9,8
HTM5,7,11 same S/N as before
FW: IBERT+IPbus
rev 07-Sep-2018