APPENDIX A: BASIC TRANSMISSION LOSS VERSUS DELAY SPREAD

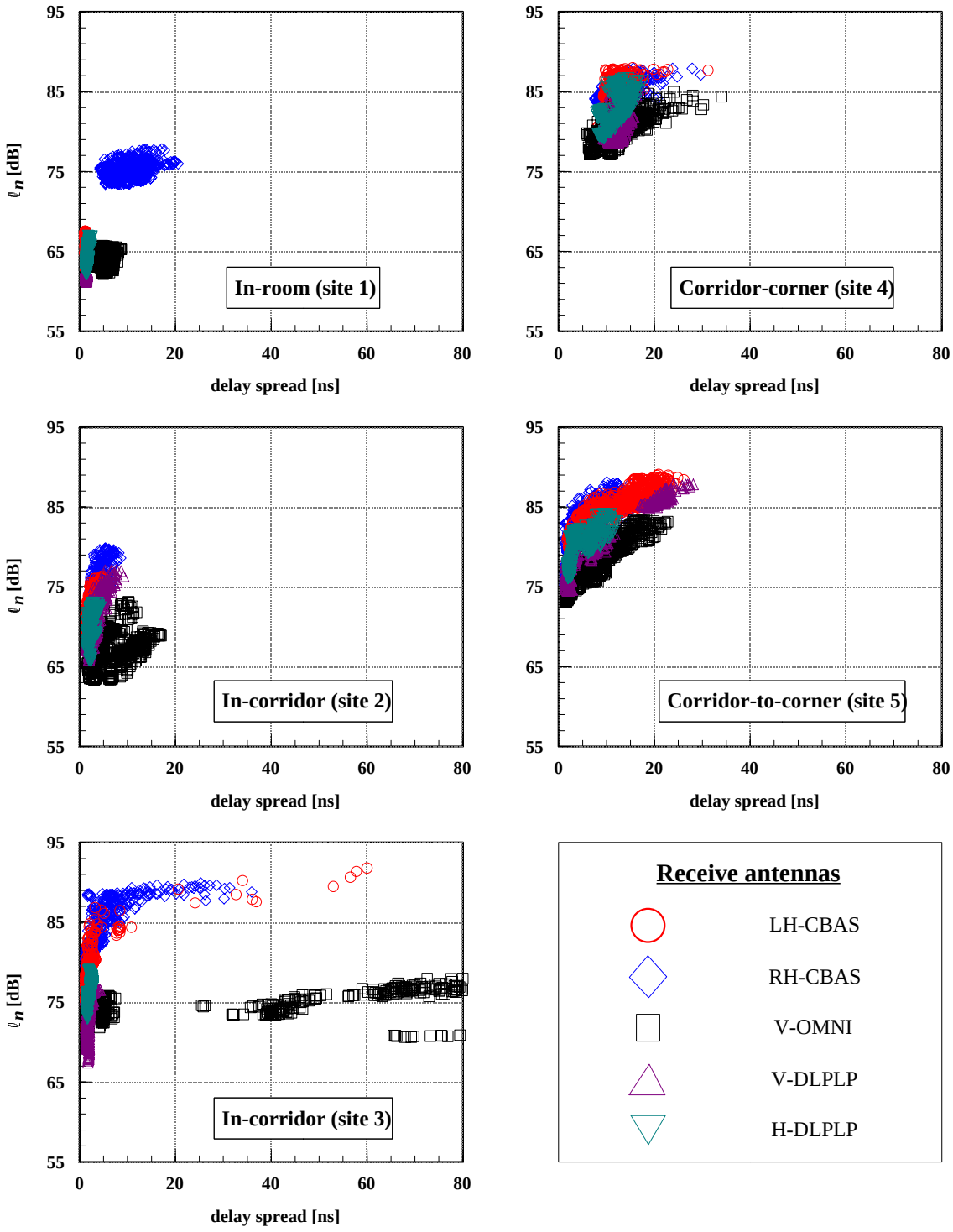

Figure A-1. Scatter plots of basic transmission loss versus delay spread of individual impulses for a LH-CBAS transmit antenna.

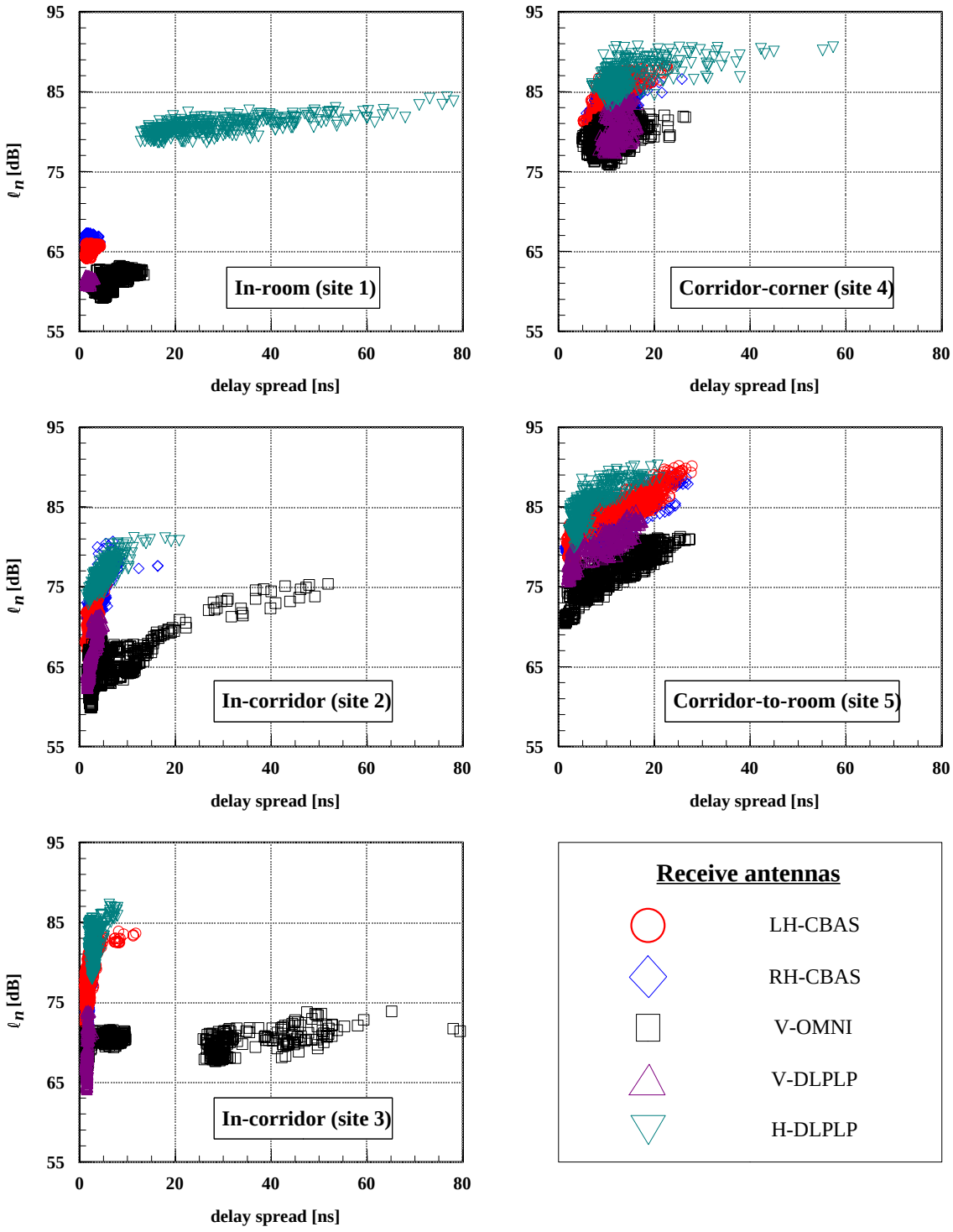

Figure A-2. Scatter plots of basic transmission loss versus delay spread of individual impulses for a V-LPLP transmit antenna.

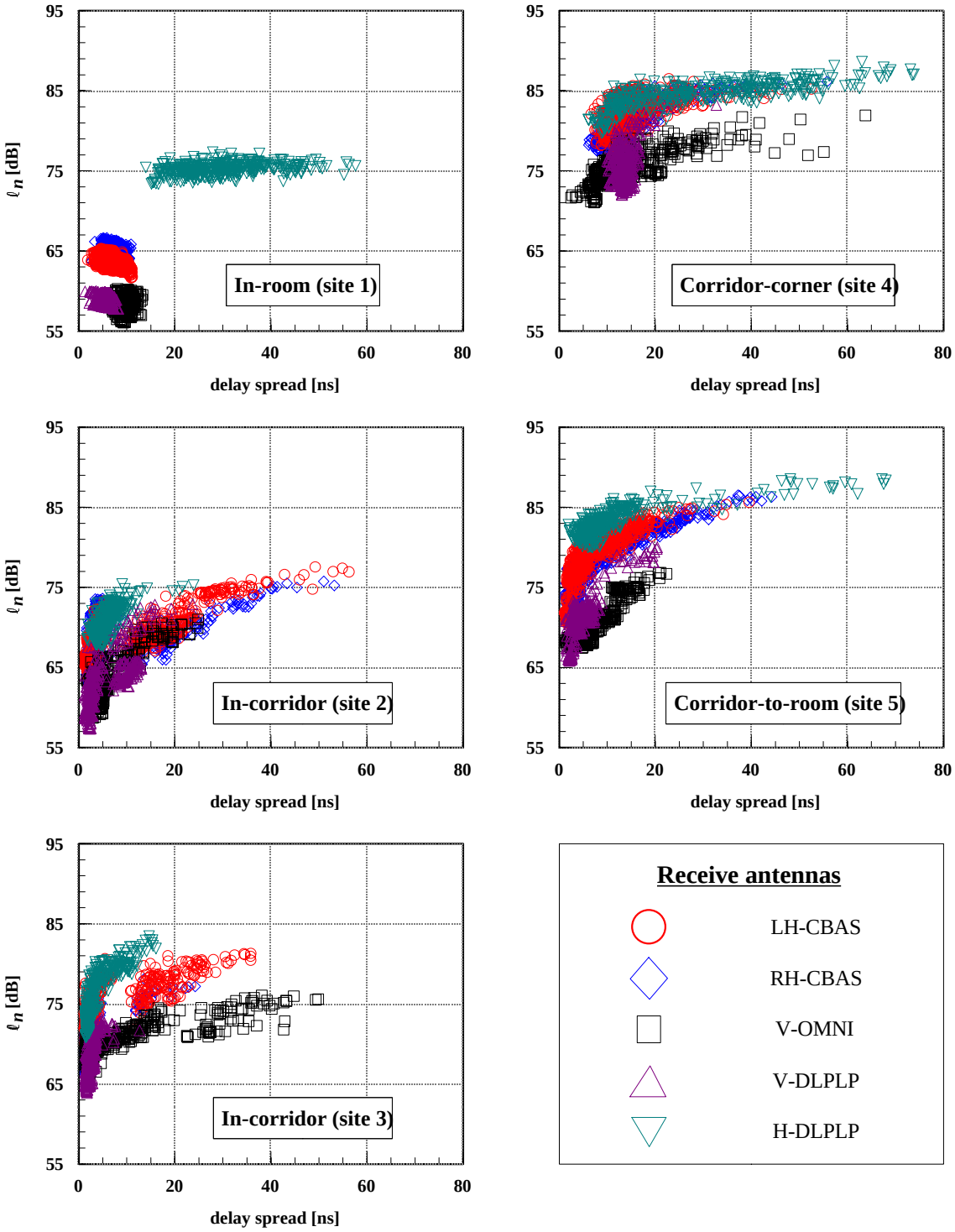

Figure A-3. Scatter plots of basic transmission loss versus delay spread of individual impulses for a V-OMNI transmit antenna.

This Page Intentionally Left Blank

This Page Intentionally Left Blank

APPENDIX B: MEASURED MEAN POWER DELAY PROFILES

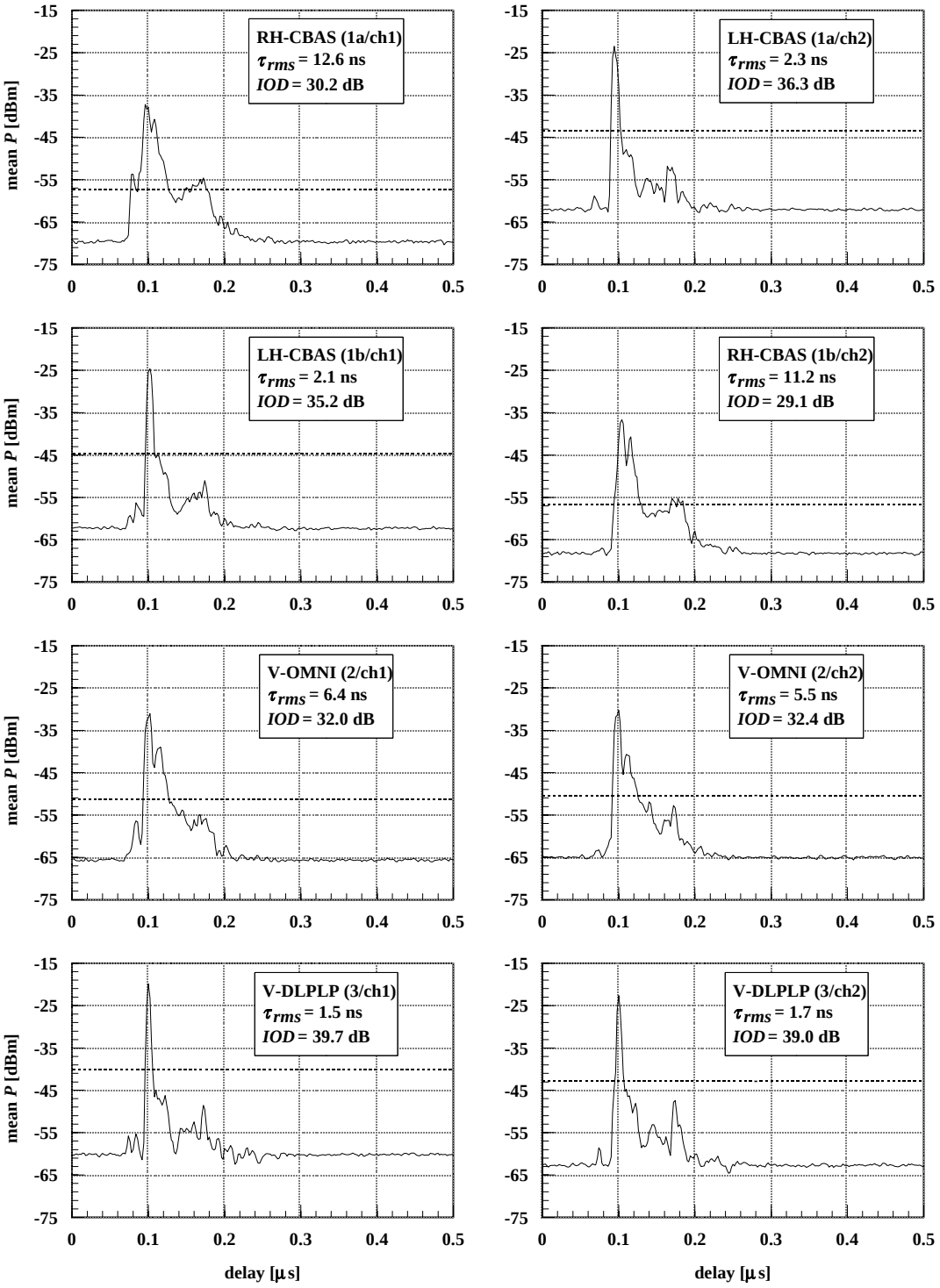

Figure B-1. Mean PDPs for in-room LOS scenario (site 1) with LH-CBAS transmit and various receive antennas. $d_{T\text{-}R}$ = 5.0 m, ψ = 180°, P_T = 6.2 dBm.

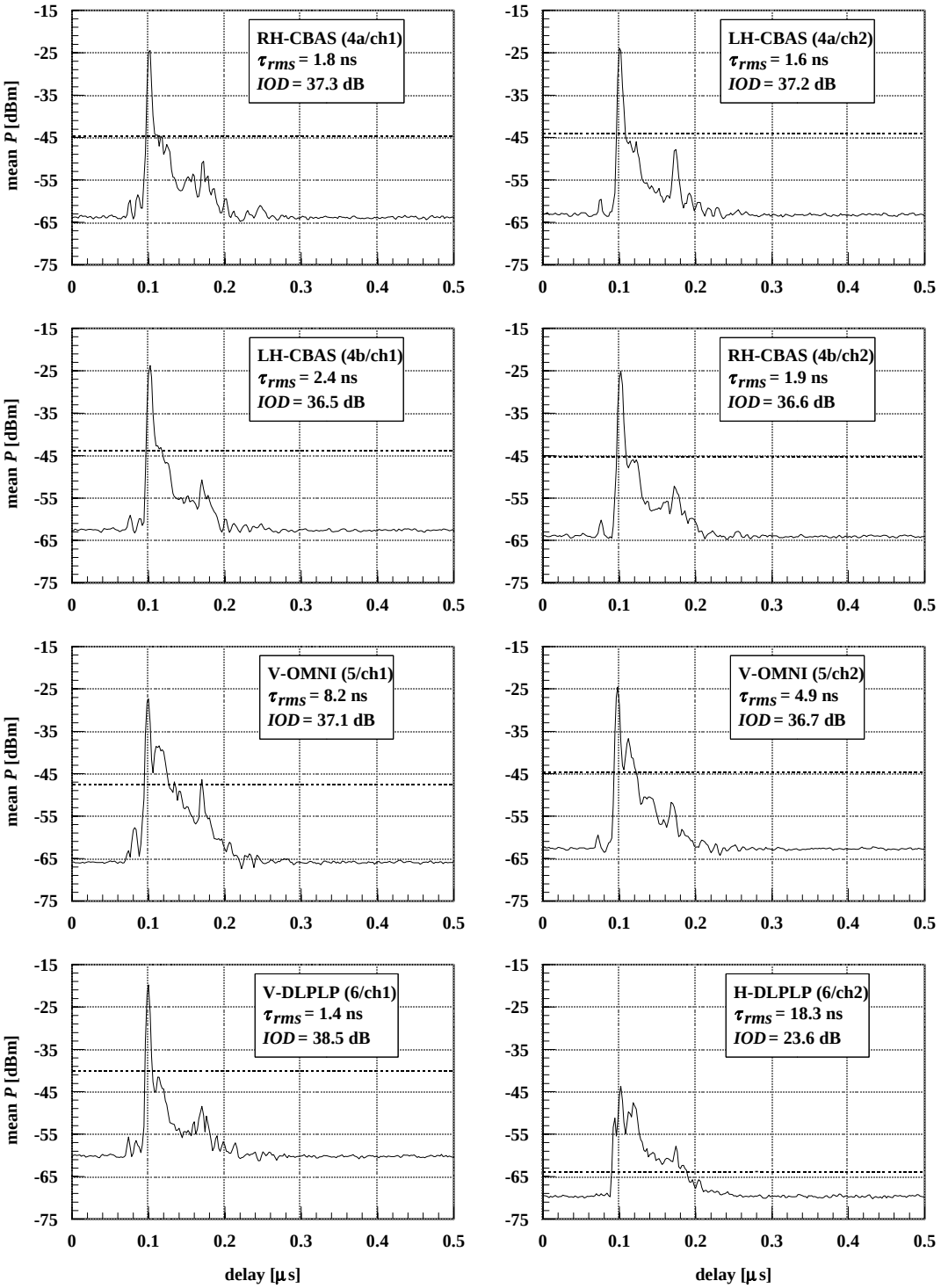

Figure B-2. Mean PDPs for in-room LOS scenario (site 1) with V-LPLP transmit antenna. $d_{T\text{-}R}$ = 5.0 m, ψ = 180°, P_T = 6.2 dBm.

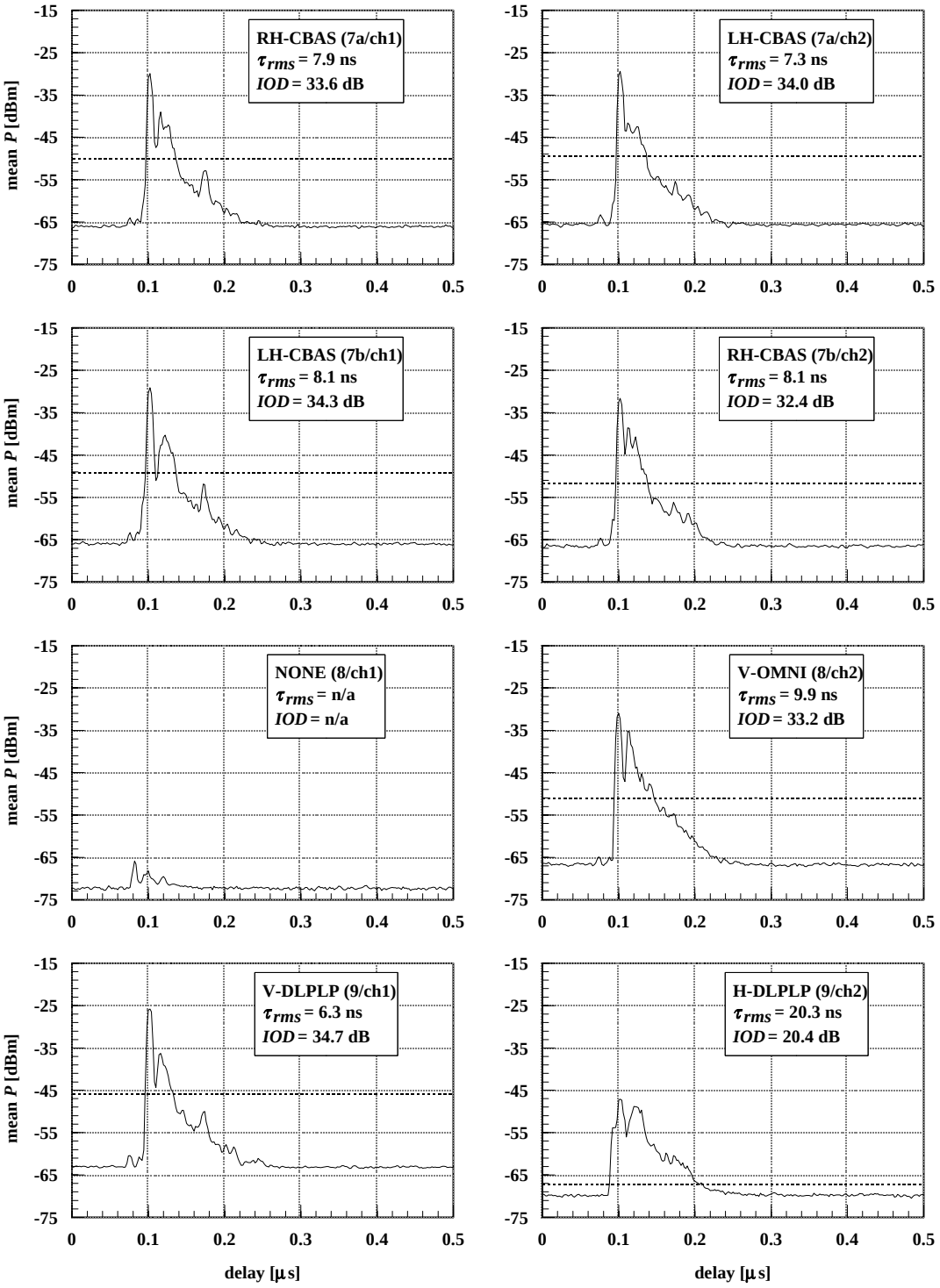

Figure B-3. Mean PDPs for in-room LOS scenario (site 1) with V-OMNI transmit antenna. $d_{T\text{-}R}$ = 5.0 m, ψ = 180°, P_T = 6.2 dBm.

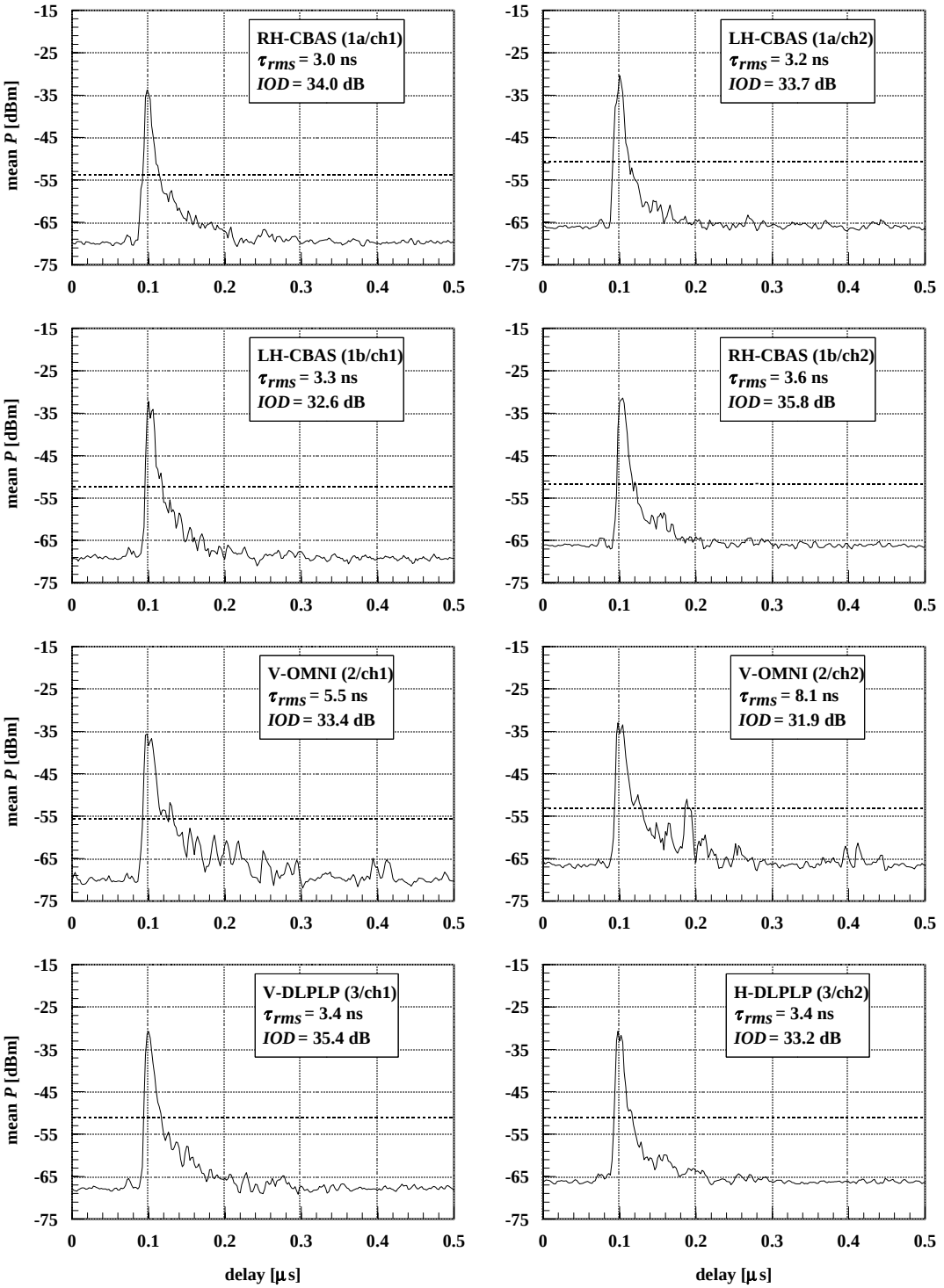

Figure B-4. Mean PDPs for in-corridor LOS scenario (site 2) with LH-CBAS transmit antenna. $d_{T\text{-}R}$ = 12.2 m, ψ = 180°, P_T = 6.2 dBm.

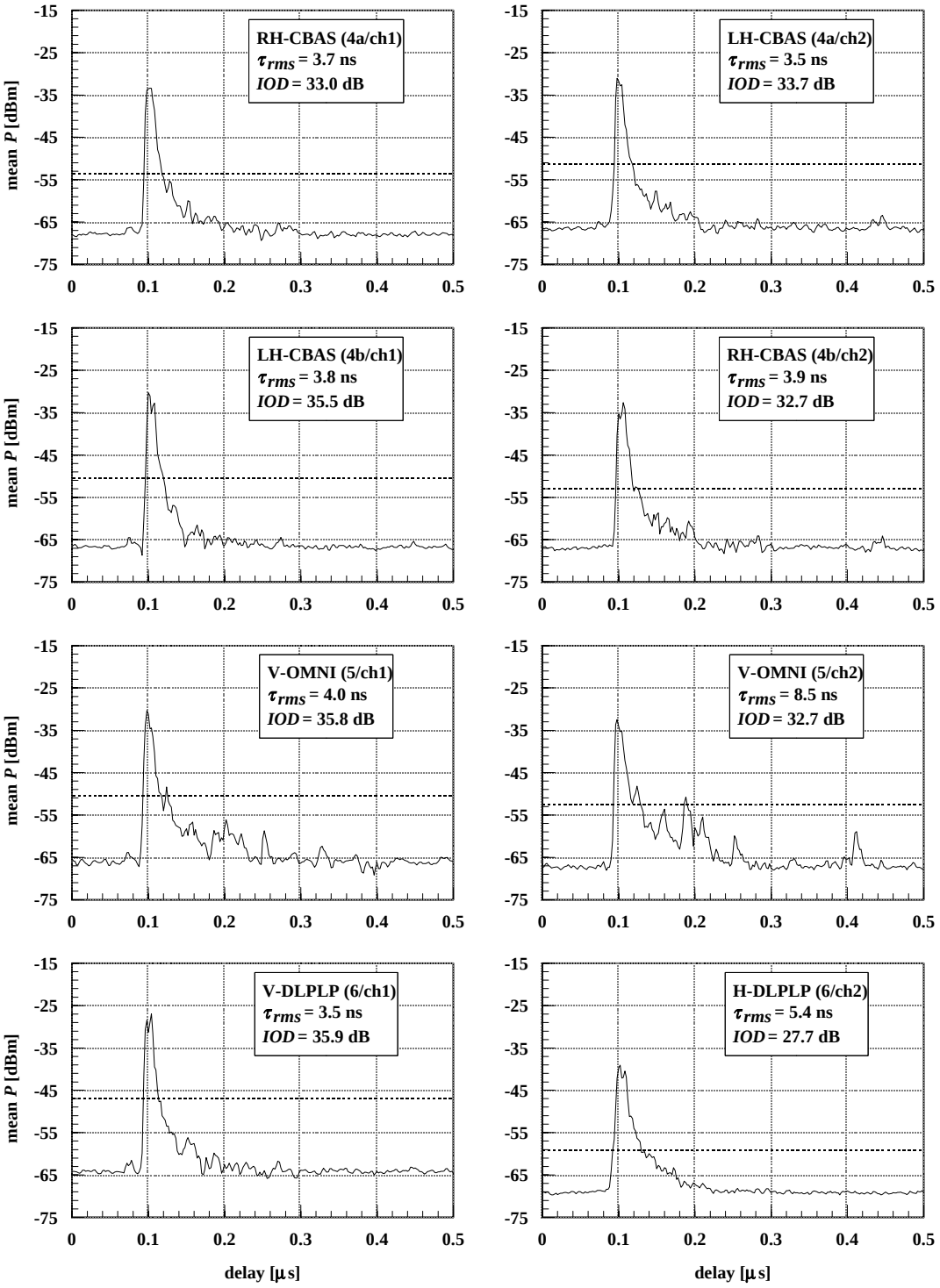

Figure B-5. Mean PDPs for in-corridor LOS scenario (site 2) with V-LPLP transmit antenna. $d_{T\text{-}R}$ = 12.2 m, ψ = 180°, P_T = 6.2 dBm.

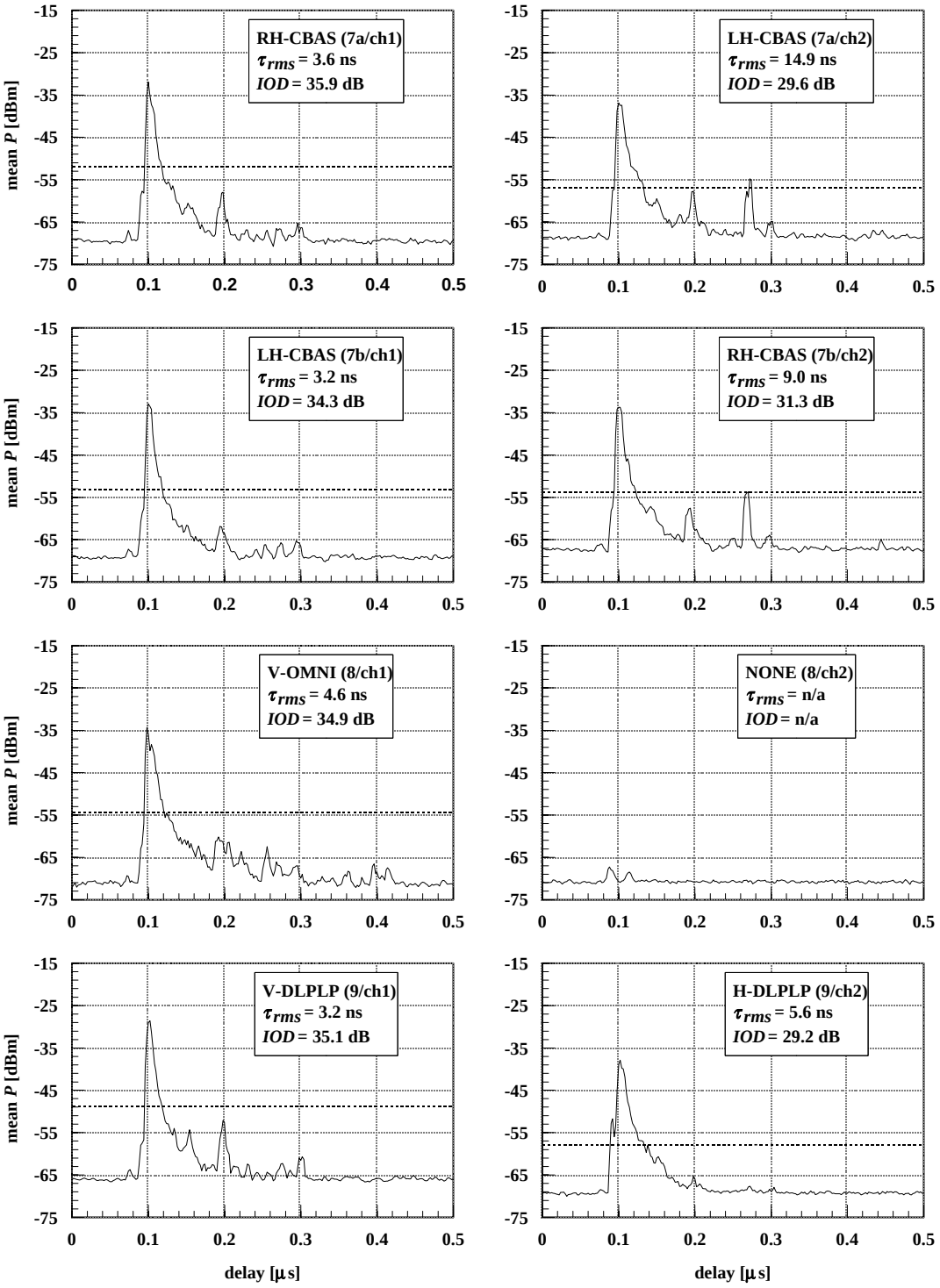

Figure B-6. Mean PDPs for in-corridor LOS scenario (site 2) with V-OMNI transmit antenna. $d_{T\text{-}R}$ = 12.2 m, ψ = 180°, P_T = 6.2 dBm.

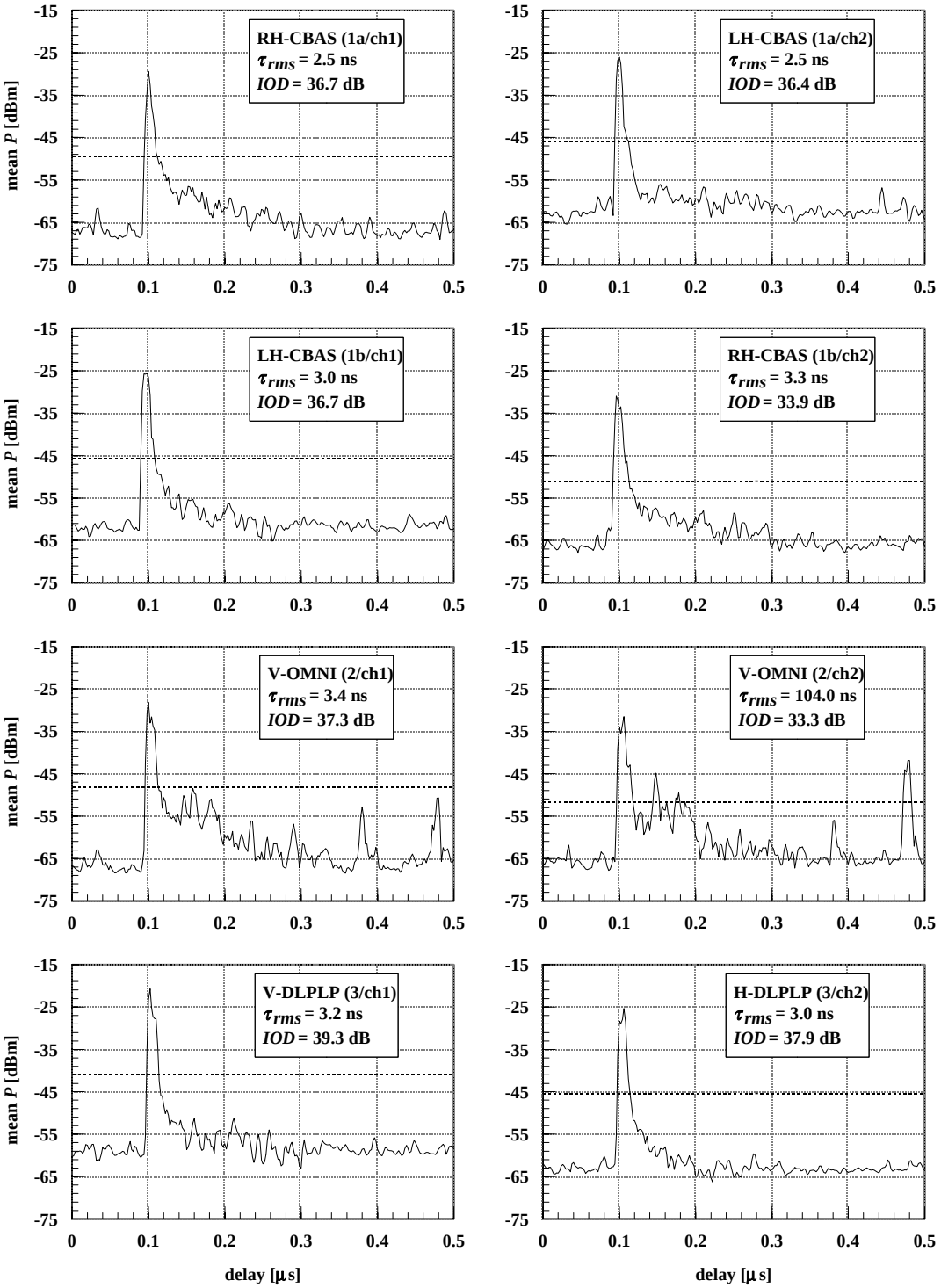

Figure B-7. Mean PDPs for in-corridor LOS scenario (site 3) with LH-CBAS transmit antenna. $d_{T\text{-}R}$ = 45.7 m, ψ = 180°, P_T = 17.0 dBm.

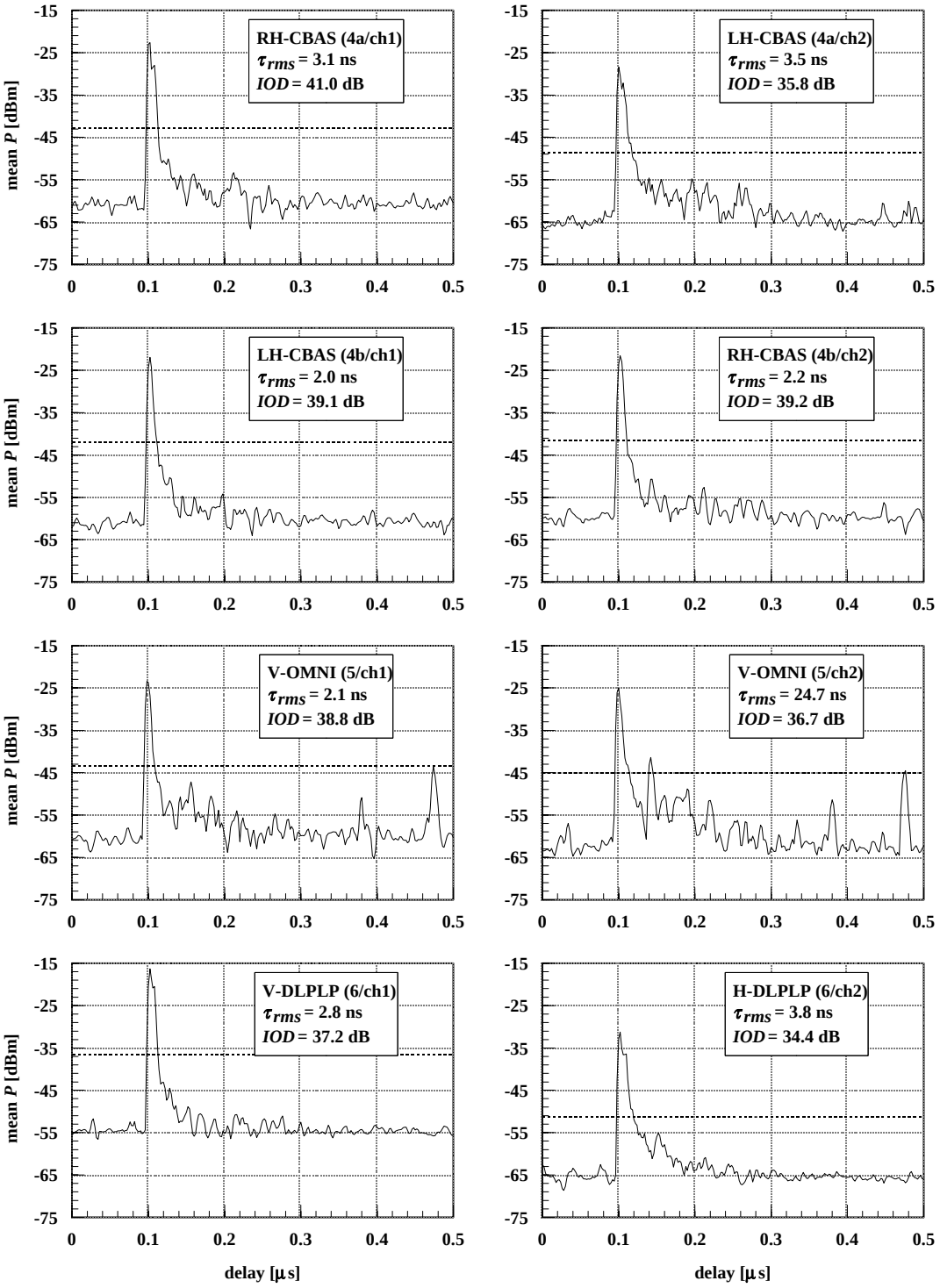

Figure B-8. Mean PDPs for in-corridor LOS scenario (site 3) with V-LPLP transmit antenna. $d_{T\text{-}R}$ = 45.7 m, ψ = 180°, P_T = 17.0 dBm.

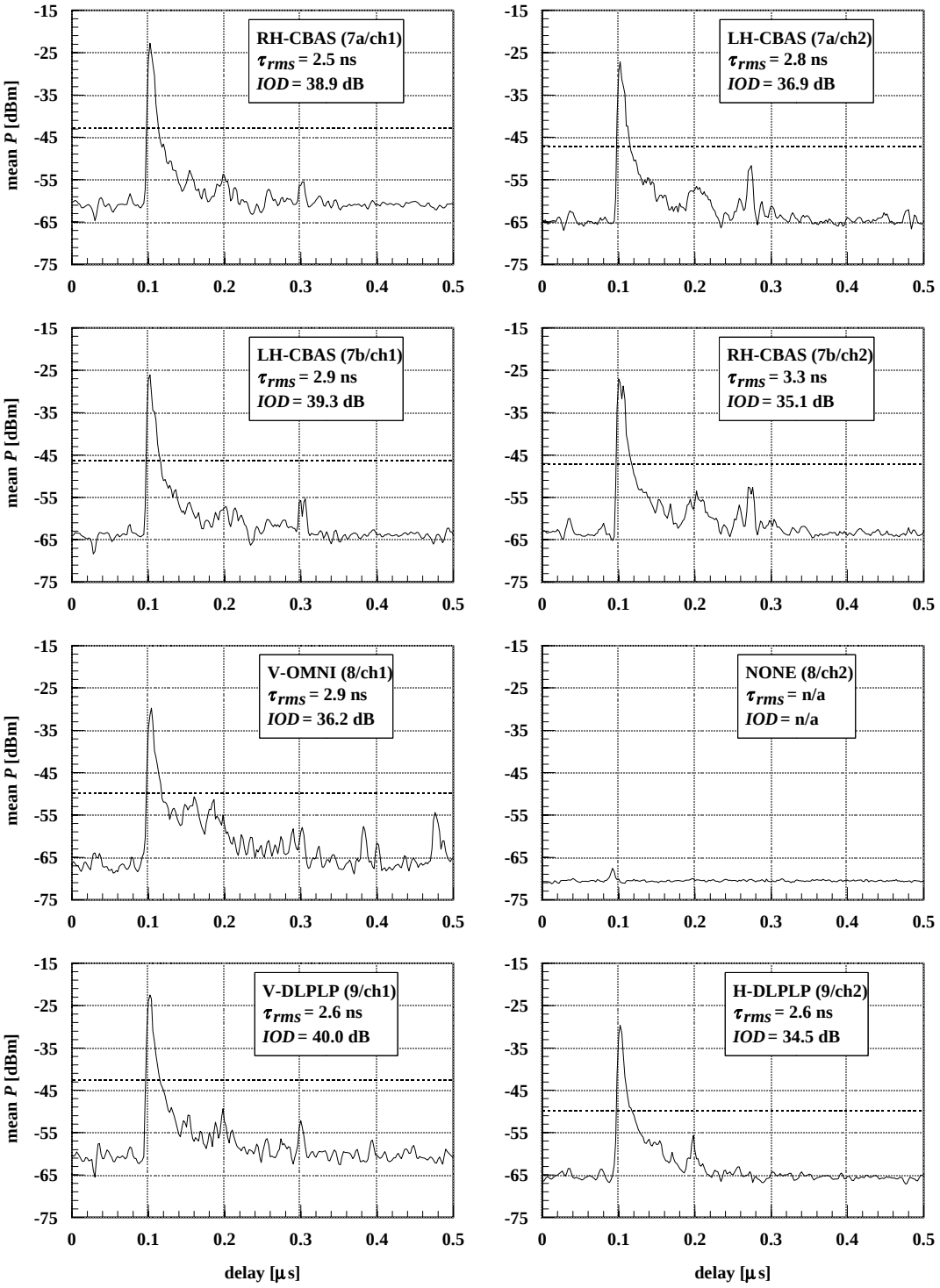

Figure B-9. Mean PDPs for in-corridor LOS scenario (site 3) with V-OMNI transmit antenna. $d_{T\text{-}R}$ = 45.7 m, ψ = 180°, P_T = 17.0 dBm.

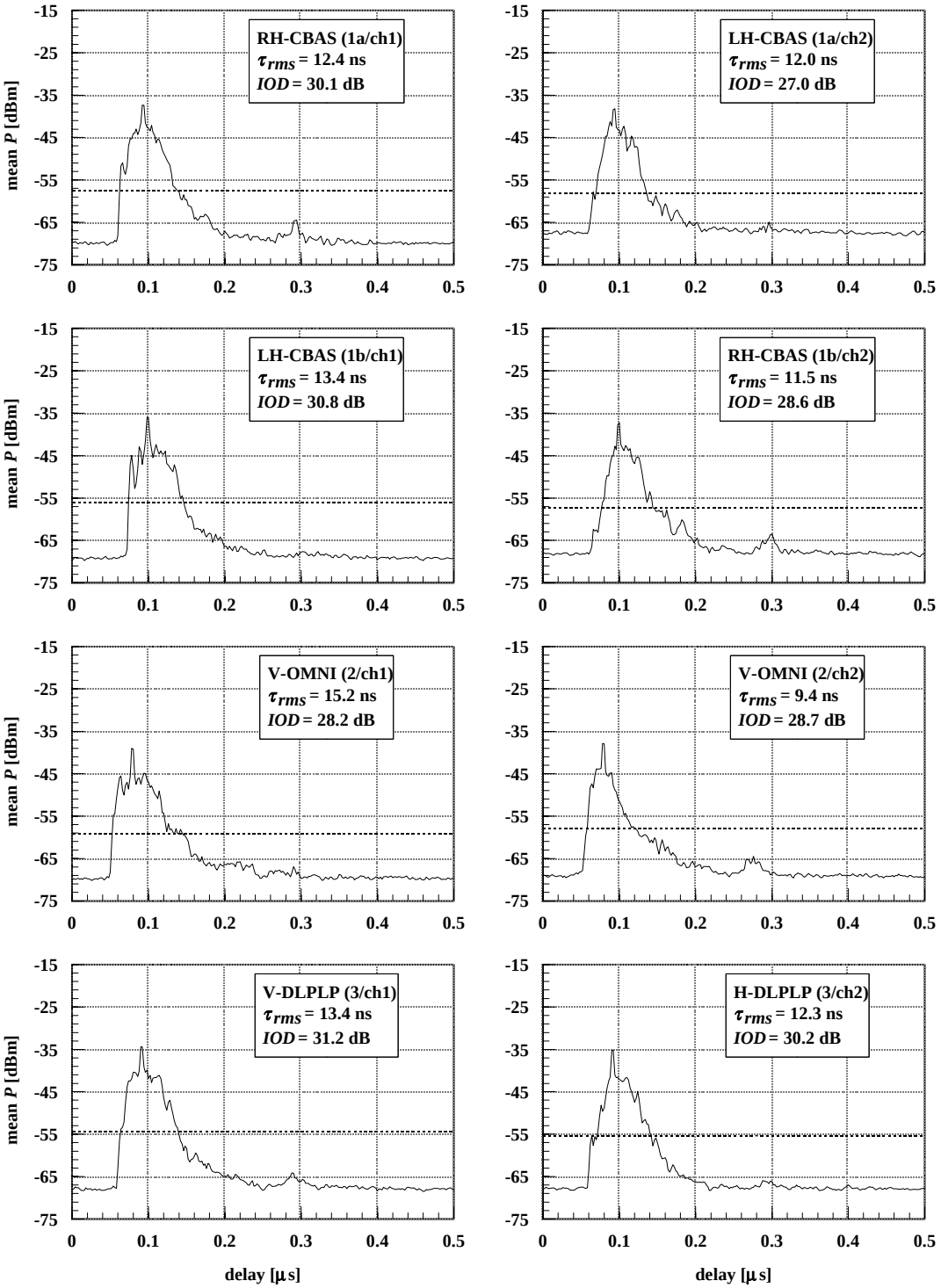

Figure B-10. Mean PDPs for corridor-corner OBS scenario (site 4) with LH-CBAS transmit antenna. $d_{T\text{-}R}$ = 8.3 m, ψ = 90°, P_T = 16.2 dBm.

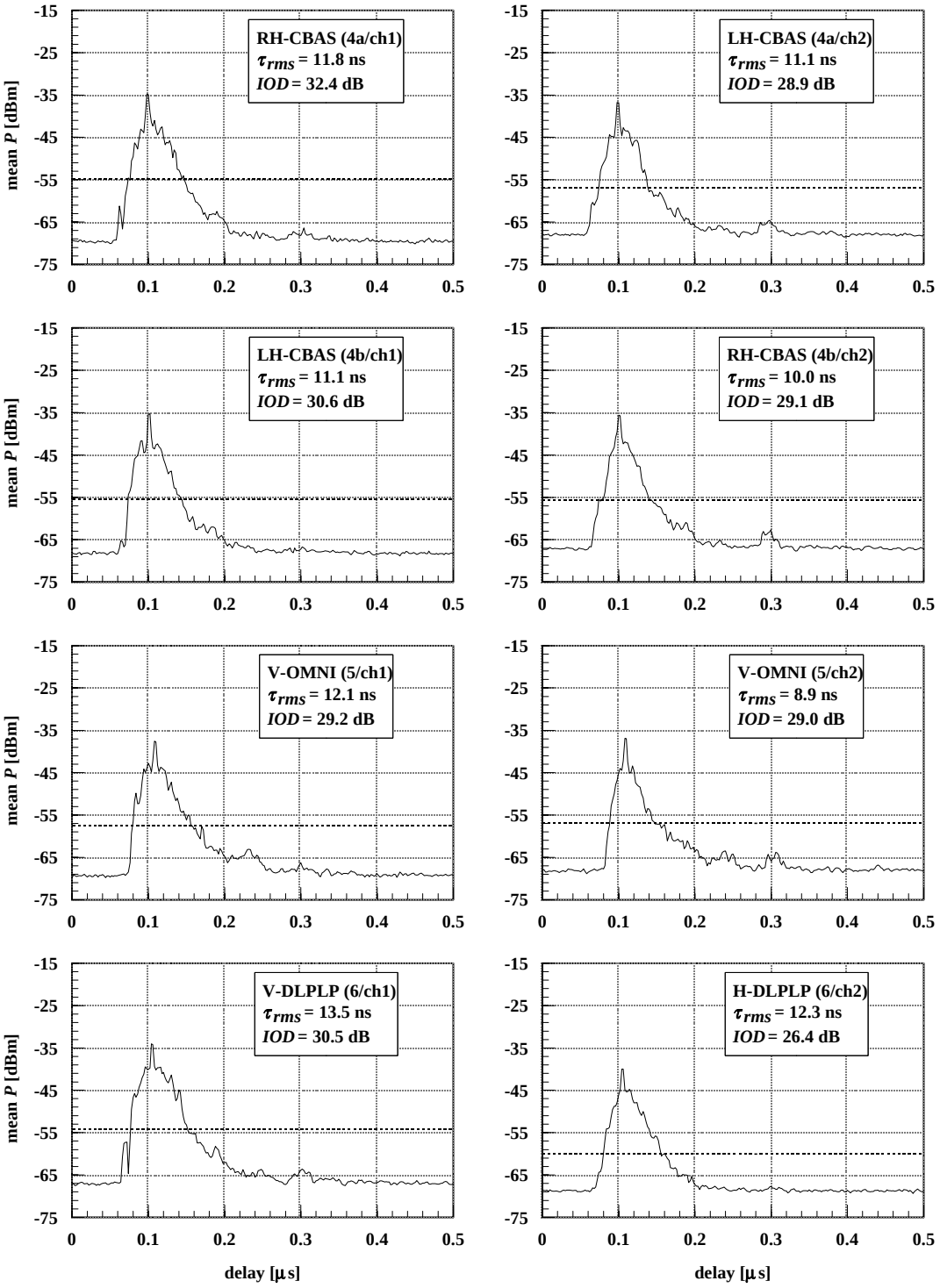

Figure B-11. Mean PDPs for corridor-corner OBS scenario (site 4) with V-LPLP transmit antenna. $d_{T\text{-}R}$ = 8.3 m, ψ = 90°, P_T = 16.2 dBm.

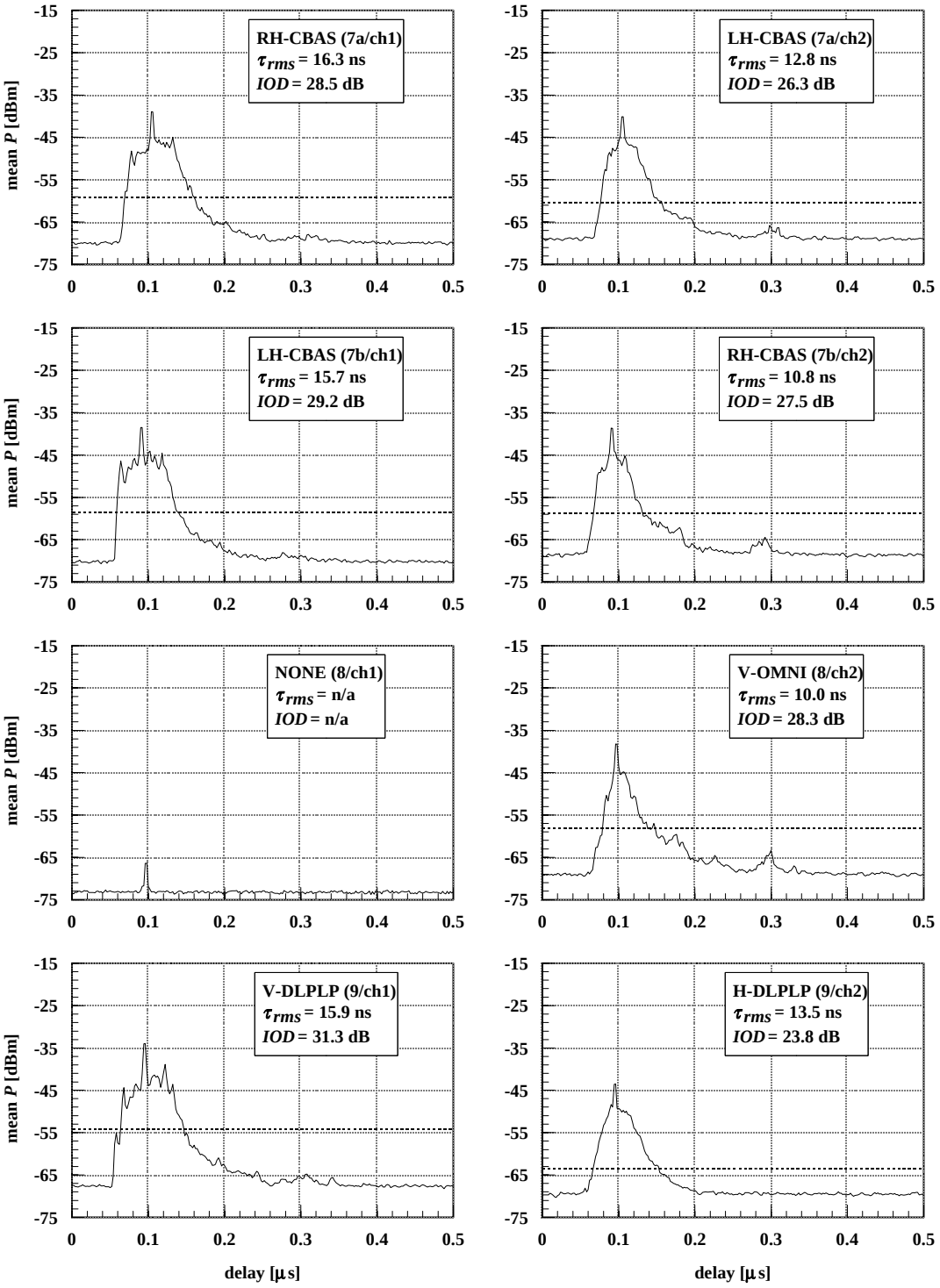

Figure B-12. Mean PDPs for corridor-corner OBS scenario (site 4) with V-OMNI transmit antenna. $d_{T\text{-}R}$ = 8.3 m, ψ = 90°, P_T = 16.2 dBm.

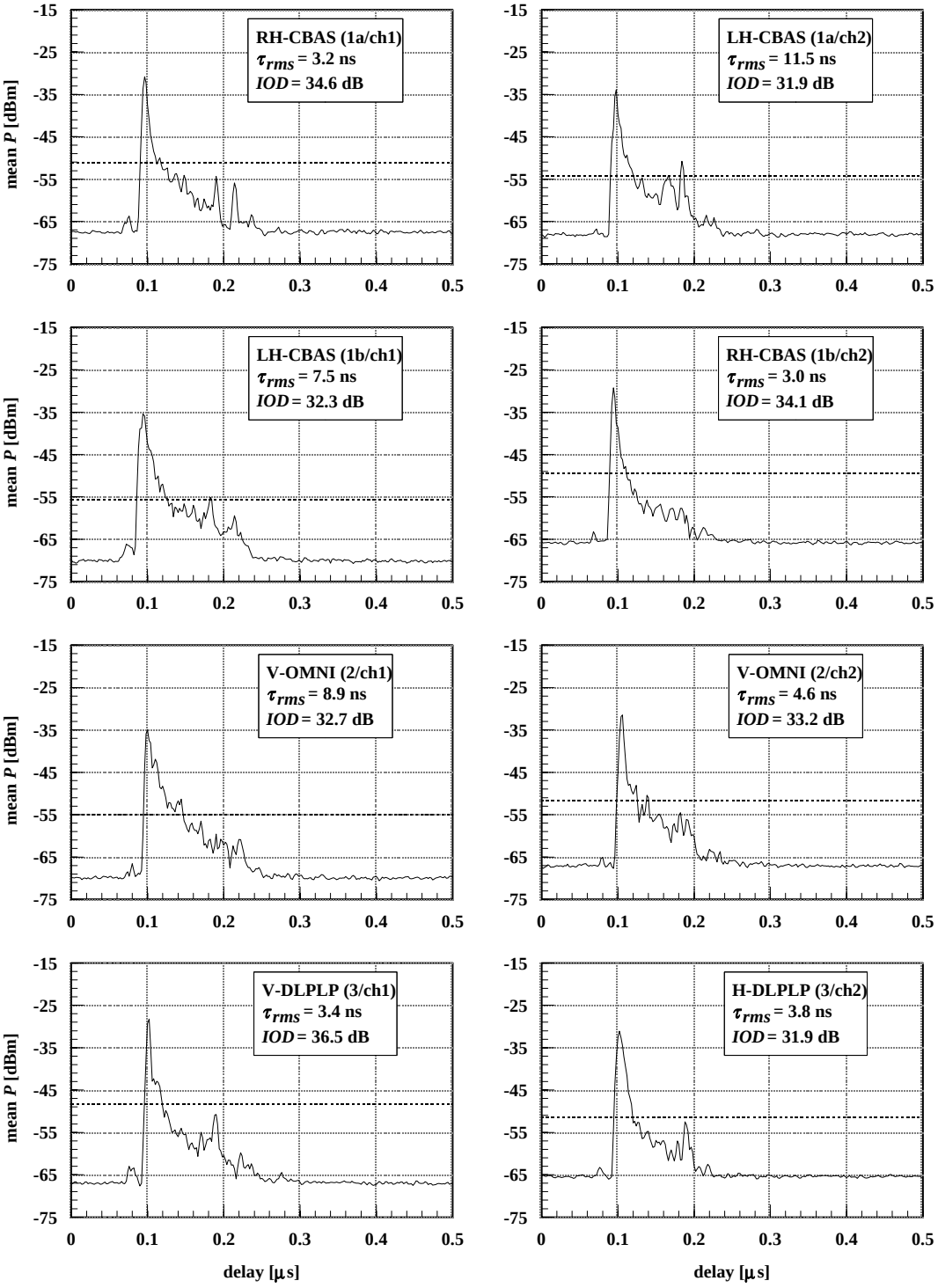

Figure B-13. Mean PDPs for corridor-to-room OBS scenario (site 5) with LH-CBAS transmit antenna. $d_{T\text{-}R}$ = 13.7 m, ψ = 152.8°, P_T = 16.2 dBm.

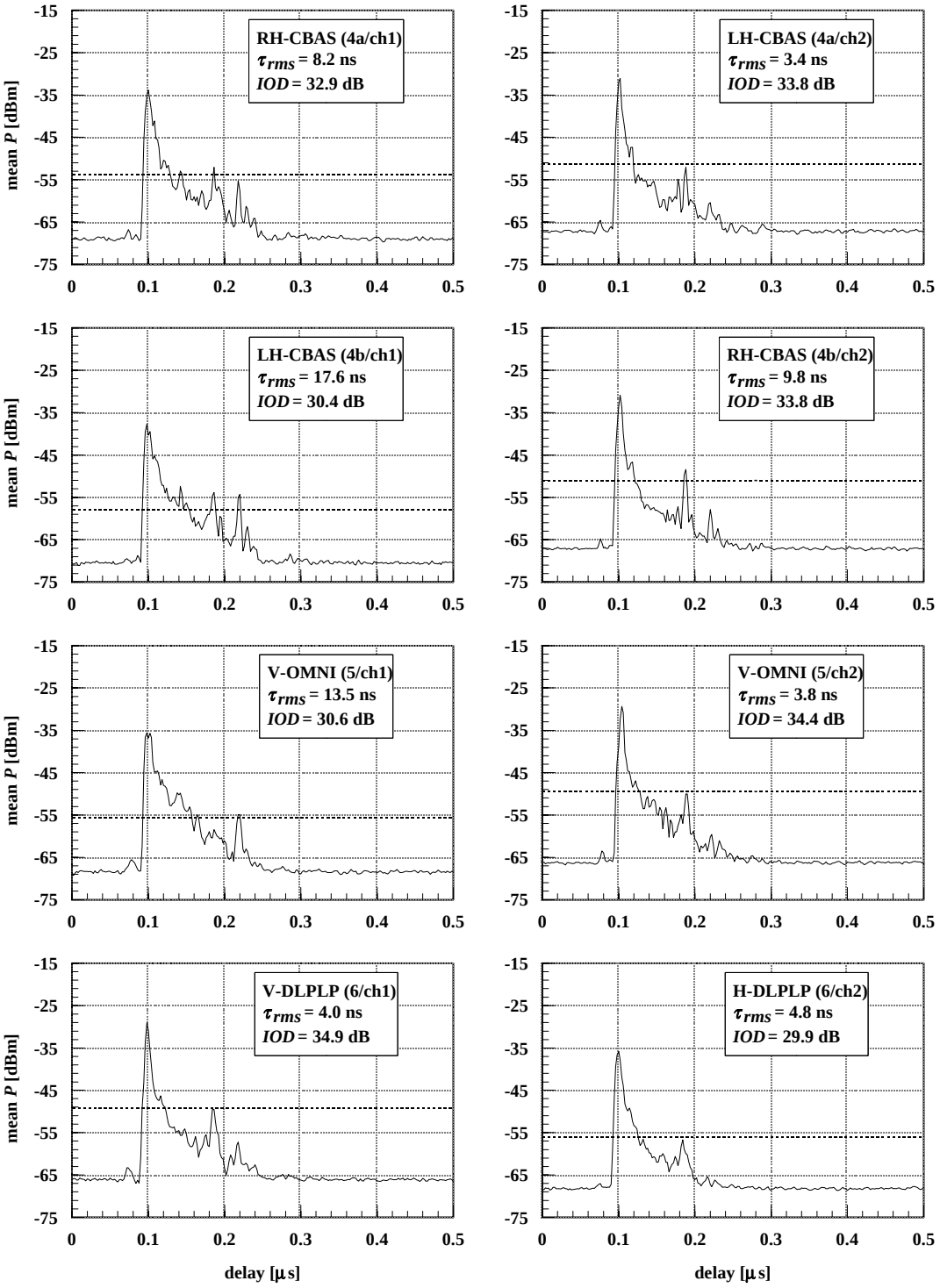

Figure B-14. Mean PDPs for corridor-to-room OBS scenario (site 5) with V-LPLP transmit antenna. $d_{T\text{-}R}$ = 13.7 m, ψ = 152.8°, P_T = 16.2 dBm.

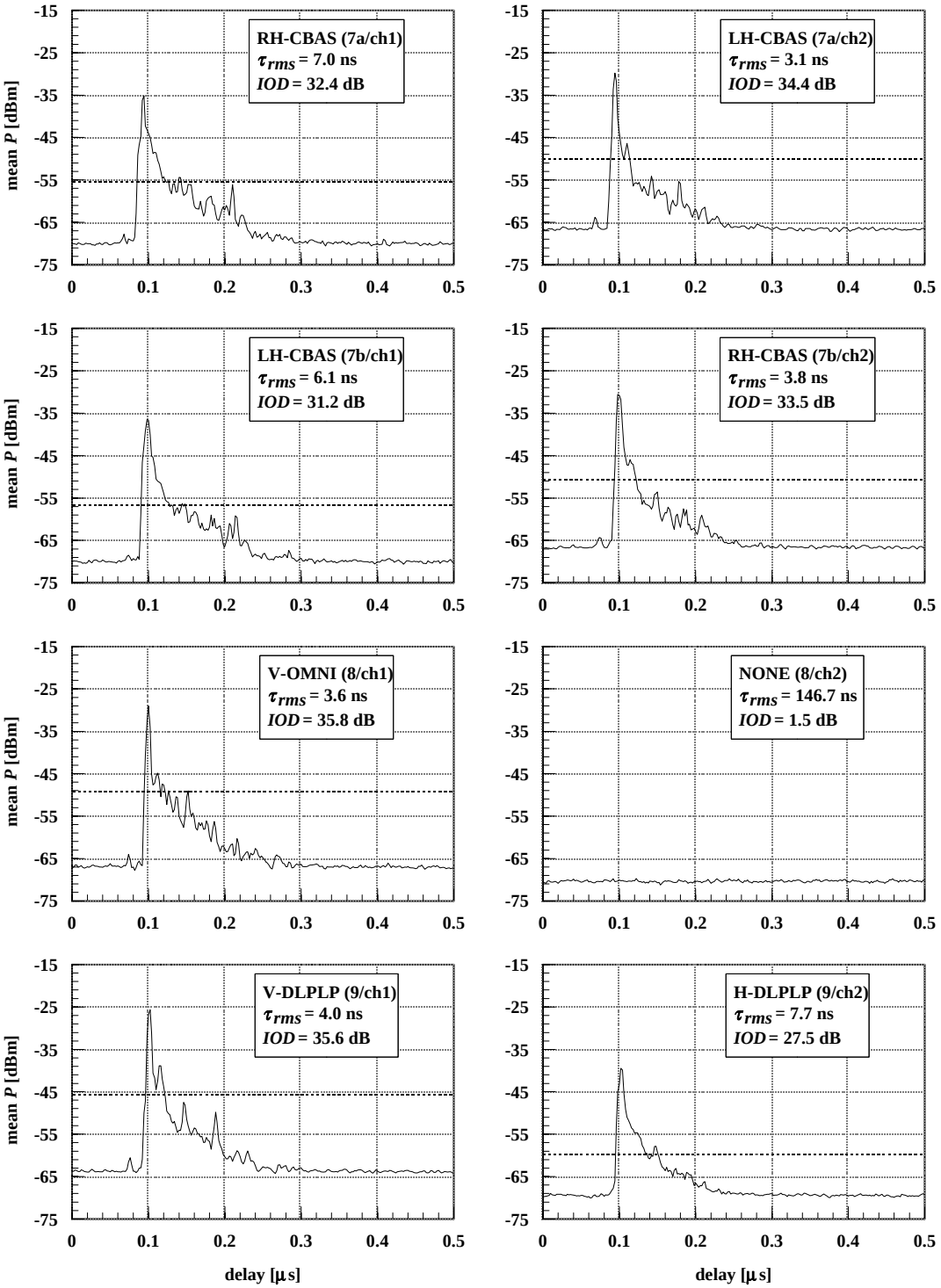

Figure B-15. Mean PDPs for corridor-to-room OBS scenario (site 5) with V-OMNI transmit antenna. $d_{T\text{-}R}$ = 13.7 m, ψ = 152.8°, P_T = 16.2 dBm.

This Page Intentionally Left Blank

This Page Intentionally Left Blank

APPENDIX C: SYSTEM COMPONENT DESCRIPTION

The acronyms in front of each component specification are used in Figures 3 and 4.

C.1. Transmitter Component Specification

A1: Low noise amplifier, frequency range: 1-2 GHz, 35-dB gain
A2: Low noise amplifier, frequency range: 4-8 GHz, 26-dB gain, 1-dB compression at 23 dBm, 6-dB N.F.
F1: Band pass filter, 5-pole Chebychev, 0.35-dB insertion loss, 3-dB bandwidth: 1000 MHz
F2: Band pass filter, 5-pole Chebychev, 0.26-dB insertion loss, 3-dB bandwidth: 1000 MHz
LO1: Local oscillator, 1.5 GHz, +7-dBm output power
LO2: Local oscillator, 4.3 GHz, +10-dBm output power
M1: Double balanced mixer
M2: Double balanced mixer, 6.5-dB conversion loss, 1-dB compression at +5 dBm
P1: Attenuator, 3 dB
P2: Attenuator, 10 dB
P3: Attenuator, 3 dB
P4: Attenuator, 10 dB

C.2. Receiver Component Specifications

A3: Low noise amplifier, 4-8 GHz, 37-dB gain, 1-dB compression at 10 dBm, 1.8-dB N.F.
A4, A7: Medium power amplifier, 10-2000 MHz, 20-dB gain, 1-dB compression at +16 dBm, 7 dB N.F.
A5, A8: Low power amplifier, 0.05-500 MHz, 20-dB gain min., power out 1-dB compression at +9 dBm, 5.3 dB N.F
A6: Low noise amplifier, 4-8 GHz, 34-dB gain, 1-dB compression at +10 dBm, 1.8-dB N.F.
F3, F6: Bandpass filter, 5-pole Chebychev, 0.26-dB insertion loss, 3-dB bandwidth: 1000 MHz
F4, F7: Bandpass filter, 6-pole Chebychev, 3-dB bandwidth: 500 MHz
F5, F8: Low pass filter, DC-520-MHz passband, insertion loss < 1 dB, 3-dB loss at 570 MHz
LO3: Local oscillator, 4.3 GHz, +10-dBm output power
LO4: Local oscillator, 1.75 GHz, +7-dBm output power
M3, M5: Double balance mixer, 8-dB conversion loss, 1-dB compression at +6 dBm
M4, M6: Double balance mixer, 7.5-dB conversion loss, +1-dBm RF max power
P5: Attenuator, 3 dB
P6: Attenuator, 10 dB
P7, P10: Attenuator, 3 dB
P8, P11: Attenuator, 10 dB
P9: Attenuator, 9 dB