



RF Exposure Report

(Part 0: SAR and PD Char Evaluation)

FCC ID : A4RGPQQ7
Equipment : Phone
Model Name : GPQQ7
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, CA, 94043 USA
Standard : FCC 47 CFR Part 2 (2.1093)

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

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History of this test report

Report No.	Version	Description	Issued Date
FA5N0809-01A	01	Initial issue of report	May. 05, 2026
FA5N0809-01A	02	Update section 3.7.2	May. 20, 2026

1. Introduction

The RF exposure limit is defined based on time-averaged RF exposure. The product implements MediaTek TAS (Time Average SAR) feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency $\leq 6\text{GHz}$) and power density (transmit frequency $> 6\text{GHz}$) to control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement. Cannot operate without SAR and PD characterization at the device level, beforehand.

This report describes the procedures for the SAR char and PD char generation, and the parameters obtained from SAR and PD characterization (referred to as SAR char and PD char, respectively) will be used as input for TAS. Both SAR char and PD char will be entered via the MediaTek's NV suggestion to enable the TAS Feature.

The compliance test under static transmission and simultaneous transmission are performed and summarized in Part 1 report. The validation of TAS algorithm under the dynamic transmission scenarios are reported in Part 2. Terminologies for this report are listed up in the table below.

Pmax	Maximum Tx power that can be transmitted physically from RFIC for a given RAT
SAR_FCC_limit	SAR limit specified by FCC 1.6 W/kg averaged over 1-gram, for head and body exposure
SAR_target	Target SAR level used in TAS algorithm. This SAR value should be less than FCC limit and should be determined after accounting for all uncertainties and other design considerations.
PD_FCC_limit	PD limit specified by FCC, 10 W/m ² averaged over 4 cm ²
PD_target	Target PD level used in TAS algorithm. This PD value should be less than the FCC limit and should be determined accounting for all uncertainties and other design considerations.
Plimit	The time-averaged RF power that corresponds to SAR_target or PD_target.
SAR characterization	Characterization of SAR value for all sub6GHz technologies
PD characterization	Characterization of PD value for mmWave technology



2. SAR Characterization

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for TAS to control and manage RF exposure for $f < 6$ GHz.

2.1 SAR design target and uncertainty

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

Wireless Tech.	Band	Mode	Antenna	Duty cycle	Head		Hotspot	Body-worn		Body-worn/Extremity		power tolerance (dB)
					ECI 2	ECI 3	ECI 6	ECI 4	ECI 5	ECI 4	ECI 5	
					Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	Standalone	Simultaneous	
					1g SAR design target (W/Kg)					10g SAR design target (W/Kg)		
GSM	B850	1TX	Ant0	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	1TX	Ant0	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	2TX	Ant0	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	3TX	Ant0	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	4TX	Ant0	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	1TX	Ant0	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	2TX	Ant0	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	3TX	Ant0	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	4TX	Ant0	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GSM	B850	1TX	Ant1	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	1TX	Ant1	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	2TX	Ant1	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	3TX	Ant1	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B850	4TX	Ant1	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	1TX	Ant1	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	2TX	Ant1	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	3TX	Ant1	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B850	4TX	Ant1	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GSM	B1900	1TX	Ant2	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	1TX	Ant2	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	2TX	Ant2	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	3TX	Ant2	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	4TX	Ant2	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	1TX	Ant2	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	2TX	Ant2	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	3TX	Ant2	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	4TX	Ant2	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GSM	B1900	1TX	Ant0	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	1TX	Ant0	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	2TX	Ant0	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	3TX	Ant0	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
GPRS	B1900	4TX	Ant0	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	1TX	Ant0	12.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	2TX	Ant0	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	3TX	Ant0	37.50%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
EGPRS	B1900	4TX	Ant0	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
WCDMA	B2	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
WCDMA	B2	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
WCDMA	B4	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00



WCDMA	B4	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
WCDMA	B5	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
WCDMA	B5	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B2	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B2	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B2	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B2	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B4	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B4	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B4	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B4	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B5 / 5B	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B5 / 5B	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B7 / 7C	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B7 / 7C	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B12	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B12	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B13	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B13	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B14	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B14	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B17	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B17	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B25	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B25	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B25	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B25	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B26	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B26	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B30	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B30	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38 / 38C	PC3	Ant2	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38	PC2	Ant2	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38 / 38C	PC3	Ant0	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38	PC2	Ant0	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38 / 38C	PC3	Ant1	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38	PC2	Ant1	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38 / 38C	PC3	Ant5	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B38	PC2	Ant5	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41 / 41C	PC3	Ant2	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41	PC2	Ant2	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41 / 41C	PC3	Ant0	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41	PC2	Ant0	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41 / 41C	PC3	Ant1	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41	PC2	Ant1	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41 / 41C	PC3	Ant5	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B41	PC2	Ant5	43.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B48	PC3	Ant6	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B48	PC3	Ant7	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B48	PC3	Ant1	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B48	PC3	Ant5	63.30%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B66 / 66C / 66B	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B66 / 66C / 66B	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B66 / 66C / 66B	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B66 / 66C / 66B	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
LTE	B71	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00



LTE	B71	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n2	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n2	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n2	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n2	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n5	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n5	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n7	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n7	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n12	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n12	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n13	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n13	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n14	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n14	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n25	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n25	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n25	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n25	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n26	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n26	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n30	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n30	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n38	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n38	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n38	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n38	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41 / n41C / n41B	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC2	Ant2	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC1P5	Ant2	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41 / n41C / n41B	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC2	Ant0	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC1P5	Ant0	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41 / n41C / n41B	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC2	Ant1	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC1P5	Ant1	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41 / n41C / n41B	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC2	Ant5	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n41	PC1P5	Ant5	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n48	PC3	Ant6	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n48	PC3	Ant7	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n48	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n48	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n66	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n66	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n66	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n66	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n70	PC3	Ant2	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n70	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n70	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n70	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n71	PC3	Ant0	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n71	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77 / n77C	PC3	Ant6	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC2	Ant6	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC1P5	Ant6	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00



NR	n77 / n77C	PC3	Ant7	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC2	Ant7	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC1P5	Ant7	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77 / n77C	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC2	Ant1	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC1P5	Ant1	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77 / n77C	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC2	Ant5	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n77	PC1P5	Ant5	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC3	Ant6	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC2	Ant6	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC1P5	Ant6	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC3	Ant7	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC2	Ant7	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC1P5	Ant7	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC3	Ant1	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC2	Ant1	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC1P5	Ant1	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC3	Ant5	100.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC2	Ant5	50.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NR	n78	PC1P5	Ant5	25.00%	0.79	0.67	0.67	0.79	0.67	2.62	2.22	1.00
NTN	B23	PC3	Ant5	100.00%						1.76		1.50
NTN	B255	PC3	Ant5	100.00%						1.76		1.50

2.2 SAR Char Table

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for TAS to control and manage RF exposure for $f < 6$ GHz.

<P_{limit} for supported technologies and bands>

Note:

- 1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to P_{max} + device uncertainty.
- 2) All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM& LTE TDD & NR TDD).
- 3) The max allowed output power is the P_{limit} + device uncertainty, and if P_{limit} is higher than P_{max}, the device output power will be P_{max} instead.

Wireless Tech.	Band	Mode	Antenna	Duty cycle	Head		Hotspot	Body-worn/Extremity		P Max Time-average power (dBm)
					ECI 2	ECI 3	ECI 6	ECI 4	ECI 5	
					Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
					P limit					
Time-average power (dBm)										
GSM	B850	1TX	Ant0	12.50%	25.90	24.30	21.20	21.20	21.20	23.50
GPRS	B850	1TX	Ant0	12.50%	25.90	24.30	21.20	21.20	21.20	23.50
GPRS	B850	2TX	Ant0	25.00%	25.90	24.30	21.20	21.20	21.20	25.30
GPRS	B850	3TX	Ant0	37.50%	25.90	24.30	21.20	21.20	21.20	26.10
GPRS	B850	4TX	Ant0	50.00%	25.90	24.30	21.20	21.20	21.20	26.30
EGPRS	B850	1TX	Ant0	12.50%	25.90	24.30	21.20	21.20	21.20	17.30
EGPRS	B850	2TX	Ant0	25.00%	25.90	24.30	21.20	21.20	21.20	19.30
EGPRS	B850	3TX	Ant0	37.50%	25.90	24.30	21.20	21.20	21.20	20.10
EGPRS	B850	4TX	Ant0	50.00%	25.90	24.30	21.20	21.20	21.20	20.30
GSM	B850	1TX	Ant1	12.50%	23.40	22.30	24.00	25.10	24.00	23.10
GPRS	B850	1TX	Ant1	12.50%	23.40	22.30	24.00	25.10	24.00	23.10
GPRS	B850	2TX	Ant1	25.00%	23.40	22.30	24.00	25.10	24.00	25.30
GPRS	B850	3TX	Ant1	37.50%	23.40	22.30	24.00	25.10	24.00	26.10
GPRS	B850	4TX	Ant1	50.00%	23.40	22.30	24.00	25.10	24.00	26.30
EGPRS	B850	1TX	Ant1	12.50%	23.40	22.30	24.00	25.10	24.00	17.10
EGPRS	B850	2TX	Ant1	25.00%	23.40	22.30	24.00	25.10	24.00	19.30
EGPRS	B850	3TX	Ant1	37.50%	23.40	22.30	24.00	25.10	24.00	20.10
EGPRS	B850	4TX	Ant1	50.00%	23.40	22.30	24.00	25.10	24.00	20.30
GSM	B1900	1TX	Ant2	12.50%	24.70	24.70	18.50	19.90	18.50	20.50
GPRS	B1900	1TX	Ant2	12.50%	24.70	24.70	18.50	19.90	18.50	20.50
GPRS	B1900	2TX	Ant2	25.00%	24.70	24.70	18.50	19.90	18.50	21.90
GPRS	B1900	3TX	Ant2	37.50%	24.70	24.70	18.50	19.90	18.50	23.20
GPRS	B1900	4TX	Ant2	50.00%	24.70	24.70	18.50	19.90	18.50	23.40
EGPRS	B1900	1TX	Ant2	12.50%	24.70	24.70	18.50	19.90	18.50	16.40
EGPRS	B1900	2TX	Ant2	25.00%	24.70	24.70	18.50	19.90	18.50	18.40
EGPRS	B1900	3TX	Ant2	37.50%	24.70	24.70	18.50	19.90	18.50	19.20
EGPRS	B1900	4TX	Ant2	50.00%	24.70	24.70	18.50	19.90	18.50	19.40
GSM	B1900	1TX	Ant0	12.50%	36.30	36.30	16.10	16.80	16.10	19.60
GPRS	B1900	1TX	Ant0	12.50%	36.30	36.30	16.10	16.80	16.10	19.60
GPRS	B1900	2TX	Ant0	25.00%	36.30	36.30	16.10	16.80	16.10	21.20
GPRS	B1900	3TX	Ant0	37.50%	36.30	36.30	16.10	16.80	16.10	22.50
GPRS	B1900	4TX	Ant0	50.00%	36.30	36.30	16.10	16.80	16.10	22.70
EGPRS	B1900	1TX	Ant0	12.50%	36.30	36.30	16.10	16.80	16.10	15.60
EGPRS	B1900	2TX	Ant0	25.00%	36.30	36.30	16.10	16.80	16.10	17.70
EGPRS	B1900	3TX	Ant0	37.50%	36.30	36.30	16.10	16.80	16.10	18.50
EGPRS	B1900	4TX	Ant0	50.00%	36.30	36.30	16.10	16.80	16.10	18.70
WCDMA	B2	PC3	Ant2	100.00%	25.90	25.90	18.70	20.10	18.70	24.00



WCDMA	B2	PC3	Ant0	100.00%	35.90	35.90	12.90	14.30	12.90	24.00
WCDMA	B4	PC3	Ant2	100.00%	26.70	26.70	19.30	20.40	19.30	24.00
WCDMA	B4	PC3	Ant0	100.00%	34.40	34.40	13.60	15.00	13.60	24.00
WCDMA	B5	PC3	Ant0	100.00%	28.70	28.70	20.90	20.90	20.90	24.20
WCDMA	B5	PC3	Ant1	100.00%	22.70	22.70	23.10	23.50	23.10	24.20
LTE	B2	PC3	Ant2	100.00%	26.00	26.00	18.30	19.70	18.30	24.00
LTE	B2	PC3	Ant0	100.00%	37.30	37.30	13.10	14.50	13.10	24.00
LTE	B2	PC3	Ant1	100.00%	18.50	17.40	18.60	19.30	18.60	24.00
LTE	B2	PC3	Ant5	100.00%	17.30	16.10	16.40	17.70	16.40	24.00
LTE	B4	PC3	Ant2	100.00%	26.50	26.50	19.30	20.60	19.30	24.00
LTE	B4	PC3	Ant0	100.00%	34.00	34.00	13.70	15.00	13.70	24.00
LTE	B4	PC3	Ant1	100.00%	17.70	17.00	21.60	22.40	21.60	24.00
LTE	B4	PC3	Ant5	100.00%	17.60	16.90	16.60	19.40	16.60	23.70
LTE	B5 / 5B	PC3	Ant0	100.00%	28.00	27.30	20.50	21.20	20.50	24.10
LTE	B5 / 5B	PC3	Ant1	100.00%	21.30	20.50	22.50	23.20	22.50	24.10
LTE	B7 / 7C	PC3	Ant2	100.00%	22.80	21.60	15.90	17.30	15.90	24.00
LTE	B7 / 7C	PC3	Ant0	100.00%	32.90	32.90	14.00	16.30	14.00	24.00
LTE	B12	PC3	Ant0	100.00%	29.60	28.90	22.30	25.30	22.30	24.10
LTE	B12	PC3	Ant1	100.00%	22.50	21.80	24.10	25.40	24.10	24.10
LTE	B13	PC3	Ant0	100.00%	30.00	29.30	20.70	22.40	20.70	24.10
LTE	B13	PC3	Ant1	100.00%	24.10	22.50	22.50	25.90	22.50	24.10
LTE	B14	PC3	Ant0	100.00%	29.90	29.20	21.90	22.40	21.90	24.10
LTE	B14	PC3	Ant1	100.00%	22.30	21.60	21.60	23.40	21.60	24.10
LTE	B17	PC3	Ant0	100.00%	29.60	28.90	22.30	25.30	22.30	24.10
LTE	B17	PC3	Ant1	100.00%	22.50	21.80	24.10	25.40	24.10	24.10
LTE	B25	PC3	Ant2	100.00%	26.00	26.00	18.30	19.70	18.30	24.00
LTE	B25	PC3	Ant0	100.00%	37.30	37.30	13.10	14.50	13.10	24.00
LTE	B25	PC3	Ant1	100.00%	18.50	17.40	18.60	19.30	18.60	24.00
LTE	B25	PC3	Ant5	100.00%	17.30	16.10	16.40	17.70	16.40	24.00
LTE	B26	PC3	Ant0	100.00%	28.00	27.30	20.50	21.20	20.50	24.10
LTE	B26	PC3	Ant1	100.00%	21.30	20.50	22.50	23.20	22.50	24.10
LTE	B30	PC3	Ant2	100.00%	24.30	23.20	16.30	17.70	16.30	23.60
LTE	B30	PC3	Ant0	100.00%	34.20	34.20	14.60	16.00	14.60	22.90
LTE	B38 / 38C	PC3	Ant2	63.30%	23.30	21.50	16.20	17.50	16.20	22.00
LTE	B38	PC2	Ant2	43.30%	23.30	21.50	16.20	17.50	16.20	22.30
LTE	B38 / 38C	PC3	Ant0	63.30%	35.30	35.30	14.60	17.20	14.60	21.90
LTE	B38	PC2	Ant0	43.30%	35.30	35.30	14.60	17.20	14.60	22.30
LTE	B38 / 38C	PC3	Ant1	63.30%	17.10	16.40	17.10	19.50	17.10	22.00
LTE	B38	PC2	Ant1	43.30%	17.10	16.40	17.10	19.50	17.10	22.30
LTE	B38 / 38C	PC3	Ant5	63.30%	15.50	14.60	15.40	16.90	15.40	22.00
LTE	B38	PC2	Ant5	43.30%	15.50	14.60	15.40	16.90	15.40	22.30
LTE	B41 / 41C	PC3	Ant2	63.30%	23.30	21.50	16.20	17.50	16.20	22.00
LTE	B41	PC2	Ant2	43.30%	23.30	21.50	16.20	17.50	16.20	22.30
LTE	B41 / 41C	PC3	Ant0	63.30%	35.30	35.30	14.60	17.20	14.60	21.90
LTE	B41	PC2	Ant0	43.30%	35.30	35.30	14.60	17.20	14.60	22.30
LTE	B41 / 41C	PC3	Ant1	63.30%	17.10	16.40	17.10	19.50	17.10	22.00
LTE	B41	PC2	Ant1	43.30%	17.10	16.40	17.10	19.50	17.10	22.30
LTE	B41 / 41C	PC3	Ant5	63.30%	15.50	14.60	15.40	16.90	15.40	22.00
LTE	B41	PC2	Ant5	43.30%	15.50	14.60	15.40	16.90	15.40	22.30
LTE	B48	PC3	Ant6	63.30%	27.00	27.00	14.80	16.20	14.80	18.30
LTE	B48	PC3	Ant7	63.30%	25.10	25.10	14.30	15.70	14.30	17.30
LTE	B48	PC3	Ant1	63.30%	17.00	15.90	15.90	17.80	15.90	18.50
LTE	B48	PC3	Ant5	63.30%	15.70	14.60	17.90	19.30	17.90	19.80
LTE	B66 / 66C / 66B	PC3	Ant2	100.00%	26.50	26.50	19.30	20.60	19.30	24.00
LTE	B66 / 66C / 66B	PC3	Ant0	100.00%	34.00	34.00	13.70	15.00	13.70	24.00
LTE	B66 / 66C / 66B	PC3	Ant1	100.00%	17.70	17.00	21.60	22.40	21.60	24.00

LTE	B66 / 66C / 66B	PC3	Ant5	100.00%	17.60	16.90	16.60	19.40	16.60	23.70
LTE	B71	PC3	Ant0	100.00%	30.30	29.60	22.00	24.90	22.00	24.10
LTE	B71	PC3	Ant1	100.00%	23.60	22.60	23.10	26.90	23.10	24.10
NR	n2	PC3	Ant2	100.00%	26.60	26.60	19.50	20.40	19.50	24.00
NR	n2	PC3	Ant0	100.00%	38.20	38.20	14.30	15.40	14.30	24.00
NR	n2	PC3	Ant1	100.00%	18.40	17.60	19.10	19.80	19.10	24.00
NR	n2	PC3	Ant5	100.00%	17.40	16.00	16.60	18.00	16.60	24.00
NR	n5	PC3	Ant0	100.00%	28.60	27.90	21.20	21.30	21.20	24.10
NR	n5	PC3	Ant1	100.00%	22.20	21.10	23.00	23.70	23.00	24.10
NR	n7	PC3	Ant2	100.00%	23.10	22.40	16.10	17.50	16.10	24.00
NR	n7	PC3	Ant0	100.00%	32.80	32.80	15.00	16.40	15.00	24.00
NR	n12	PC3	Ant0	100.00%	30.30	29.50	23.10	25.10	23.10	24.10
NR	n12	PC3	Ant1	100.00%	23.60	22.90	24.00	26.80	24.00	24.10
NR	n13	PC3	Ant0	100.00%	29.30	28.60	20.60	22.10	20.60	24.10
NR	n13	PC3	Ant1	100.00%	23.90	22.80	22.80	25.90	22.80	24.10
NR	n14	PC3	Ant0	100.00%	28.90	28.20	21.90	21.90	21.90	24.10
NR	n14	PC3	Ant1	100.00%	22.00	21.20	21.60	24.00	21.60	24.10
NR	n25	PC3	Ant2	100.00%	26.60	26.60	19.50	20.40	19.50	24.00
NR	n25	PC3	Ant0	100.00%	38.20	38.20	14.30	15.40	14.30	24.00
NR	n25	PC3	Ant1	100.00%	18.40	17.60	19.10	19.80	19.10	24.00
NR	n25	PC3	Ant5	100.00%	17.40	16.00	16.60	18.00	16.60	24.00
NR	n26	PC3	Ant0	100.00%	28.60	27.90	21.20	21.30	21.20	24.10
NR	n26	PC3	Ant1	100.00%	22.20	21.10	23.00	23.70	23.00	24.10
NR	n30	PC3	Ant2	100.00%	25.10	23.20	16.90	18.30	16.90	23.60
NR	n30	PC3	Ant0	100.00%	34.90	34.90	14.60	16.00	14.60	23.60
NR	n38	PC3	Ant2	100.00%	22.80	21.90	16.50	18.00	16.50	24.00
NR	n38	PC3	Ant0	100.00%	33.00	33.00	14.60	16.00	14.60	23.90
NR	n38	PC3	Ant1	100.00%	17.00	16.30	16.40	18.70	16.40	24.00
NR	n38	PC3	Ant5	100.00%	14.70	13.30	14.20	16.30	14.20	24.00
NR	n41 / n41C / n41B	PC3	Ant2	100.00%	22.80	21.90	16.50	18.00	16.50	24.00
NR	n41	PC2	Ant2	50.00%	22.80	21.90	16.50	18.00	16.50	22.90
NR	n41	PC1P5	Ant2	25.00%	22.80	21.90	16.50	18.00	16.50	19.90
NR	n41 / n41C / n41B	PC3	Ant0	100.00%	32.90	32.90	14.60	16.00	14.60	23.90
NR	n41	PC2	Ant0	50.00%	32.90	32.90	14.60	16.00	14.60	22.90
NR	n41	PC1P5	Ant0	25.00%	32.90	32.90	14.60	16.00	14.60	19.90
NR	n41 / n41C / n41B	PC3	Ant1	100.00%	17.00	16.30	16.40	18.70	16.40	24.00
NR	n41	PC2	Ant1	50.00%	17.00	16.30	16.40	18.70	16.40	22.90
NR	n41	PC1P5	Ant1	25.00%	17.00	16.30	16.40	18.70	16.40	19.90
NR	n41 / n41C / n41B	PC3	Ant5	100.00%	14.70	13.30	14.20	16.30	14.20	24.00
NR	n41	PC2	Ant5	50.00%	14.70	13.30	14.20	16.30	14.20	22.90
NR	n41	PC1P5	Ant5	25.00%	14.70	13.30	14.20	16.30	14.20	19.90
NR	n48	PC3	Ant6	100.00%	26.80	26.80	16.30	18.80	16.30	20.30
NR	n48	PC3	Ant7	100.00%	26.10	26.10	16.70	17.10	16.70	19.30
NR	n48	PC3	Ant1	100.00%	17.90	17.00	18.20	20.00	18.20	20.50
NR	n48	PC3	Ant5	100.00%	19.40	17.80	19.40	20.10	19.40	21.80
NR	n66	PC3	Ant2	100.00%	26.90	26.90	19.50	20.70	19.50	24.00
NR	n66	PC3	Ant0	100.00%	36.00	36.00	14.20	15.50	14.20	24.00
NR	n66	PC3	Ant1	100.00%	18.80	18.10	21.70	22.40	21.70	24.00
NR	n66	PC3	Ant5	100.00%	18.80	17.40	17.30	19.20	17.30	24.00
NR	n70	PC3	Ant2	100.00%	27.20	27.20	19.80	20.70	19.80	23.80
NR	n70	PC3	Ant0	100.00%	33.30	33.30	14.80	15.50	14.80	23.80
NR	n70	PC3	Ant1	100.00%	19.30	17.90	22.80	23.50	22.80	23.80
NR	n70	PC3	Ant5	100.00%	18.70	18.00	17.50	18.90	17.50	22.30
NR	n71	PC3	Ant0	100.00%	30.30	29.60	21.90	25.30	21.90	24.10
NR	n71	PC3	Ant1	100.00%	23.50	22.70	23.80	25.20	23.80	24.10
NR	n77 / n77C	PC3	Ant6	100.00%	24.70	24.00	14.70	16.10	14.70	24.10



NR	n77	PC2	Ant6	50.00%	24.70	24.00	14.70	16.10	14.70	23.10
NR	n77	PC1P5	Ant6	25.00%	24.70	24.00	14.70	16.10	14.70	20.10
NR	n77 / n77C	PC3	Ant7	100.00%	25.20	22.20	14.10	15.50	14.10	23.60
NR	n77	PC2	Ant7	50.00%	25.20	22.20	14.10	15.50	14.10	22.60
NR	n77	PC1P5	Ant7	25.00%	25.20	22.20	14.10	15.50	14.10	19.60
NR	n77 / n77C	PC3	Ant1	100.00%	15.00	14.20	13.40	15.30	13.40	24.00
NR	n77	PC2	Ant1	50.00%	15.00	14.20	13.40	15.30	13.40	23.00
NR	n77	PC1P5	Ant1	25.00%	15.00	14.20	13.40	15.30	13.40	20.00
NR	n77 / n77C	PC3	Ant5	100.00%	15.00	13.40	16.70	18.10	16.70	23.60
NR	n77	PC2	Ant5	50.00%	15.00	13.40	16.70	18.10	16.70	22.60
NR	n77	PC1P5	Ant5	25.00%	15.00	13.40	16.70	18.10	16.70	19.60
NR	n78	PC3	Ant6	100.00%	24.70	24.00	14.70	16.10	14.70	24.10
NR	n78	PC2	Ant6	50.00%	24.70	24.00	14.70	16.10	14.70	23.10
NR	n78	PC1P5	Ant6	25.00%	24.70	24.00	14.70	16.10	14.70	20.10
NR	n78	PC3	Ant7	100.00%	25.20	22.20	14.10	15.50	14.10	23.60
NR	n78	PC2	Ant7	50.00%	25.20	22.20	14.10	15.50	14.10	22.60
NR	n78	PC1P5	Ant7	25.00%	25.20	22.20	14.10	15.50	14.10	19.60
NR	n78	PC3	Ant1	100.00%	15.00	14.20	13.40	15.30	13.40	24.00
NR	n78	PC2	Ant1	50.00%	15.00	14.20	13.40	15.30	13.40	23.00
NR	n78	PC1P5	Ant1	25.00%	15.00	14.20	13.40	15.30	13.40	20.00
NR	n78	PC3	Ant5	100.00%	15.00	13.40	16.70	18.10	16.70	23.20
NR	n78	PC2	Ant5	50.00%	15.00	13.40	16.70	18.10	16.70	22.20
NR	n78	PC1P5	Ant5	25.00%	15.00	13.40	16.70	18.10	16.70	19.20
NTN	B23	PC3	Ant5	100.00%				19.10		23.10
NTN	B255	PC3	Ant5	100.00%				19.70		23.10

3. Power Density Characterization

PD characterization flow is illustrated in Figure 3.1. At first, PD simulations are performed for all candidate beams and evaluation planes. Afterwards, measurements are conducted to validate the simulations. Measurement data is also used to quantify the housing uncertainty. Lastly, the per beam power limit is derived.

3.1 PD Char Table

The following figure outlines the PD characterization flow.

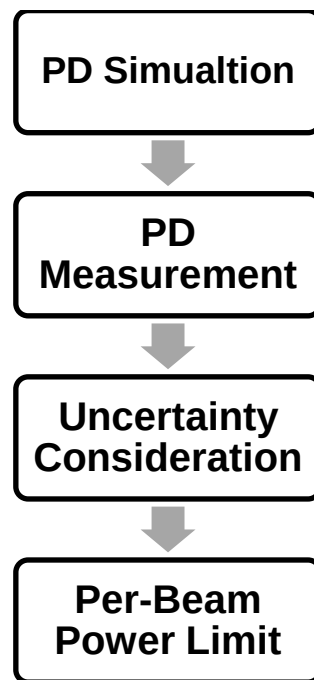


Figure 3.1 PD characterization flow

3.2 Codebook for all beams

The antenna module defines 156 specific beam IDs within the codebook, where each beam ID specifies the, input power, and phase configuration of the patch antenna array.

For each frequency band, all supported beams are hierarchically indexed. The polarization can be either vertical (V) or horizontal (H), representing the corresponding antenna polarization. Beam pairs are utilized to support MIMO transmission.

For each band, antenna module, and polarization (V or H), the system manages the corresponding beam configurations. During mmWave communication, the software performs beam searching to identify the optimal beam ID with the highest RSRP (Reference Signal Received Power) and RSRQ (Reference Signal Received Quality). The selected beam ID is then locked for transmission.

n258			n260			n261		
Pol	Beam ID	Feed No.	Pol	Beam ID	Feed No.	Pol	Beam ID	Feed No.
V	0	5	V	0	5	V	0	5
V	1	5	V	1	5	V	1	5
V	2	5	V	2	5	V	2	5
V	3	5	V	3	5	V	3	5
V	4	5	V	4	5	V	4	5
V	5	5	V	5	5	V	5	5
V	6	5	V	6	5	V	6	5
V	7	5	V	7	5	V	7	5
V	8	5	V	8	5	V	8	5
V	9	5	V	9	5	V	9	5
V	10	5	V	10	5	V	10	5
V	11	5	V	11	5	V	11	5
V	12	5	V	12	5	V	12	5
V	13	5	V	13	5	V	13	5
V	14	5	V	14	5	V	14	5
V	15	5	V	15	5	V	15	5
H	16	5	H	16	5	H	16	5
H	17	5	H	17	5	H	17	5
H	18	5	H	18	5	H	18	5
H	19	5	H	19	5	H	19	5
H	20	5	H	20	5	H	20	5
H	21	5	H	21	5	H	21	5
H	22	5	H	22	5	H	22	5
H	23	5	H	23	5	H	23	5
H	24	5	H	24	5	H	24	5
H	25	5	H	25	5	H	25	5
H	26	5	H	26	5	H	26	5
H	27	5	H	27	5	H	27	5
H	28	5	H	28	5	H	28	5
H	29	5	H	29	5	H	29	5
H	30	5	H	30	5	H	30	5
H	31	5	H	31	5	H	31	5
V+H	32	10	V+H	32	10	V+H	32	10
V+H	33	10	V+H	33	10	V+H	33	10
V+H	34	10	V+H	34	10	V+H	34	10
V+H	35	10	V+H	35	10	V+H	35	10
V+H	36	10	V+H	36	10	V+H	36	10
V+H	37	10	V+H	37	10	V+H	37	10
V+H	38	10	V+H	38	10	V+H	38	10
V+H	39	10	V+H	39	10	V+H	39	10
V+H	40	10	V+H	40	10	V+H	40	10
V+H	41	10	V+H	41	10	V+H	41	10
V+H	42	10	V+H	42	10	V+H	42	10
V+H	43	10	V+H	43	10	V+H	43	10
V+H	44	10	V+H	44	10	V+H	44	10



V+H	45	10	V+H	45	10	V+H	45	10
V+H	46	10	V+H	46	10	V+H	46	10
V+H	47	10	V+H	47	10	V+H	47	10
V	48	4	V	48	4	V	48	4
V	49	4	V	49	4	V	49	4
V	50	4	V	50	4	V	50	4
V	51	4	V	51	4	V	51	4
V	52	4	V	52	4	V	52	4
V	53	4	V	53	4	V	53	4
V	54	4	V	54	4	V	54	4
V	55	4	V	55	4	V	55	4
V	56	4	V	56	4	V	56	4
V	57	4	V	57	4	V	57	4
V	58	4	V	58	4	V	58	4
V	59	4	V	59	4	V	59	4
V	60	4	V	60	4	V	60	4
V	61	4	V	61	4	V	61	4
V	62	4	V	62	4	V	62	4
V	63	4	V	63	4	V	63	4
H	64	4	H	64	4	H	64	4
H	65	4	H	65	4	H	65	4
H	66	4	H	66	4	H	66	4
H	67	4	H	67	4	H	67	4
H	68	4	H	68	4	H	68	4
H	69	4	H	69	4	H	69	4
H	70	4	H	70	4	H	70	4
H	71	4	H	71	4	H	71	4
H	72	4	H	72	4	H	72	4
H	73	4	H	73	4	H	73	4
H	74	4	H	74	4	H	74	4
H	75	4	H	75	4	H	75	4
H	76	4	H	76	4	H	76	4
H	77	4	H	77	4	H	77	4
H	78	4	H	78	4	H	78	4
H	79	4	H	79	4	H	79	4
V+H	80	8	V+H	80	8	V+H	80	8
V+H	81	8	V+H	81	8	V+H	81	8
V+H	82	8	V+H	82	8	V+H	82	8
V+H	83	8	V+H	83	8	V+H	83	8
V+H	84	8	V+H	84	8	V+H	84	8
V+H	85	8	V+H	85	8	V+H	85	8
V+H	86	8	V+H	86	8	V+H	86	8
V+H	87	8	V+H	87	8	V+H	87	8
V+H	88	8	V+H	88	8	V+H	88	8
V+H	89	8	V+H	89	8	V+H	89	8
V+H	90	8	V+H	90	8	V+H	90	8
V+H	91	8	V+H	91	8	V+H	91	8
V+H	92	8	V+H	92	8	V+H	92	8
V+H	93	8	V+H	93	8	V+H	93	8
V+H	94	8	V+H	94	8	V+H	94	8
V+H	95	8	V+H	95	8	V+H	95	8
V	96	2	V	96	2	V	96	2
V	97	2	V	97	2	V	97	2
V	98	2	V	98	2	V	98	2
V	99	2	V	99	2	V	99	2
V	100	2	V	100	2	V	100	2
V	101	2	V	101	2	V	101	2
V	102	2	V	102	2	V	102	2
V	103	2	V	103	2	V	103	2



V	104	2	V	104	2	V	104	2
V	105	2	V	105	2	V	105	2
V	106	2	V	106	2	V	106	2
V	107	2	V	107	2	V	107	2
V	108	2	V	108	2	V	108	2
V	109	2	V	109	2	V	109	2
V	110	2	V	110	2	V	110	2
V	111	2	V	111	2	V	111	2
V	112	2	V	112	2	V	112	2
V	113	2	V	113	2	V	113	2
H	114	2	H	114	2	H	114	2
H	115	2	H	115	2	H	115	2
H	116	2	H	116	2	H	116	2
H	117	2	H	117	2	H	117	2
H	118	2	H	118	2	H	118	2
H	119	2	H	119	2	H	119	2
H	120	2	H	120	2	H	120	2
H	121	2	H	121	2	H	121	2
H	122	2	H	122	2	H	122	2
H	123	2	H	123	2	H	123	2
H	124	2	H	124	2	H	124	2
H	125	2	H	125	2	H	125	2
H	126	2	H	126	2	H	126	2
H	127	2	H	127	2	H	127	2
H	128	2	H	128	2	H	128	2
H	129	2	H	129	2	H	129	2
H	130	2	H	130	2	H	130	2
H	131	2	H	131	2	H	131	2
V+H	132	4	V+H	132	4	V+H	132	4
V+H	133	4	V+H	133	4	V+H	133	4
V+H	134	4	V+H	134	4	V+H	134	4
V+H	135	4	V+H	135	4	V+H	135	4
V+H	136	4	V+H	136	4	V+H	136	4
V+H	137	4	V+H	137	4	V+H	137	4
V+H	138	4	V+H	138	4	V+H	138	4
V+H	139	4	V+H	139	4	V+H	139	4
V+H	140	4	V+H	140	4	V+H	140	4
V+H	141	4	V+H	141	4	V+H	141	4
V+H	142	4	V+H	142	4	V+H	142	4
V+H	143	4	V+H	143	4	V+H	143	4
V+H	144	4	V+H	144	4	V+H	144	4
V+H	145	4	V+H	145	4	V+H	145	4
V+H	146	4	V+H	146	4	V+H	146	4
V+H	147	4	V+H	147	4	V+H	147	4
V+H	148	4	V+H	148	4	V+H	148	4
V+H	149	4	V+H	149	4	V+H	149	4
V	150	1	V	150	1	V	150	1
V	151	1	V	151	1	V	151	1
H	152	1	H	152	1	H	152	1
H	153	1	H	153	1	H	153	1
V+H	154	2	V+H	154	2	V+H	154	2
V+H	155	2	V+H	155	2	V+H	155	2

3.3 PD design target determination

To account for total uncertainty, PD_design_target should meet the criteria:

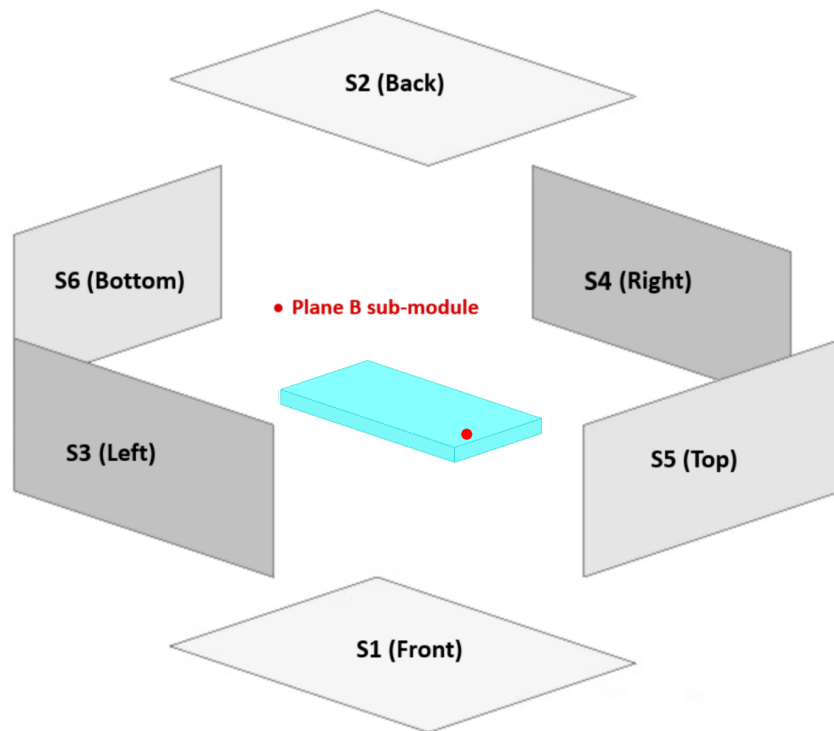
$$PD_design_target < PD_regulatory_limit \times 10^{-total_uncertainty/10}$$

For this EUT, the PD_design_target and the uncertainty value are listed below

n258/260/261	PD_design_target	Antenna Module	W/m ²
		Plane B sub-module	4.72

Item	Uncertainty dB (k=2)
total_uncertainty	2.0
TXAGC	0.5

3.4 Exposure positions for PD evaluation



Evaluation positions

Band	Antenna Module	S1 (Front)	S2 (Back)	S3 (Left)	S4 (Right)	S5 (Top)	S6 (Bottom)
n258/n260/n261	Plane B sub-module	X	v	X	X	X	X

Remark:

- Referring to the PD simulation report for the reason of selecting surfaces/edges.

3.5 Simulation and modeling validation

Power density simulations of all beams and surfaces were performed by the manufacturer. Details of these simulations and modeling validation can be found in the Power Density Simulation Report. Following Table includes a summary of the validation results to support worst-case housing influence quantification in power density characterization for this model with a reference power level (P_{ref}) of 0 dBm for each FR2, PD measurements are conducted for at least one single beam per antenna type and per antenna module on worst-surface(s). It is observed from the Power Density Simulated Report that the worst-case beam and plane for vertical and horizontal polarizations; for being conservative take the second highest PD beams for evaluation as well. PD measurements are performed at mid channel of each mmW band and with signal type of CW tone.

PD value will be used to determine worst-case housing influence for conservative assessment.

Antenna Module	H	V	Band	Frequency (GHz)	Exposure Surface	Input Power level (dBm)	Test Separation (mm)	Modulation	Measured results Savg tot 4cm ² (W/m ²)	Simulated PD (W/m ²), averaged over 4 cm ²	Sim vs meas (dB)
Plane B sub-module	21	-	n258	24.75	Back (S2)_Visor	0	2mm	CW	3.33	5.12	1.870
Plane B sub-module	-	0	n258	24.75	Back (S2)_Visor	0	2mm	CW	3.36	6.03	2.540
Plane B sub-module	17	-	n260	38.5	Back (S2)_Visor	0	2mm	CW	2.64	4.01	1.820
Plane B sub-module	-	6	n260	38.5	Back (S2)_Visor	0	2mm	CW	2.25	3.74	2.210
Plane B sub-module	27	-	n261	27.925	Back (S2)_Visor	0	2mm	CW	4.3	5.38	0.970
Plane B sub-module	-	1	n261	27.925	Back (S2)_Visor	0	2mm	CW	5.72	5	-0.580

3.6 Housing Influence Consideration

Since the property of non-metal material cannot be precisely characterized, we use measurement results to estimate the housing influence on the PD amplitude. More precisely, housing influence Δ_{housing} is estimated as:
 $\Delta_{\text{housing}} = \text{PD_sim_dB} - \text{PD_meas_dB}$.

Because the housing influence is plane dependent, it is individually estimated for each worst plane. In order to be conservative, we consider the most underestimated housing influence per antenna module over the worst plane(s). In other words, the housing influence Δ_{min} is the minimum of Δ_{housing} over all worst plane(s).

Δ_{min} is calculated based on simulated and measured PD results in section 3.5, is determined as shown in below Table.

Band	Antenna Module	Polarization	Δ_{min} (dB)
n258	Plane B sub-module	H	1.87
n258	Plane B sub-module	V	1.87
n258	Plane B sub-module	H+V	1.87
Band	Antenna Module	Polarization	Δ_{min} (dB)
n260	Plane B sub-module	H	1.82
n260	Plane B sub-module	V	1.82
n260	Plane B sub-module	H+V	1.82
Band	Antenna Module	Polarization	Δ_{min} (dB)
n261	Plane B sub-module	H	-0.58
n261	Plane B sub-module	V	-0.58
n261	Plane B sub-module	H+V	-0.58

3.7 PD Characterization

3.7.1 Scaling Factor Considering Total Uncertainty

In order to obtain antenna input power limit, simulations are performed at low, mid, high channels for each of the supported mmWave bands under a given reference input power P_{ref} .

For any given beam x , the scaling factor $s(x)$ is determined by

$$s(x) = \frac{PD_design_target}{PD_sim_worst(x)}$$

where $PD_sim_worst(x)$ is defined as

$$PD_sim_worst(x) = \min_{channel \in \{Low, mid, high\}} PD'(x, channel),$$

and

$$PD'(x, channel) = \min_{s \in S} PD(x, s, channel = mid).$$

For any given beam pair (x, y) , the scaling factor $s(x, y)$ is determined as

$$s(x, y) = \frac{PD_design_target}{PD_sim_worst(x, y)}$$

where $PD_sim_worst(x, y)$ is defined as

$$PD_sim_worst(x, y) = \min_{channel \in \{Low, mid, high\}} PD'(x, y, channel),$$

and

$$PD'(x, y, channel) = \min_{s \in S} PD(x, y, s, channel = mid).$$

3.7.2 Correction Factor Considering Housing Influence

Consider the housing influence, the input power limit for any given beam x can be expressed as

$$input_power_limit(x) = P_{ref} + 10 \log(s(x)) + \Delta_{min},$$

where Δ_{min} is defined in below table. However, since TPC uncertainty already exists during the process of Δ_{min} determination, this uncertainty should be removed to avoid double counting.

Hence, the input power limit formula can be revised as

$$input_power_limit(x) = P_{ref} + 10 \log(s(x)) + c,$$

where c is a correction factor expressed as

$$c = \begin{cases} \Delta_{min} + \text{TPC uncertainty}, & \Delta_{min} < -\text{TPC uncertainty} \\ \Delta_{min} - \text{TPC uncertainty}, & \Delta_{min} > \text{TPC uncertainty} \\ 0, & \text{otherwise} \end{cases}$$

The input power limit is derived and listed in the below table based on the formula:

Band	Antenna Module	Polarization	TxAGC uncertainty (dB)	FR 2 Plimit (dBm)
n258	Plane B	H	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) + 1.37$
		V	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) + 1.37$
		H+V	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) + 1.37$
Band	Antenna Module	Polarization	TxAGC uncertainty (dB)	FR 2 Plimit (dBm)
n260	Plane B	H	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) + 1.32$
		V	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) + 1.32$
		H+V	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) + 1.32$
Band	Antenna Module	Polarization	TxAGC uncertainty (dB)	FR 2 Plimit (dBm)
n261	Plane B	H	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) - 0.08$
		V	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) - 0.08$
		H+V	0.5	$0 + 10^* \log(\text{PD design target / Max sim PD}) - 0.08$

Simulated 4cm2-averaged PD at Plimit

Pol	Beam ID	Simulated 4cm 2 SAPD (W/m 2) corresponding to PD_design_target														
		n258 Plane B sub-module														
		Low Channel					Mid Channel					High Channel				
		S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm	S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm	S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm
V	0	0.17	4.49	3.65	0.07	2.32	0.18	4.72	3.84	0.10	2.57	0.20	4.53	3.66	0.09	2.61
V	1	0.14	3.75	2.90	0.23	2.01	0.09	4.47	3.29	0.31	2.39	0.09	4.72	3.44	0.36	2.58
V	2	0.13	3.74	2.91	0.15	2.15	0.13	4.38	3.22	0.17	2.49	0.11	4.72	3.40	0.18	2.72
V	3	0.10	3.99	2.96	0.38	1.84	0.10	4.54	3.30	0.39	2.06	0.14	4.72	3.35	0.43	2.17
V	4	0.14	4.46	3.27	0.07	1.97	0.16	4.72	3.54	0.11	2.25	0.18	4.58	3.44	0.16	2.22
V	5	0.14	3.74	2.91	0.15	2.16	0.12	4.40	3.26	0.21	2.54	0.10	4.72	3.48	0.22	2.79
V	6	0.09	4.19	2.64	1.45	0.98	0.18	4.72	2.91	1.64	1.19	0.09	4.46	2.77	1.56	1.04
V	7	0.08	4.19	1.99	0.13	1.08	0.08	4.72	2.33	0.11	1.17	0.08	4.71	2.42	0.13	1.12
V	8	0.06	3.99	2.83	1.07	1.28	0.13	4.68	3.25	1.17	1.55	0.12	4.72	3.30	1.10	1.58
V	9	0.15	4.23	3.30	0.09	1.99	0.17	4.57	3.52	0.12	2.31	0.19	4.72	3.52	0.16	2.51
V	10	0.10	4.34	2.63	1.49	0.98	0.17	4.72	2.83	1.65	1.14	0.10	4.39	2.63	1.56	0.99
V	11	0.13	4.67	3.48	0.44	2.37	0.13	4.72	3.50	0.50	2.42	0.14	4.52	3.34	0.41	2.36
V	12	0.09	4.37	2.48	0.07	1.45	0.09	4.56	2.69	0.07	1.57	0.09	4.72	2.88	0.07	1.57
V	13	0.12	3.71	2.80	0.16	2.00	0.11	4.42	3.20	0.20	2.38	0.10	4.72	3.39	0.21	2.60
V	14	0.10	4.25	2.98	1.02	1.26	0.16	4.72	3.17	1.16	1.42	0.12	4.61	3.14	1.06	1.49
V	15	0.12	4.16	3.12	0.31	1.95	0.08	4.53	3.35	0.32	2.17	0.10	4.72	3.41	0.35	2.27
H	16	0.10	3.88	2.92	0.13	1.80	0.08	4.40	3.20	0.10	2.01	0.08	4.72	3.27	0.10	2.06
H	17	0.15	3.66	2.83	0.19	2.08	0.14	4.25	3.22	0.17	2.44	0.17	4.72	3.39	0.17	2.65
H	18	0.12	3.73	2.72	0.11	2.07	0.10	4.48	3.24	0.11	2.52	0.11	4.72	3.38	0.10	2.70
H	19	0.18	4.03	2.93	0.63	1.78	0.23	4.45	3.17	0.58	2.16	0.26	4.72	3.31	0.60	2.44
H	20	0.11	4.04	2.81	0.18	1.53	0.09	4.56	3.16	0.16	1.74	0.09	4.72	3.18	0.11	1.70
H	21	0.14	3.83	2.91	0.10	2.24	0.13	4.47	3.37	0.11	2.67	0.14	4.72	3.44	0.08	2.80
H	22	0.21	3.71	1.70	1.01	0.45	0.21	3.99	1.87	1.06	0.60	0.27	4.72	2.19	1.27	0.83
H	23	0.08	3.61	1.94	0.36	0.92	0.12	4.72	2.48	0.21	1.22	0.11	4.24	2.25	0.11	1.14
H	24	0.15	4.01	2.49	1.19	1.24	0.17	4.44	2.87	1.21	1.61	0.17	4.72	3.12	1.32	1.77
H	25	0.08	3.87	2.83	0.34	1.87	0.09	4.46	3.18	0.34	2.15	0.09	4.72	3.29	0.29	2.28
H	26	0.24	3.73	1.68	1.01	0.37	0.24	3.96	1.78	1.04	0.48	0.33	4.72	2.07	1.23	0.71
H	27	0.15	4.20	2.91	0.26	1.97	0.16	4.68	3.15	0.27	2.18	0.21	4.72	3.06	0.32	2.21
H	28	0.10	3.65	2.13	0.38	1.01	0.15	4.72	2.69	0.26	1.39	0.15	4.26	2.45	0.20	1.34
H	29	0.13	3.72	2.67	0.18	1.99	0.12	4.45	3.20	0.17	2.41	0.12	4.72	3.32	0.14	2.54
H	30	0.17	3.98	2.13	1.07	0.79	0.17	4.40	2.39	1.11	1.04	0.18	4.72	2.63	1.30	1.19
H	31	0.19	4.03	3.15	0.40	2.05	0.22	4.44	3.35	0.36	2.43	0.27	4.72	3.48	0.35	2.71
V+H	32	0.18	4.43	3.69	0.14	2.35	0.17	4.72	3.93	0.15	2.56	0.18	4.67	3.84	0.13	2.61
V+H	33	0.22	4.25	3.62	0.31	2.50	0.18	4.72	4.00	0.33	2.91	0.20	4.69	3.90	0.27	2.99
V+H	34	0.19	4.30	3.65	0.16	2.69	0.17	4.72	3.96	0.17	3.13	0.16	4.61	3.79	0.16	3.14
V+H	35	0.21	4.20	3.46	0.50	2.06	0.24	4.59	3.77	0.57	2.37	0.28	4.72	3.75	0.53	2.53
V+H	36	0.15	4.36	3.18	0.13	1.83	0.15	4.72	3.50	0.16	2.05	0.16	4.66	3.42	0.15	2.04
V+H	37	0.21	4.30	3.70	0.18	2.78	0.18	4.72	4.02	0.22	3.20	0.18	4.52	3.81	0.19	3.19
V+H	38	0.16	3.97	2.35	1.39	0.80	0.17	4.45	2.64	1.59	1.03	0.18	4.72	2.79	1.69	1.11
V+H	39	0.08	3.82	1.88	0.23	1.10	0.07	4.72	2.34	0.15	1.25	0.08	4.41	2.25	0.10	1.14
V+H	40	0.10	4.26	2.98	1.32	1.34	0.15	4.60	3.25	1.41	1.62	0.14	4.72	3.38	1.37	1.73
V+H	41	0.15	4.22	3.47	0.22	2.21	0.14	4.72	3.84	0.25	2.53	0.15	4.71	3.77	0.24	2.64
V+H	42	0.17	4.08	2.33	1.42	0.77	0.19	4.50	2.58	1.60	0.97	0.21	4.72	2.68	1.71	1.05
V+H	43	0.19	4.72	3.64	0.43	2.48	0.15	4.68	3.71	0.40	2.66	0.13	4.37	3.39	0.39	2.57
V+H	44	0.10	4.05	2.30	0.18	1.33	0.09	4.72	2.68	0.14	1.50	0.10	4.54	2.62	0.12	1.45
V+H	45	0.20	4.27	3.46	0.21	2.46	0.17	4.72	3.82	0.22	2.85	0.17	4.67	3.68	0.19	2.89
V+H	46	0.11	3.96	2.55	1.13	0.99	0.12	4.40	2.81	1.28	1.25	0.12	4.72	2.99	1.40	1.36
V+H	47	0.22	4.30	3.66	0.36	2.34	0.20	4.65	3.92	0.34	2.65	0.26	4.72	3.84	0.29	2.74
V	48	0.16	4.47	3.48	0.11	2.16	0.17	4.72	3.70	0.15	2.39	0.19	4.71	3.65	0.14	2.50
V	49	0.14	3.78	2.80	0.21	1.80	0.09	4.45	3.20	0.28	2.20	0.09	4.72	3.39	0.31	2.38



V	50	0.15	3.66	2.72	0.16	1.92	0.13	4.46	3.20	0.20	2.40	0.12	4.72	3.36	0.22	2.63
V	51	0.10	3.93	2.91	0.48	1.55	0.10	4.59	3.32	0.50	1.80	0.13	4.72	3.43	0.52	1.91
V	52	0.15	4.30	3.04	0.16	1.69	0.17	4.72	3.39	0.19	2.01	0.19	4.68	3.30	0.23	2.02
V	53	0.15	3.66	2.75	0.17	1.95	0.12	4.46	3.22	0.25	2.45	0.11	4.72	3.41	0.25	2.70
V	54	0.08	4.29	2.55	1.38	0.93	0.16	4.72	2.82	1.54	1.12	0.09	4.42	2.65	1.43	0.97
V	55	0.10	4.29	2.24	0.23	1.21	0.09	4.71	2.61	0.19	1.39	0.09	4.72	2.72	0.18	1.35
V	56	0.06	3.96	2.77	1.10	1.20	0.13	4.72	3.20	1.21	1.49	0.13	4.64	3.21	1.13	1.49
V	57	0.14	4.25	3.33	0.17	1.85	0.16	4.59	3.57	0.17	2.18	0.17	4.72	3.56	0.19	2.44
V	58	0.08	4.29	2.55	1.38	0.93	0.16	4.72	2.82	1.54	1.12	0.09	4.42	2.65	1.43	0.97
V	59	0.12	4.56	3.10	0.53	1.86	0.10	4.63	3.16	0.65	1.88	0.11	4.72	3.17	0.56	1.90
V	60	0.12	4.40	2.48	0.17	1.38	0.11	4.69	2.80	0.15	1.56	0.10	4.72	2.94	0.14	1.56
V	61	0.13	3.59	2.62	0.13	1.80	0.11	4.41	3.13	0.19	2.29	0.10	4.72	3.33	0.19	2.51
V	62	0.10	4.28	2.92	0.90	1.29	0.17	4.72	3.13	1.02	1.45	0.15	4.61	3.09	0.89	1.55
V	63	0.12	4.08	2.93	0.32	1.64	0.08	4.55	3.22	0.35	1.86	0.10	4.72	3.34	0.37	1.99
H	64	0.11	3.80	2.67	0.11	1.68	0.07	4.35	2.97	0.11	1.84	0.06	4.72	3.10	0.08	1.92
H	65	0.13	3.73	2.71	0.22	1.98	0.12	4.26	3.06	0.22	2.29	0.15	4.72	3.31	0.24	2.54
H	66	0.11	3.70	2.65	0.12	2.04	0.08	4.42	3.14	0.10	2.47	0.08	4.72	3.31	0.06	2.65
H	67	0.16	4.07	2.85	0.83	1.63	0.20	4.46	3.12	0.80	2.01	0.22	4.72	3.28	0.85	2.22
H	68	0.12	3.82	2.49	0.29	1.40	0.09	4.40	2.88	0.24	1.58	0.08	4.72	2.96	0.15	1.54
H	69	0.12	3.79	2.80	0.14	2.17	0.10	4.40	3.22	0.15	2.56	0.11	4.72	3.37	0.12	2.73
H	70	0.24	3.59	1.63	0.96	0.33	0.23	3.94	1.82	1.04	0.42	0.32	4.72	2.16	1.23	0.63
H	71	0.12	3.62	1.77	0.56	0.94	0.16	4.72	2.41	0.38	1.29	0.15	4.40	2.36	0.26	1.20
H	72	0.14	4.02	2.42	1.19	1.08	0.18	4.28	2.68	1.19	1.43	0.19	4.72	2.97	1.29	1.68
H	73	0.12	3.95	2.61	0.42	1.75	0.13	4.50	2.98	0.39	2.03	0.16	4.72	3.09	0.34	2.14
H	74	0.24	3.59	1.63	0.96	0.33	0.23	3.94	1.82	1.04	0.42	0.32	4.72	2.16	1.23	0.63
H	75	0.16	4.07	2.66	0.29	1.75	0.18	4.57	2.89	0.32	1.99	0.21	4.72	2.82	0.36	2.05
H	76	0.13	3.65	1.82	0.74	0.92	0.18	4.72	2.33	0.54	1.27	0.17	4.26	2.21	0.47	1.16
H	77	0.11	3.69	2.47	0.17	1.92	0.09	4.39	2.96	0.17	2.28	0.10	4.72	3.15	0.08	2.46
H	78	0.18	3.92	2.10	1.04	0.78	0.18	4.31	2.37	1.10	0.98	0.20	4.72	2.59	1.26	1.10
H	79	0.17	3.97	2.93	0.53	1.86	0.20	4.42	3.21	0.52	2.24	0.23	4.72	3.36	0.53	2.46
V+H	80	0.17	4.27	3.42	0.14	2.11	0.14	4.72	3.78	0.16	2.36	0.15	4.67	3.70	0.13	2.43
V+H	81	0.21	4.26	3.52	0.30	2.40	0.15	4.72	3.90	0.37	2.82	0.18	4.67	3.78	0.30	2.84
V+H	82	0.19	4.22	3.55	0.18	2.57	0.15	4.72	3.90	0.21	3.03	0.14	4.57	3.67	0.16	3.02
V+H	83	0.18	4.30	3.41	0.73	1.79	0.20	4.63	3.68	0.76	2.08	0.24	4.72	3.68	0.72	2.21
V+H	84	0.16	4.10	2.90	0.17	1.63	0.14	4.72	3.41	0.22	1.89	0.14	4.64	3.29	0.21	1.88
V+H	85	0.21	4.22	3.58	0.20	2.65	0.16	4.72	3.94	0.29	3.12	0.15	4.54	3.68	0.25	3.06
V+H	86	0.16	4.08	2.33	1.31	0.67	0.17	4.57	2.65	1.55	0.89	0.19	4.72	2.74	1.62	0.97
V+H	87	0.10	3.97	1.92	0.41	1.12	0.09	4.72	2.45	0.30	1.30	0.11	4.48	2.39	0.17	1.21
V+H	88	0.10	4.28	2.92	1.35	1.28	0.17	4.64	3.22	1.48	1.56	0.17	4.72	3.29	1.43	1.67
V+H	89	0.15	4.27	3.50	0.24	2.11	0.12	4.72	3.87	0.23	2.48	0.13	4.64	3.74	0.26	2.57
V+H	90	0.16	4.08	2.33	1.31	0.67	0.17	4.57	2.65	1.55	0.89	0.19	4.72	2.74	1.62	0.97
V+H	91	0.18	4.53	3.32	0.39	1.93	0.13	4.72	3.49	0.48	2.19	0.11	4.60	3.26	0.57	2.18
V+H	92	0.11	3.96	2.01	0.39	1.22	0.12	4.72	2.52	0.29	1.40	0.13	4.50	2.46	0.24	1.33
V+H	93	0.19	4.12	3.31	0.23	2.38	0.15	4.72	3.70	0.28	2.80	0.14	4.65	3.52	0.18	2.78
V+H	94	0.11	4.05	2.60	1.03	1.00	0.14	4.51	2.91	1.20	1.27	0.12	4.72	2.99	1.29	1.38
V+H	95	0.21	4.35	3.53	0.42	2.06	0.19	4.67	3.78	0.37	2.36	0.23	4.72	3.69	0.40	2.43
V	96	0.08	4.26	3.01	0.16	1.32	0.11	4.57	3.22	0.20	1.44	0.12	4.72	3.37	0.15	1.62
V	97	0.07	3.51	2.58	0.62	1.31	0.07	4.44	3.20	0.73	1.76	0.06	4.72	3.46	0.83	1.90
V	98	0.10	3.63	2.82	0.31	1.47	0.09	4.46	3.35	0.37	1.90	0.09	4.72	3.56	0.46	2.09
V	99	0.04	3.97	2.14	0.94	0.72	0.10	4.55	2.58	1.08	1.10	0.09	4.72	2.74	1.11	1.17
V	100	0.10	3.98	3.01	0.13	1.46	0.11	4.55	3.38	0.14	1.76	0.11	4.72	3.54	0.17	1.96
V	101	0.10	3.63	2.82	0.31	1.47	0.09	4.46	3.35	0.37	1.90	0.09	4.72	3.56	0.46	2.09
V	102	0.06	4.29	2.14	0.73	0.83	0.10	4.53	2.41	0.86	0.77	0.10	4.72	2.58	0.81	0.87
V	103	0.08	4.26	3.01	0.16	1.32	0.11	4.57	3.22	0.20	1.44	0.12	4.72	3.37	0.15	1.62
V	104	0.04	3.97	2.14	0.94	0.72	0.10	4.55	2.58	1.08	1.10	0.09	4.72	2.74	1.11	1.17
V	105	0.10	3.98	3.01	0.13	1.46	0.11	4.55	3.38	0.14	1.76	0.11	4.72	3.54	0.17	1.96



V	106	0.06	4.29	2.14	0.73	0.83	0.10	4.53	2.41	0.86	0.77	0.10	4.72	2.58	0.81	0.87
V	107	0.06	4.29	2.14	0.73	0.83	0.10	4.53	2.41	0.86	0.77	0.10	4.72	2.58	0.81	0.87
V	108	0.08	4.36	2.71	0.42	1.12	0.08	4.51	2.84	0.48	1.12	0.10	4.72	3.00	0.42	1.26
V	109	0.10	3.63	2.82	0.31	1.47	0.09	4.46	3.35	0.37	1.90	0.09	4.72	3.56	0.46	2.09
V	110	0.08	4.36	2.71	0.42	1.12	0.08	4.51	2.84	0.48	1.12	0.10	4.72	3.00	0.42	1.26
V	111	0.04	3.97	2.14	0.94	0.72	0.10	4.55	2.58	1.08	1.10	0.09	4.72	2.74	1.11	1.17
V	112	0.06	4.29	2.14	0.73	0.83	0.10	4.53	2.41	0.86	0.77	0.10	4.72	2.58	0.81	0.87
V	113	0.10	3.63	2.82	0.31	1.47	0.09	4.46	3.35	0.37	1.90	0.09	4.72	3.56	0.46	2.09
H	114	0.06	3.67	2.32	0.27	1.39	0.06	4.20	2.67	0.24	1.62	0.08	4.72	3.02	0.21	1.83
H	115	0.07	3.55	2.39	0.40	1.33	0.07	4.05	2.67	0.42	1.54	0.11	4.72	3.09	0.45	1.80
H	116	0.06	3.67	2.32	0.27	1.39	0.06	4.20	2.67	0.24	1.62	0.08	4.72	3.02	0.21	1.83
H	117	0.15	3.58	2.27	0.77	0.96	0.18	3.98	2.42	0.75	1.11	0.22	4.72	2.80	0.86	1.27
H	118	0.11	3.93	2.25	0.39	1.43	0.11	4.47	2.66	0.33	1.67	0.11	4.72	2.77	0.21	1.69
H	119	0.06	3.67	2.32	0.27	1.39	0.06	4.20	2.67	0.24	1.62	0.08	4.72	3.02	0.21	1.83
H	120	0.21	3.75	2.13	0.89	0.70	0.24	4.12	2.19	0.86	0.79	0.27	4.72	2.51	0.99	0.84
H	121	0.18	4.20	1.95	0.68	1.23	0.20	4.64	2.33	0.64	1.49	0.20	4.72	2.13	0.58	1.33
H	122	0.15	3.58	2.27	0.77	0.96	0.18	3.98	2.42	0.75	1.11	0.22	4.72	2.80	0.86	1.27
H	123	0.11	3.93	2.25	0.39	1.43	0.11	4.47	2.66	0.33	1.67	0.11	4.72	2.77	0.21	1.69
H	124	0.21	3.75	2.13	0.89	0.70	0.24	4.12	2.19	0.86	0.79	0.27	4.72	2.51	0.99	0.84
H	125	0.21	3.75	2.13	0.89	0.70	0.24	4.12	2.19	0.86	0.79	0.27	4.72	2.51	0.99	0.84
H	126	0.23	4.06	1.93	0.91	0.76	0.25	4.44	1.97	0.87	0.97	0.28	4.72	2.10	0.93	0.80
H	127	0.06	3.67	2.32	0.27	1.39	0.06	4.20	2.67	0.24	1.62	0.08	4.72	3.02	0.21	1.83
H	128	0.23	4.06	1.93	0.91	0.76	0.25	4.44	1.97	0.87	0.97	0.28	4.72	2.10	0.93	0.80
H	129	0.15	3.58	2.27	0.77	0.96	0.18	3.98	2.42	0.75	1.11	0.22	4.72	2.80	0.86	1.27
H	130	0.23	4.06	1.93	0.91	0.76	0.25	4.44	1.97	0.87	0.97	0.28	4.72	2.10	0.93	0.80
H	131	0.07	3.55	2.39	0.40	1.33	0.07	4.05	2.67	0.42	1.54	0.11	4.72	3.09	0.45	1.80
V+H	132	0.10	4.22	2.96	0.29	1.54	0.09	4.72	3.37	0.31	1.72	0.10	4.72	3.31	0.21	1.71
V+H	133	0.10	4.14	3.28	0.66	1.82	0.12	4.64	3.74	0.74	2.17	0.14	4.72	3.63	0.69	2.13
V+H	134	0.11	4.11	3.19	0.36	1.88	0.09	4.72	3.72	0.36	2.24	0.10	4.70	3.56	0.34	2.17
V+H	135	0.12	3.96	2.54	0.85	1.02	0.18	4.42	2.86	1.09	1.25	0.18	4.72	3.00	1.13	1.28
V+H	136	0.12	4.09	2.96	0.24	1.72	0.11	4.72	3.46	0.27	2.01	0.11	4.57	3.27	0.20	1.91
V+H	137	0.11	4.11	3.19	0.36	1.88	0.09	4.72	3.72	0.36	2.24	0.10	4.70	3.56	0.34	2.17
V+H	138	0.12	4.23	2.37	0.78	0.79	0.18	4.53	2.59	0.94	0.80	0.18	4.72	2.67	1.03	0.80
V+H	139	0.13	4.20	2.82	0.37	1.55	0.11	4.72	3.21	0.36	1.73	0.12	4.52	3.00	0.32	1.63
V+H	140	0.12	3.96	2.54	0.85	1.02	0.18	4.42	2.86	1.09	1.25	0.18	4.72	3.00	1.13	1.28
V+H	141	0.12	4.09	2.96	0.24	1.72	0.11	4.72	3.46	0.27	2.01	0.11	4.57	3.27	0.20	1.91
V+H	142	0.12	4.23	2.37	0.78	0.79	0.18	4.53	2.59	0.94	0.80	0.18	4.72	2.67	1.03	0.80
V+H	143	0.12	4.23	2.37	0.78	0.79	0.18	4.53	2.59	0.94	0.80	0.18	4.72	2.67	1.03	0.80
V+H	144	0.11	4.36	2.48	0.64	1.28	0.15	4.71	2.74	0.68	1.38	0.14	4.72	2.55	0.71	1.30
V+H	145	0.11	4.11	3.19	0.36	1.88	0.09	4.72	3.72	0.36	2.24	0.10	4.70	3.56	0.34	2.17
V+H	146	0.11	4.36	2.48	0.64	1.28	0.15	4.71	2.74	0.68	1.38	0.14	4.72	2.55	0.71	1.30
V+H	147	0.12	3.96	2.54	0.85	1.02	0.18	4.42	2.86	1.09	1.25	0.18	4.72	3.00	1.13	1.28
V+H	148	0.13	4.15	2.25	0.99	0.80	0.18	4.59	2.56	1.14	0.79	0.18	4.72	2.62	1.20	0.76
V+H	149	0.07	3.72	2.49	0.86	1.19	0.11	4.31	2.81	0.96	1.48	0.13	4.72	2.91	0.89	1.53
V	150	0.05	3.63	2.49	0.47	0.70	0.08	4.31	2.90	0.60	0.88	0.08	4.72	3.19	0.65	1.12
V	151	0.09	4.31	2.35	0.58	1.22	0.06	4.72	2.75	0.64	1.56	0.09	4.72	2.81	0.58	1.56
H	152	0.13	3.88	2.28	0.72	0.94	0.19	4.06	2.28	0.63	0.97	0.22	4.72	2.47	0.53	0.97
H	153	0.15	3.72	1.98	0.46	1.10	0.09	4.39	2.28	0.46	1.31	0.12	4.72	2.56	0.55	1.55
V+H	154	0.07	4.14	2.79	0.59	1.04	0.16	4.57	3.05	0.64	1.15	0.15	4.72	2.98	0.61	1.04
V+H	155	0.15	4.15	2.41	0.63	1.36	0.11	4.72	2.79	0.75	1.63	0.13	4.72	2.82	0.78	1.72

Simulated 4cm2-averaged PD at Plimit

Pol	Beam ID	Simulated 4cm 2 SAPD (W/m 2) corresponding to PD_design_target														
		n260 Plane B sub-module														
		Low Channel					Mid Channel					High Channel				
		S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm	S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm	S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm
V	0	0.08	3.89	2.88	0.25	1.62	0.09	4.72	3.38	0.28	1.97	0.07	4.45	3.36	0.29	1.80
V	1	0.03	3.87	2.88	0.43	1.60	0.05	4.72	3.25	0.18	1.73	0.10	4.44	2.82	0.24	1.41
V	2	0.08	3.72	2.89	0.29	1.59	0.09	4.72	3.47	0.22	2.09	0.08	4.48	3.49	0.28	2.04
V	3	0.10	4.53	2.49	0.54	1.55	0.12	4.51	2.39	0.58	1.60	0.15	4.72	2.64	0.86	1.69
V	4	0.22	4.40	2.74	0.48	2.14	0.25	4.33	2.72	0.54	1.66	0.21	4.72	2.88	0.82	1.99
V	5	0.06	3.94	1.85	0.57	0.76	0.03	4.72	2.21	0.78	0.99	0.06	4.51	2.23	0.68	1.22
V	6	0.24	4.59	3.03	0.28	2.25	0.20	4.71	3.47	0.44	2.04	0.24	4.72	3.49	0.52	2.43
V	7	0.06	4.31	2.73	0.54	1.29	0.06	4.72	2.97	0.81	1.49	0.07	4.72	3.01	0.52	1.45
V	8	0.13	4.56	2.84	0.52	1.90	0.18	4.58	2.49	0.58	1.94	0.18	4.72	2.42	0.87	1.71
V	9	0.06	3.43	1.95	0.46	0.86	0.05	4.16	2.43	0.72	1.11	0.05	4.72	2.61	0.54	1.17
V	10	0.24	4.34	2.65	0.48	2.20	0.24	4.28	2.81	0.56	1.63	0.21	4.72	3.11	0.81	2.17
V	11	0.06	4.26	2.89	0.46	1.66	0.06	4.72	2.98	0.33	1.57	0.06	4.66	3.11	0.32	1.32
V	12	0.06	4.21	2.46	0.77	1.23	0.05	4.72	2.65	0.82	1.61	0.08	4.59	1.97	0.73	1.54
V	13	0.27	4.33	2.61	0.37	2.18	0.21	4.18	2.82	0.44	1.58	0.22	4.72	3.24	0.60	2.20
V	14	0.20	4.66	2.97	0.46	2.05	0.21	4.67	3.27	0.47	1.90	0.22	4.72	3.21	0.63	2.08
V	15	0.09	3.84	2.28	0.43	1.07	0.09	4.43	2.67	0.78	1.29	0.11	4.72	2.73	0.53	1.40
H	16	0.08	3.66	2.93	0.24	1.61	0.05	4.72	3.47	0.50	1.90	0.07	4.64	3.16	0.43	1.83
H	17	0.13	3.67	2.68	0.27	1.64	0.10	4.42	3.44	0.33	2.24	0.10	4.72	3.20	0.27	2.13
H	18	0.08	3.63	2.93	0.19	1.65	0.06	4.67	3.54	0.45	1.97	0.07	4.72	3.31	0.35	1.86
H	19	0.17	3.49	1.71	1.08	1.20	0.22	4.23	2.15	1.13	1.57	0.13	4.72	2.75	0.75	1.22
H	20	0.14	3.74	1.74	1.33	0.84	0.16	4.26	2.16	1.32	1.14	0.17	4.72	2.27	1.25	1.39
H	21	0.25	4.06	2.42	1.07	2.05	0.29	4.72	2.75	1.13	2.26	0.15	4.54	2.73	0.81	1.32
H	22	0.08	4.13	2.93	0.84	1.72	0.12	4.72	3.21	0.95	1.53	0.13	4.46	3.06	1.12	1.22
H	23	0.21	4.14	2.67	0.44	2.06	0.18	4.72	3.27	0.72	2.23	0.15	4.53	3.14	0.80	1.91
H	24	0.13	3.76	1.82	1.31	1.13	0.18	4.47	2.15	1.44	1.68	0.18	4.72	2.34	1.14	1.50
H	25	0.24	4.13	2.59	0.69	2.19	0.24	4.72	3.00	0.63	2.19	0.14	4.50	3.04	0.82	1.58
H	26	0.13	3.53	1.89	1.28	1.03	0.15	4.23	2.30	1.27	0.98	0.16	4.72	2.46	1.22	1.24
H	27	0.18	3.82	2.53	0.33	1.88	0.17	4.72	3.41	0.54	2.43	0.14	4.49	3.25	0.45	2.08
H	28	0.20	4.10	2.53	1.35	1.88	0.27	4.69	2.80	1.61	2.45	0.21	4.72	2.54	0.97	1.57
H	29	0.13	3.95	2.52	1.15	1.44	0.16	4.38	2.68	1.23	1.31	0.14	4.72	2.91	1.15	1.11
H	30	0.09	3.62	2.35	0.80	1.42	0.10	4.47	2.85	0.80	1.46	0.11	4.72	3.07	0.84	1.26
H	31	0.22	3.99	2.51	0.48	1.94	0.20	4.72	3.04	0.62	2.17	0.13	4.11	2.83	0.87	1.70
V+H	32	0.12	3.66	2.63	0.30	1.57	0.11	4.72	3.42	0.41	2.08	0.10	4.35	3.17	0.45	1.87
V+H	33	0.10	4.10	2.85	0.38	1.79	0.10	4.72	3.47	0.35	1.98	0.14	4.58	3.17	0.28	1.89
V+H	34	0.12	3.63	2.77	0.33	1.61	0.11	4.72	3.57	0.36	2.19	0.12	4.39	3.38	0.44	1.95
V+H	35	0.12	3.87	1.95	0.88	1.09	0.13	4.09	2.10	0.72	1.22	0.10	4.72	2.57	1.00	1.36
V+H	36	0.13	3.76	2.35	1.26	1.57	0.15	4.39	2.42	1.21	1.38	0.12	4.72	2.40	1.30	1.50
V+H	37	0.15	3.88	1.95	0.75	1.47	0.17	4.57	2.17	0.86	1.70	0.11	4.72	2.45	0.82	1.31
V+H	38	0.15	3.92	2.73	0.51	1.94	0.13	4.56	3.19	0.75	1.77	0.19	4.72	3.45	1.17	1.91
V+H	39	0.14	4.26	2.71	0.57	1.95	0.15	4.72	3.00	0.93	1.81	0.14	4.54	3.19	0.76	1.82
V+H	40	0.09	4.01	2.17	1.10	1.27	0.11	4.45	2.03	1.02	1.24	0.14	4.72	2.25	1.10	1.37
V+H	41	0.13	3.57	2.24	0.56	1.67	0.15	3.99	2.46	0.70	1.73	0.12	4.72	2.78	0.76	1.49
V+H	42	0.13	3.74	2.39	1.17	1.70	0.15	4.13	2.39	1.22	1.42	0.13	4.72	2.54	1.32	1.57
V+H	43	0.14	4.44	2.87	0.47	2.20	0.12	4.72	3.11	0.53	2.11	0.14	4.72	3.38	0.48	1.79
V+H	44	0.11	4.06	2.02	0.92	1.20	0.16	4.53	2.02	1.00	1.60	0.13	4.72	2.13	0.90	1.27
V+H	45	0.15	3.78	2.54	0.85	1.85	0.15	3.98	2.60	1.10	1.45	0.15	4.72	3.01	1.33	1.68
V+H	46	0.15	4.37	2.83	0.89	1.88	0.11	4.72	3.14	0.71	1.91	0.14	4.70	3.06	0.94	1.80
V+H	47	0.14	3.97	2.50	0.55	1.76	0.16	4.72	2.88	0.93	1.77	0.14	4.63	2.96	0.85	1.85
V	48	0.08	3.86	2.84	0.28	1.56	0.09	4.72	3.43	0.25	1.86	0.06	4.39	3.32	0.32	1.59
V	49	0.04	4.21	3.02	0.42	1.73	0.05	4.72	3.14	0.17	1.70	0.09	4.66	3.04	0.21	1.38



V	50	0.09	3.76	2.84	0.26	1.57	0.10	4.72	3.48	0.19	2.02	0.07	4.31	3.37	0.29	1.81
V	51	0.12	4.56	2.46	0.57	1.70	0.15	4.60	2.40	0.65	1.66	0.15	4.72	2.54	0.94	1.75
V	52	0.21	4.57	2.72	0.49	2.03	0.24	4.25	2.70	0.53	1.66	0.22	4.72	2.86	0.90	2.08
V	53	0.06	4.07	1.84	0.65	0.85	0.04	4.65	2.17	0.96	1.16	0.07	4.72	2.34	0.78	1.47
V	54	0.24	4.35	2.86	0.38	1.96	0.20	4.50	3.17	0.39	1.88	0.24	4.72	3.27	0.52	2.27
V	55	0.06	3.99	2.53	0.63	1.09	0.06	4.43	2.95	0.80	1.48	0.09	4.72	2.86	0.54	1.49
V	56	0.15	4.45	2.50	0.52	1.82	0.19	4.34	2.49	0.59	1.60	0.19	4.72	2.66	0.91	1.89
V	57	0.06	4.03	2.25	0.66	0.86	0.05	4.43	2.65	0.89	1.26	0.06	4.72	2.75	0.64	1.32
V	58	0.21	4.57	2.72	0.49	2.03	0.24	4.25	2.70	0.53	1.66	0.22	4.72	2.86	0.90	2.08
V	59	0.04	4.18	2.92	0.48	1.63	0.07	4.65	3.17	0.32	1.68	0.08	4.72	3.09	0.34	1.41
V	60	0.06	4.06	1.90	0.70	1.11	0.06	4.49	2.15	0.88	1.36	0.09	4.72	2.18	0.80	1.63
V	61	0.25	4.49	2.81	0.40	2.05	0.22	4.28	2.90	0.39	1.73	0.24	4.72	3.07	0.66	2.17
V	62	0.19	4.42	2.61	0.44	1.58	0.23	4.37	2.90	0.44	1.52	0.19	4.72	2.80	0.62	1.66
V	63	0.10	3.75	2.24	0.60	0.88	0.09	4.45	2.84	0.87	1.30	0.11	4.72	2.64	0.56	1.52
H	64	0.06	3.59	2.86	0.23	1.61	0.08	4.72	3.50	0.39	1.85	0.09	4.55	3.20	0.44	1.86
H	65	0.11	3.76	2.67	0.22	1.68	0.13	4.60	3.40	0.40	2.27	0.11	4.72	3.28	0.31	1.93
H	66	0.04	3.50	2.74	0.18	1.53	0.06	4.72	3.44	0.38	1.67	0.07	4.63	3.12	0.40	1.60
H	67	0.14	3.74	1.79	1.24	1.23	0.18	4.16	2.06	1.29	1.58	0.16	4.72	2.33	1.04	1.33
H	68	0.12	3.62	1.70	1.32	0.78	0.16	4.09	1.96	1.26	1.13	0.16	4.72	2.43	1.18	1.17
H	69	0.21	3.96	2.38	1.14	1.92	0.22	4.43	2.63	1.26	1.98	0.17	4.72	2.65	1.08	1.55
H	70	0.10	3.85	2.54	1.01	1.28	0.11	4.63	3.00	1.06	1.46	0.13	4.72	2.85	1.15	1.31
H	71	0.17	4.00	2.65	0.59	2.00	0.18	4.68	3.10	0.72	2.25	0.14	4.72	3.00	0.82	1.85
H	72	0.14	3.63	1.71	1.27	1.07	0.16	4.10	1.93	1.30	1.42	0.16	4.72	2.34	1.09	1.27
H	73	0.18	3.96	2.55	0.82	1.97	0.19	4.51	2.82	0.88	1.98	0.16	4.72	2.86	0.93	1.68
H	74	0.12	3.62	1.70	1.32	0.78	0.16	4.09	1.96	1.26	1.13	0.16	4.72	2.43	1.18	1.17
H	75	0.13	3.74	2.59	0.35	1.78	0.14	4.68	3.39	0.48	2.40	0.12	4.72	3.20	0.48	1.98
H	76	0.19	4.00	2.42	1.26	1.86	0.22	4.44	2.62	1.43	2.01	0.18	4.72	2.60	1.15	1.55
H	77	0.12	3.64	2.31	1.15	1.08	0.14	4.24	2.58	1.08	1.25	0.13	4.72	2.79	1.08	1.31
H	78	0.10	3.48	1.86	0.86	1.14	0.12	4.44	2.40	0.85	1.50	0.13	4.72	2.54	0.95	1.28
H	79	0.17	3.91	2.58	0.65	1.85	0.18	4.71	2.99	0.79	2.17	0.13	4.72	2.85	0.91	1.74
V+H	80	0.09	3.58	2.65	0.31	1.54	0.10	4.72	3.45	0.38	1.96	0.09	4.40	3.15	0.48	1.70
V+H	81	0.09	4.28	2.92	0.32	1.91	0.10	4.72	3.24	0.36	1.99	0.14	4.68	3.24	0.34	1.70
V+H	82	0.09	3.57	2.73	0.33	1.61	0.10	4.72	3.54	0.33	2.01	0.11	4.31	3.19	0.47	1.62
V+H	83	0.10	3.67	1.79	0.94	1.05	0.09	4.07	1.71	0.86	1.00	0.12	4.72	2.27	1.11	1.28
V+H	84	0.11	4.00	2.35	1.24	1.54	0.13	3.84	2.18	1.10	1.39	0.14	4.72	2.44	1.39	1.66
V+H	85	0.12	3.66	1.97	0.81	1.36	0.13	4.30	2.09	1.01	1.54	0.11	4.72	2.48	0.98	1.42
V+H	86	0.15	3.64	2.50	0.70	1.65	0.15	4.20	2.80	0.84	1.60	0.18	4.72	3.09	1.19	1.81
V+H	87	0.10	3.88	2.54	0.64	1.62	0.14	4.25	2.80	0.89	1.98	0.14	4.72	2.93	0.73	1.79
V+H	88	0.09	3.84	1.96	1.05	1.20	0.10	3.97	1.87	0.94	1.14	0.11	4.72	2.30	1.17	1.37
V+H	89	0.11	3.79	2.36	0.70	1.49	0.14	4.10	2.51	0.95	1.79	0.11	4.72	2.75	0.85	1.62
V+H	90	0.11	4.00	2.35	1.24	1.54	0.13	3.84	2.18	1.10	1.39	0.14	4.72	2.44	1.39	1.66
V+H	91	0.09	3.96	2.61	0.47	1.81	0.11	4.36	2.96	0.46	1.96	0.13	4.72	3.12	0.46	1.66
V+H	92	0.10	3.65	1.81	0.81	1.17	0.11	4.29	1.96	0.98	1.32	0.11	4.72	2.26	0.99	1.27
V+H	93	0.15	3.98	2.60	0.98	1.76	0.15	4.10	2.67	1.01	1.57	0.18	4.72	3.02	1.37	1.82
V+H	94	0.11	3.74	2.17	0.84	1.31	0.11	3.89	2.34	0.66	1.36	0.11	4.72	2.46	0.88	1.31
V+H	95	0.12	3.68	2.45	0.75	1.43	0.15	4.36	2.85	1.05	1.92	0.13	4.72	2.81	0.89	1.91
V	96	0.06	4.56	2.99	0.66	1.77	0.06	4.72	3.26	0.41	1.86	0.06	4.70	3.11	0.43	1.57
V	97	0.06	4.56	2.99	0.66	1.77	0.06	4.72	3.26	0.41	1.86	0.06	4.70	3.11	0.43	1.57
V	98	0.08	4.30	2.91	0.48	1.81	0.10	4.72	3.25	0.28	1.95	0.10	4.58	3.15	0.36	1.81
V	99	0.10	4.18	1.96	0.64	0.92	0.10	4.34	2.34	0.79	1.29	0.12	4.72	2.56	0.87	1.67
V	100	0.10	4.18	1.96	0.64	0.92	0.10	4.34	2.34	0.79	1.29	0.12	4.72	2.56	0.87	1.67
V	101	0.07	4.27	1.94	0.70	0.71	0.10	4.25	2.28	0.90	1.06	0.10	4.72	2.46	0.90	1.35
V	102	0.10	4.08	2.21	0.55	1.24	0.10	4.44	2.63	0.57	1.56	0.10	4.72	2.80	0.74	1.85
V	103	0.05	4.42	2.18	0.77	1.02	0.07	4.33	2.47	0.86	1.22	0.07	4.72	2.57	0.80	1.09
V	104	0.10	4.18	1.96	0.64	0.92	0.10	4.34	2.34	0.79	1.29	0.12	4.72	2.56	0.87	1.67
V	105	0.05	4.42	2.18	0.77	1.02	0.07	4.33	2.47	0.86	1.22	0.07	4.72	2.57	0.80	1.09



V	106	0.10	4.18	1.96	0.64	0.92	0.10	4.34	2.34	0.79	1.29	0.12	4.72	2.56	0.87	1.67
V	107	0.04	4.52	2.63	0.78	1.42	0.04	4.51	2.87	0.64	1.54	0.06	4.72	2.83	0.60	1.31
V	108	0.07	4.27	1.94	0.70	0.71	0.10	4.25	2.28	0.90	1.06	0.10	4.72	2.46	0.90	1.35
V	109	0.10	4.08	2.21	0.55	1.24	0.10	4.44	2.63	0.57	1.56	0.10	4.72	2.80	0.74	1.85
V	110	0.05	4.42	2.18	0.77	1.02	0.07	4.33	2.47	0.86	1.22	0.07	4.72	2.57	0.80	1.09
V	111	0.07	4.27	1.94	0.70	0.71	0.10	4.25	2.28	0.90	1.06	0.10	4.72	2.46	0.90	1.35
V	112	0.08	4.30	2.91	0.48	1.81	0.10	4.72	3.25	0.28	1.95	0.10	4.58	3.15	0.36	1.81
V	113	0.07	4.27	1.94	0.70	0.71	0.10	4.25	2.28	0.90	1.06	0.10	4.72	2.46	0.90	1.35
H	114	0.03	3.35	2.41	0.33	1.35	0.09	4.49	2.92	0.59	1.67	0.07	4.72	2.88	0.52	1.61
H	115	0.05	3.37	2.50	0.38	1.60	0.09	4.29	2.97	0.62	1.93	0.09	4.72	2.95	0.59	1.77
H	116	0.03	3.35	2.41	0.33	1.35	0.09	4.49	2.92	0.59	1.67	0.07	4.72	2.88	0.52	1.61
H	117	0.11	3.59	1.87	1.00	0.96	0.14	4.34	2.12	1.13	1.16	0.14	4.72	2.12	1.25	0.99
H	118	0.11	3.59	1.87	1.00	0.96	0.14	4.34	2.12	1.13	1.16	0.14	4.72	2.12	1.25	0.99
H	119	0.13	3.65	2.00	1.13	1.35	0.16	4.25	2.23	1.26	1.53	0.16	4.72	2.19	1.32	1.31
H	120	0.10	3.48	1.92	0.72	0.86	0.11	4.48	2.27	0.89	1.11	0.10	4.72	2.24	1.05	0.99
H	121	0.11	3.60	2.21	1.03	1.65	0.15	4.20	2.52	1.21	1.86	0.15	4.72	2.47	1.21	1.58
H	122	0.11	3.59	1.87	1.00	0.96	0.14	4.34	2.12	1.13	1.16	0.14	4.72	2.12	1.25	0.99
H	123	0.11	3.60	2.21	1.03	1.65	0.15	4.20	2.52	1.21	1.86	0.15	4.72	2.47	1.21	1.58
H	124	0.11	3.59	1.87	1.00	0.96	0.14	4.34	2.12	1.13	1.16	0.14	4.72	2.12	1.25	0.99
H	125	0.08	3.49	2.42	0.72	1.73	0.12	4.22	2.79	0.92	1.98	0.12	4.72	2.79	0.92	1.73
H	126	0.13	3.65	2.00	1.13	1.35	0.16	4.25	2.23	1.26	1.53	0.16	4.72	2.19	1.32	1.31
H	127	0.10	3.48	1.92	0.72	0.86	0.11	4.48	2.27	0.89	1.11	0.10	4.72	2.24	1.05	0.99
H	128	0.11	3.60	2.21	1.03	1.65	0.15	4.20	2.52	1.21	1.86	0.15	4.72	2.47	1.21	1.58
H	129	0.13	3.65	2.00	1.13	1.35	0.16	4.25	2.23	1.26	1.53	0.16	4.72	2.19	1.32	1.31
H	130	0.03	3.35	2.41	0.33	1.35	0.09	4.49	2.92	0.59	1.67	0.07	4.72	2.88	0.52	1.61
H	131	0.13	3.65	2.00	1.13	1.35	0.16	4.25	2.23	1.26	1.53	0.16	4.72	2.19	1.32	1.31
V+H	132	0.06	4.24	2.86	0.62	1.75	0.10	4.72	3.14	0.63	1.73	0.09	4.71	3.00	0.57	1.75
V+H	133	0.06	4.30	2.96	0.61	1.93	0.11	4.51	3.11	0.61	1.86	0.11	4.72	2.99	0.64	1.80
V+H	134	0.08	4.05	2.81	0.53	1.72	0.11	4.59	3.06	0.48	1.78	0.11	4.72	3.03	0.54	1.81
V+H	135	0.10	3.88	1.91	1.00	0.94	0.09	4.27	2.01	1.13	1.08	0.10	4.72	2.15	1.38	1.35
V+H	136	0.10	3.88	1.91	1.00	0.94	0.09	4.27	2.01	1.13	1.08	0.10	4.72	2.15	1.38	1.35
V+H	137	0.11	4.05	2.00	1.12	1.22	0.10	4.20	2.03	1.19	1.22	0.11	4.72	2.08	1.27	1.32
V+H	138	0.09	3.79	2.08	0.74	1.03	0.08	4.41	2.28	0.96	1.24	0.09	4.72	2.44	1.26	1.50
V+H	139	0.09	4.18	2.30	1.03	1.45	0.11	4.13	2.31	1.07	1.52	0.11	4.72	2.31	1.09	1.43
V+H	140	0.10	3.88	1.91	1.00	0.94	0.09	4.27	2.01	1.13	1.08	0.10	4.72	2.15	1.38	1.35
V+H	141	0.09	4.18	2.30	1.03	1.45	0.11	4.13	2.31	1.07	1.52	0.11	4.72	2.31	1.09	1.43
V+H	142	0.10	3.88	1.91	1.00	0.94	0.09	4.27	2.01	1.13	1.08	0.10	4.72	2.15	1.38	1.35
V+H	143	0.07	4.20	2.64	0.75	1.71	0.12	4.22	2.69	0.82	1.72	0.11	4.72	2.63	0.88	1.60
V+H	144	0.11	4.05	2.00	1.12	1.22	0.10	4.20	2.03	1.19	1.22	0.11	4.72	2.08	1.27	1.32
V+H	145	0.09	3.79	2.08	0.74	1.03	0.08	4.41	2.28	0.96	1.24	0.09	4.72	2.44	1.26	1.50
V+H	146	0.09	4.18	2.30	1.03	1.45	0.11	4.13	2.31	1.07	1.52	0.11	4.72	2.31	1.09	1.43
V+H	147	0.11	4.05	2.00	1.12	1.22	0.10	4.20	2.03	1.19	1.22	0.11	4.72	2.08	1.27	1.32
V+H	148	0.07	3.73	2.07	0.59	1.03	0.09	4.20	2.53	0.88	1.33	0.07	4.72	2.77	0.87	1.41
V+H	149	0.11	4.05	2.00	1.12	1.22	0.10	4.20	2.03	1.19	1.22	0.11	4.72	2.08	1.27	1.32
V	150	0.07	4.07	2.18	0.72	1.24	0.07	4.46	2.54	0.75	1.63	0.10	4.72	2.70	0.85	1.76
V	151	0.08	4.72	2.63	0.42	1.07	0.08	4.57	2.97	0.38	1.07	0.08	4.61	2.97	0.42	1.18
H	152	0.08	3.04	1.94	0.76	1.21	0.13	4.17	2.41	1.00	1.65	0.13	4.72	2.46	1.02	1.47
H	153	0.08	4.31	2.59	0.57	1.27	0.08	4.56	2.79	0.70	1.27	0.08	4.72	2.79	0.70	1.11
V+H	154	0.08	3.57	2.18	0.79	1.20	0.12	4.28	2.66	1.02	1.72	0.14	4.72	2.76	1.09	1.90
V+H	155	0.08	4.34	2.44	0.58	1.03	0.08	4.60	2.75	0.63	1.10	0.07	4.72	2.79	0.70	1.00

Simulated 4cm2-averaged PD at Plimit

Pol	Beam ID	Simulated 4cm 2 SAPD (W/m 2) corresponding to PD_design_target														
		n261 Plane B sub-module														
		Low Channel					Mid Channel					High Channel				
		S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm	S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm	S1_2mm	S2_2mm	S2_2mm Visor	S3_2mm	S5_2mm
V	0	0.12	4.67	2.96	0.28	2.41	0.11	4.71	2.97	0.30	2.25	0.09	4.72	3.01	0.33	2.10
V	1	0.14	4.64	2.99	0.17	2.51	0.12	4.70	2.97	0.18	2.35	0.10	4.72	3.02	0.19	2.22
V	2	0.17	4.34	2.70	0.28	2.32	0.16	4.57	2.91	0.25	2.42	0.14	4.72	3.01	0.23	2.37
V	3	0.06	4.66	2.52	0.88	1.27	0.08	4.61	2.54	0.91	1.37	0.08	4.72	2.63	0.93	1.48
V	4	0.11	4.43	2.11	1.44	0.86	0.11	4.72	2.26	1.49	0.82	0.13	4.64	2.27	1.58	0.86
V	5	0.09	4.54	2.64	0.40	1.49	0.09	4.69	2.86	0.37	1.85	0.11	4.72	2.89	0.36	1.98
V	6	0.15	4.48	3.04	0.29	2.28	0.16	4.53	3.03	0.25	2.38	0.16	4.72	3.03	0.24	2.39
V	7	0.18	4.36	2.80	0.14	2.24	0.21	4.58	2.95	0.12	2.54	0.19	4.72	2.98	0.13	2.65
V	8	0.14	4.72	2.18	0.52	1.38	0.10	4.64	2.28	0.51	1.48	0.11	4.60	2.28	0.58	1.49
V	9	0.08	4.17	2.52	1.42	1.13	0.09	4.66	2.78	1.58	1.24	0.11	4.72	2.92	1.66	1.27
V	10	0.09	4.72	1.97	0.88	0.83	0.05	4.50	2.08	0.83	0.98	0.08	4.57	2.18	0.91	1.06
V	11	0.11	4.42	2.91	0.95	1.77	0.11	4.56	2.96	1.00	1.82	0.13	4.72	3.05	1.02	1.87
V	12	0.17	4.41	2.66	0.15	2.27	0.20	4.57	2.79	0.14	2.50	0.19	4.72	2.91	0.14	2.62
V	13	0.13	4.42	2.72	0.20	1.72	0.13	4.72	2.96	0.18	2.13	0.15	4.69	3.00	0.18	2.26
V	14	0.07	4.20	2.51	1.32	1.02	0.08	4.72	2.74	1.50	1.12	0.10	4.68	2.82	1.59	1.16
V	15	0.11	4.72	2.61	0.63	1.73	0.09	4.58	2.50	0.68	1.72	0.10	4.49	2.46	0.71	1.73
H	16	0.13	4.67	3.04	0.14	2.44	0.13	4.72	3.06	0.13	2.32	0.10	4.68	3.03	0.13	2.10
H	17	0.14	4.64	3.10	0.11	2.60	0.12	4.70	3.07	0.10	2.44	0.10	4.72	3.08	0.08	2.25
H	18	0.10	4.62	3.07	0.22	2.25	0.11	4.69	3.16	0.19	2.41	0.11	4.72	3.16	0.16	2.44
H	19	0.13	4.71	2.83	1.18	1.48	0.13	4.72	2.89	1.04	1.70	0.16	4.63	2.80	0.97	1.89
H	20	0.22	4.22	1.80	1.04	0.65	0.24	4.66	2.05	1.28	0.87	0.20	4.72	2.16	1.35	1.00
H	21	0.07	4.66	2.41	0.50	1.26	0.07	4.72	2.50	0.43	1.32	0.11	4.38	2.46	0.41	1.40
H	22	0.19	4.72	3.32	0.34	2.75	0.18	4.67	3.20	0.27	2.63	0.16	4.66	3.14	0.21	2.49
H	23	0.15	4.72	3.01	0.12	1.93	0.16	4.64	2.96	0.11	2.02	0.13	4.60	2.89	0.09	2.11
H	24	0.17	4.72	2.26	0.44	1.50	0.14	4.67	2.41	0.59	1.48	0.14	4.31	2.37	0.73	1.44
H	25	0.19	4.67	2.76	1.60	1.32	0.19	4.72	2.86	1.60	1.55	0.20	4.59	2.85	1.55	1.72
H	26	0.22	4.72	2.08	0.80	1.02	0.23	4.60	2.15	1.05	1.04	0.22	4.55	2.08	1.22	1.06
H	27	0.19	4.72	3.21	1.05	2.21	0.18	4.60	3.21	0.94	2.33	0.19	4.45	3.10	0.89	2.43
H	28	0.13	4.72	3.10	0.10	2.08	0.16	4.64	3.03	0.11	2.20	0.13	4.63	2.99	0.12	2.29
H	29	0.07	4.68	2.55	0.39	1.40	0.07	4.72	2.64	0.29	1.46	0.10	4.42	2.57	0.25	1.57
H	30	0.18	4.62	2.66	1.50	1.26	0.19	4.72	2.78	1.56	1.50	0.19	4.58	2.78	1.55	1.66
H	31	0.18	4.72	2.81	0.82	2.17	0.16	4.47	2.61	0.88	1.89	0.16	4.35	2.49	0.97	1.68
V+H	32	0.22	4.72	3.07	0.27	2.45	0.20	4.72	3.15	0.27	2.31	0.17	4.68	3.17	0.29	2.12
V+H	33	0.23	4.72	3.18	0.17	2.55	0.21	4.69	3.25	0.17	2.36	0.17	4.66	3.25	0.17	2.17
V+H	34	0.20	4.56	3.12	0.31	2.61	0.21	4.64	3.19	0.30	2.58	0.20	4.72	3.24	0.27	2.48
V+H	35	0.08	4.72	2.51	0.98	1.48	0.09	4.54	2.65	1.03	1.64	0.13	4.53	2.74	1.07	1.82
V+H	36	0.15	4.02	2.00	1.42	0.82	0.17	4.49	2.22	1.64	1.02	0.15	4.72	2.33	1.73	1.12
V+H	37	0.09	4.72	2.61	0.41	1.43	0.07	4.55	2.57	0.31	1.56	0.08	4.26	2.51	0.31	1.67
V+H	38	0.25	4.56	3.33	0.39	2.60	0.25	4.63	3.31	0.36	2.53	0.24	4.72	3.27	0.32	2.41
V+H	39	0.25	4.66	3.31	0.16	2.70	0.29	4.72	3.33	0.13	2.83	0.24	4.70	3.33	0.13	2.91
V+H	40	0.14	4.72	2.09	0.50	1.26	0.11	4.46	2.13	0.62	1.28	0.09	4.13	2.06	0.71	1.26
V+H	41	0.12	4.39	2.79	1.68	1.45	0.12	4.66	2.93	1.79	1.58	0.12	4.72	2.98	1.79	1.70
V+H	42	0.10	4.72	1.99	0.77	0.85	0.11	4.32	1.95	0.92	0.90	0.10	3.97	1.88	1.01	0.91
V+H	43	0.18	4.72	3.44	1.30	2.35	0.17	4.67	3.44	1.29	2.40	0.20	4.71	3.44	1.28	2.48
V+H	44	0.21	4.48	3.12	0.17	2.79	0.26	4.60	3.15	0.17	2.84	0.23	4.72	3.17	0.17	2.83
V+H	45	0.12	4.72	2.73	0.33	1.67	0.11	4.61	2.74	0.23	1.85	0.10	4.30	2.69	0.22	2.00
V+H	46	0.13	4.40	2.69	1.62	1.31	0.13	4.69	2.85	1.75	1.44	0.13	4.72	2.91	1.77	1.54
V+H	47	0.17	4.72	2.64	0.88	1.85	0.16	4.48	2.57	1.00	1.68	0.16	4.41	2.52	1.06	1.58
V	48	0.10	4.49	2.92	0.33	2.33	0.09	4.63	2.95	0.34	2.21	0.09	4.72	3.02	0.38	2.10
V	49	0.12	4.48	2.93	0.20	2.45	0.11	4.63	2.93	0.20	2.33	0.09	4.72	3.00	0.22	2.22



V	50	0.15	4.39	2.50	0.32	2.06	0.17	4.58	2.67	0.28	2.22	0.14	4.72	2.82	0.25	2.22
V	51	0.10	4.64	2.63	0.89	1.55	0.08	4.63	2.58	0.89	1.53	0.09	4.72	2.60	0.94	1.49
V	52	0.11	4.70	2.29	1.39	1.12	0.09	4.72	2.28	1.40	1.01	0.11	4.61	2.29	1.46	1.07
V	53	0.12	4.63	2.72	0.51	1.76	0.11	4.66	2.83	0.47	1.95	0.13	4.72	2.87	0.44	2.04
V	54	0.16	4.56	3.12	0.42	2.25	0.15	4.59	3.02	0.38	2.24	0.14	4.72	2.99	0.34	2.24
V	55	0.20	4.30	2.66	0.12	2.19	0.21	4.58	2.77	0.10	2.37	0.19	4.72	2.78	0.11	2.33
V	56	0.17	4.72	2.58	0.79	1.44	0.13	4.53	2.44	0.80	1.38	0.12	4.40	2.29	0.80	1.46
V	57	0.08	4.26	2.60	1.48	1.18	0.09	4.64	2.77	1.61	1.28	0.11	4.72	2.88	1.73	1.28
V	58	0.11	4.72	2.12	1.23	1.08	0.08	4.52	2.16	1.19	1.20	0.09	4.47	2.18	1.21	1.33
V	59	0.09	4.31	2.79	1.07	1.58	0.09	4.53	2.88	1.16	1.62	0.10	4.72	3.00	1.22	1.64
V	60	0.18	4.33	2.75	0.13	2.32	0.20	4.57	2.91	0.11	2.54	0.17	4.72	2.98	0.10	2.56
V	61	0.16	4.60	2.90	0.23	1.96	0.15	4.71	2.97	0.21	2.18	0.17	4.72	2.94	0.20	2.24
V	62	0.07	4.36	2.64	1.32	1.15	0.07	4.72	2.78	1.47	1.18	0.09	4.70	2.84	1.57	1.21
V	63	0.11	4.61	2.63	1.04	1.48	0.09	4.72	2.62	1.09	1.45	0.11	4.69	2.61	1.13	1.58
H	64	0.11	4.71	3.06	0.09	2.47	0.10	4.72	3.03	0.09	2.33	0.09	4.72	3.03	0.09	2.18
H	65	0.10	4.64	3.07	0.13	2.55	0.08	4.69	3.03	0.13	2.39	0.08	4.72	3.05	0.13	2.27
H	66	0.10	4.72	3.02	0.15	1.96	0.12	4.69	2.99	0.15	2.08	0.11	4.65	2.94	0.15	2.14
H	67	0.09	4.69	2.28	0.96	1.29	0.08	4.72	2.35	0.92	1.21	0.10	4.59	2.30	0.87	1.21
H	68	0.18	4.52	1.98	1.09	0.85	0.20	4.70	2.11	1.24	0.80	0.18	4.72	2.17	1.35	0.87
H	69	0.11	4.72	2.32	0.51	1.28	0.10	4.56	2.29	0.48	1.28	0.13	4.27	2.17	0.47	1.26
H	70	0.18	4.72	3.24	0.50	2.50	0.16	4.68	3.16	0.43	2.36	0.15	4.65	3.14	0.40	2.32
H	71	0.12	4.72	2.97	0.18	1.74	0.13	4.70	2.93	0.13	1.84	0.12	4.62	2.85	0.12	1.89
H	72	0.19	4.71	2.25	0.72	1.30	0.20	4.72	2.20	0.88	1.10	0.18	4.72	2.20	1.00	1.04
H	73	0.18	4.60	2.70	1.51	1.26	0.18	4.72	2.76	1.56	1.44	0.18	4.71	2.76	1.53	1.59
H	74	0.21	4.63	1.95	1.05	0.67	0.22	4.72	2.05	1.19	0.63	0.20	4.70	2.07	1.32	0.67
H	75	0.15	4.72	3.01	1.25	1.78	0.14	4.64	3.01	1.17	1.88	0.16	4.53	2.99	1.11	2.07
H	76	0.11	4.72	3.16	0.16	1.99	0.13	4.66	3.11	0.13	2.12	0.11	4.64	3.06	0.13	2.20
H	77	0.09	4.72	2.56	0.33	1.36	0.10	4.59	2.53	0.27	1.38	0.13	4.36	2.40	0.25	1.40
H	78	0.15	4.57	2.71	1.40	1.25	0.17	4.72	2.78	1.49	1.44	0.18	4.68	2.77	1.51	1.54
H	79	0.17	4.48	2.38	0.97	1.30	0.19	4.66	2.50	1.16	1.33	0.19	4.72	2.55	1.25	1.32
V+H	80	0.17	4.52	2.97	0.27	2.34	0.16	4.65	3.06	0.27	2.26	0.14	4.72	3.10	0.29	2.17
V+H	81	0.17	4.58	3.02	0.18	2.46	0.16	4.69	3.12	0.18	2.32	0.15	4.72	3.18	0.18	2.21
V+H	82	0.19	4.60	2.91	0.28	2.38	0.22	4.67	2.95	0.27	2.36	0.20	4.72	2.99	0.25	2.31
V+H	83	0.12	4.72	2.72	0.99	1.48	0.10	4.67	2.65	1.12	1.44	0.10	4.66	2.63	1.17	1.43
V+H	84	0.13	4.40	2.22	1.41	0.95	0.14	4.63	2.36	1.59	1.03	0.13	4.72	2.41	1.65	1.12
V+H	85	0.10	4.72	2.56	0.46	1.56	0.08	4.49	2.51	0.37	1.62	0.11	4.20	2.41	0.36	1.67
V+H	86	0.23	4.53	3.13	0.57	2.34	0.21	4.61	3.12	0.53	2.25	0.20	4.72	3.13	0.48	2.23
V+H	87	0.23	4.66	3.13	0.19	2.61	0.26	4.71	3.10	0.16	2.69	0.21	4.72	3.02	0.14	2.68
V+H	88	0.19	4.72	2.31	0.88	1.32	0.16	4.44	2.24	1.03	1.22	0.14	4.35	2.19	1.10	1.21
V+H	89	0.12	4.36	2.82	1.74	1.45	0.12	4.63	2.95	1.88	1.57	0.12	4.72	2.99	1.90	1.67
V+H	90	0.13	4.72	2.04	1.26	1.03	0.14	4.32	2.03	1.42	1.01	0.13	4.08	2.04	1.48	0.98
V+H	91	0.13	4.56	3.20	1.48	1.96	0.12	4.62	3.25	1.52	2.00	0.14	4.72	3.29	1.51	2.09
V+H	92	0.21	4.57	3.20	0.18	2.70	0.24	4.66	3.20	0.16	2.72	0.21	4.72	3.19	0.14	2.66
V+H	93	0.13	4.72	2.77	0.33	1.78	0.13	4.53	2.71	0.24	1.89	0.12	4.22	2.57	0.21	1.96
V+H	94	0.11	4.43	2.77	1.60	1.31	0.12	4.67	2.88	1.75	1.42	0.12	4.72	2.91	1.79	1.50
V+H	95	0.12	4.36	2.47	1.14	1.20	0.13	4.64	2.62	1.33	1.30	0.12	4.72	2.68	1.41	1.37
V	96	0.12	4.44	2.94	0.85	1.93	0.13	4.59	2.96	0.81	1.98	0.12	4.72	3.05	0.85	1.94
V	97	0.16	4.31	2.93	0.44	2.16	0.16	4.51	2.91	0.40	2.23	0.15	4.72	3.01	0.40	2.19
V	98	0.16	4.31	2.93	0.44	2.16	0.16	4.51	2.91	0.40	2.23	0.15	4.72	3.01	0.40	2.19
V	99	0.08	4.70	2.42	1.05	1.19	0.09	4.72	2.49	1.08	1.31	0.13	4.72	2.52	1.16	1.48
V	100	0.08	4.70	2.42	1.05	1.19	0.09	4.72	2.49	1.08	1.31	0.13	4.72	2.52	1.16	1.48
V	101	0.08	4.70	2.42	1.05	1.19	0.09	4.72	2.49	1.08	1.31	0.13	4.72	2.52	1.16	1.48
V	102	0.16	4.31	2.93	0.44	2.16	0.16	4.51	2.91	0.40	2.23	0.15	4.72	3.01	0.40	2.19
V	103	0.16	4.28	2.92	0.16	2.19	0.16	4.51	2.87	0.15	2.32	0.15	4.72	2.92	0.15	2.33
V	104	0.13	4.51	2.70	0.55	1.72	0.15	4.59	2.63	0.55	1.90	0.15	4.72	2.61	0.58	2.06
V	105	0.07	4.72	2.56	1.32	1.15	0.06	4.72	2.65	1.33	1.29	0.06	4.69	2.70	1.44	1.29



V	106	0.08	4.70	2.42	1.05	1.19	0.09	4.72	2.49	1.08	1.31	0.13	4.72	2.52	1.16	1.48
V	107	0.07	4.72	2.56	1.32	1.15	0.06	4.72	2.65	1.33	1.29	0.06	4.69	2.70	1.44	1.29
V	108	0.16	4.28	2.92	0.16	2.19	0.16	4.51	2.87	0.15	2.32	0.15	4.72	2.92	0.15	2.33
V	109	0.13	4.51	2.70	0.55	1.72	0.15	4.59	2.63	0.55	1.90	0.15	4.72	2.61	0.58	2.06
V	110	0.08	4.70	2.42	1.05	1.19	0.09	4.72	2.49	1.08	1.31	0.13	4.72	2.52	1.16	1.48
V	111	0.13	4.51	2.70	0.55	1.72	0.15	4.59	2.63	0.55	1.90	0.15	4.72	2.61	0.58	2.06
V	112	0.08	4.70	2.42	1.05	1.19	0.09	4.72	2.49	1.08	1.31	0.13	4.72	2.52	1.16	1.48
V	113	0.16	4.31	2.93	0.44	2.16	0.16	4.51	2.91	0.40	2.23	0.15	4.72	3.01	0.40	2.19
H	114	0.14	4.72	3.14	0.30	2.04	0.12	4.69	3.06	0.24	2.04	0.09	4.64	3.03	0.20	2.03
H	115	0.14	4.72	3.14	0.30	2.04	0.12	4.69	3.06	0.24	2.04	0.09	4.64	3.03	0.20	2.03
H	116	0.14	4.72	3.14	0.30	2.04	0.12	4.69	3.06	0.24	2.04	0.09	4.64	3.03	0.20	2.03
H	117	0.11	4.72	2.22	1.08	0.52	0.10	4.71	2.22	1.05	0.66	0.11	4.56	2.20	1.03	0.83
H	118	0.11	4.72	2.22	1.08	0.52	0.10	4.71	2.22	1.05	0.66	0.11	4.56	2.20	1.03	0.83
H	119	0.11	4.72	2.22	1.08	0.52	0.10	4.71	2.22	1.05	0.66	0.11	4.56	2.20	1.03	0.83
H	120	0.14	4.72	3.14	0.30	2.04	0.12	4.69	3.06	0.24	2.04	0.09	4.64	3.03	0.20	2.03
H	121	0.12	4.72	3.04	0.12	1.94	0.12	4.68	2.95	0.11	1.88	0.10	4.60	2.89	0.10	1.86
H	122	0.12	4.71	2.18	0.71	1.00	0.10	4.72	2.16	0.68	0.93	0.09	4.57	2.11	0.67	0.97
H	123	0.12	4.72	2.55	1.16	0.90	0.12	4.69	2.59	1.15	1.08	0.12	4.58	2.55	1.09	1.27
H	124	0.11	4.72	2.22	1.08	0.52	0.10	4.71	2.22	1.05	0.66	0.11	4.56	2.20	1.03	0.83
H	125	0.12	4.72	2.55	1.16	0.90	0.12	4.69	2.59	1.15	1.08	0.12	4.58	2.55	1.09	1.27
H	126	0.12	4.72	3.04	0.12	1.94	0.12	4.68	2.95	0.11	1.88	0.10	4.60	2.89	0.10	1.86
H	127	0.12	4.71	2.18	0.71	1.00	0.10	4.72	2.16	0.68	0.93	0.09	4.57	2.11	0.67	0.97
H	128	0.11	4.72	2.22	1.08	0.52	0.10	4.71	2.22	1.05	0.66	0.11	4.56	2.20	1.03	0.83
H	129	0.12	4.71	2.18	0.71	1.00	0.10	4.72	2.16	0.68	0.93	0.09	4.57	2.11	0.67	0.97
H	130	0.11	4.72	2.22	1.08	0.52	0.10	4.71	2.22	1.05	0.66	0.11	4.56	2.20	1.03	0.83
H	131	0.14	4.72	3.14	0.30	2.04	0.12	4.69	3.06	0.24	2.04	0.09	4.64	3.03	0.20	2.03
V+H	132	0.23	4.66	3.12	0.68	2.15	0.22	4.64	3.11	0.67	2.14	0.20	4.72	3.08	0.66	2.08
V+H	133	0.25	4.54	3.03	0.40	2.22	0.25	4.60	3.03	0.39	2.21	0.21	4.72	3.04	0.38	2.19
V+H	134	0.25	4.54	3.03	0.40	2.22	0.25	4.60	3.03	0.39	2.21	0.21	4.72	3.04	0.38	2.19
V+H	135	0.12	4.70	2.48	1.15	1.07	0.09	4.72	2.49	1.28	1.07	0.10	4.68	2.46	1.31	1.18
V+H	136	0.12	4.70	2.48	1.15	1.07	0.09	4.72	2.49	1.28	1.07	0.10	4.68	2.46	1.31	1.18
V+H	137	0.12	4.70	2.48	1.15	1.07	0.09	4.72	2.49	1.28	1.07	0.10	4.68	2.46	1.31	1.18
V+H	138	0.25	4.54	3.03	0.40	2.22	0.25	4.60	3.03	0.39	2.21	0.21	4.72	3.04	0.38	2.19
V+H	139	0.25	4.59	3.08	0.18	2.24	0.24	4.66	3.03	0.14	2.21	0.19	4.72	2.98	0.14	2.20
V+H	140	0.15	4.72	2.68	0.68	1.63	0.14	4.66	2.53	0.70	1.64	0.13	4.53	2.41	0.75	1.73
V+H	141	0.14	4.71	2.79	1.43	1.30	0.12	4.66	2.83	1.54	1.37	0.12	4.72	2.83	1.55	1.43
V+H	142	0.12	4.70	2.48	1.15	1.07	0.09	4.72	2.49	1.28	1.07	0.10	4.68	2.46	1.31	1.18
V+H	143	0.14	4.71	2.79	1.43	1.30	0.12	4.66	2.83	1.54	1.37	0.12	4.72	2.83	1.55	1.43
V+H	144	0.25	4.59	3.08	0.18	2.24	0.24	4.66	3.03	0.14	2.21	0.19	4.72	2.98	0.14	2.20
V+H	145	0.15	4.72	2.68	0.68	1.63	0.14	4.66	2.53	0.70	1.64	0.13	4.53	2.41	0.75	1.73
V+H	146	0.12	4.70	2.48	1.15	1.07	0.09	4.72	2.49	1.28	1.07	0.10	4.68	2.46	1.31	1.18
V+H	147	0.15	4.72	2.68	0.68	1.63	0.14	4.66	2.53	0.70	1.64	0.13	4.53	2.41	0.75	1.73
V+H	148	0.12	4.71	2.47	0.86	1.37	0.11	4.72	2.48	0.97	1.40	0.12	4.62	2.44	1.00	1.51
V+H	149	0.18	4.72	3.05	0.53	1.86	0.16	4.52	2.93	0.51	1.89	0.13	4.51	2.77	0.49	1.91
V	150	0.15	4.45	2.73	0.86	1.48	0.15	4.57	2.73	0.77	1.72	0.12	4.72	2.94	0.80	1.87
V	151	0.10	4.54	2.61	0.65	1.51	0.08	4.62	2.63	0.68	1.49	0.08	4.72	2.58	0.70	1.43
H	152	0.09	4.72	2.47	0.70	0.68	0.07	4.67	2.40	0.66	0.73	0.05	4.51	2.40	0.59	0.87
H	153	0.12	4.63	2.77	0.54	1.92	0.12	4.72	2.80	0.60	1.95	0.12	4.72	2.65	0.63	1.83
V+H	154	0.18	4.72	2.88	0.81	1.34	0.15	4.63	2.82	0.74	1.36	0.12	4.60	2.77	0.71	1.47
V+H	155	0.17	4.53	2.63	0.81	1.66	0.17	4.67	2.73	0.88	1.68	0.15	4.72	2.74	0.90	1.64

3.7.3 PD Characterization Table

Combining the information in previous sections, PD characterization table is derived and listed below:

n258				n260				n261			
Pol	Beam ID	Feed No.	Input power limit	Pol	Beam ID	Feed No.	Input power limit	Pol	Beam ID	Feed No.	Input power limit
V	0	5	-0.59	V	0	5	1.09	V	0	5	-2.17
V	1	5	0.00	V	1	5	1.36	V	1	5	-2.34
V	2	5	-0.37	V	2	5	1.01	V	2	5	-2.17
V	3	5	0.40	V	3	5	0.68	V	3	5	-0.85
V	4	5	-0.33	V	4	5	0.83	V	4	5	0.01
V	5	5	-0.26	V	5	5	0.59	V	5	5	-2.07
V	6	5	0.60	V	6	5	1.00	V	6	5	-1.82
V	7	5	-0.18	V	7	5	2.03	V	7	5	-1.35
V	8	5	-0.05	V	8	5	0.85	V	8	5	-0.59
V	9	5	-0.03	V	9	5	1.01	V	9	5	-1.35
V	10	5	0.78	V	10	5	0.66	V	10	5	-0.74
V	11	5	0.33	V	11	5	2.02	V	11	5	-1.59
V	12	5	-1.08	V	12	5	0.59	V	12	5	-1.55
V	13	5	-0.27	V	13	5	0.68	V	13	5	-2.05
V	14	5	0.53	V	14	5	1.41	V	14	5	-0.90
V	15	5	0.34	V	15	5	1.67	V	15	5	-0.81
H	16	5	-0.18	H	16	5	1.28	H	16	5	-2.31
H	17	5	-0.40	H	17	5	0.65	H	17	5	-2.37
H	18	5	-0.28	H	18	5	1.09	H	18	5	-1.70
H	19	5	-0.28	H	19	5	0.57	H	19	5	-0.72
H	20	5	-0.29	H	20	5	1.00	H	20	5	-1.12
H	21	5	-0.45	H	21	5	0.89	H	21	5	-0.94
H	22	5	-0.12	H	22	5	1.97	H	22	5	-2.25
H	23	5	0.12	H	23	5	1.06	H	23	5	-1.14
H	24	5	-1.13	H	24	5	0.73	H	24	5	-0.28
H	25	5	0.58	H	25	5	1.00	H	25	5	-2.50
H	26	5	0.09	H	26	5	1.10	H	26	5	0.54
H	27	5	0.80	H	27	5	0.74	H	27	5	-2.33
H	28	5	-0.18	H	28	5	0.92	H	28	5	-1.16
H	29	5	-0.16	H	29	5	1.91	H	29	5	-1.33
H	30	5	-0.37	H	30	5	1.51	H	30	5	-2.25
H	31	5	-0.46	H	31	5	1.05	H	31	5	-0.53
V+H	32	10	-4.27	V+H	32	10	-2.42	V+H	32	10	-5.53
V+H	33	10	-3.77	V+H	33	10	-2.32	V+H	33	10	-5.58
V+H	34	10	-3.92	V+H	34	10	-2.44	V+H	34	10	-5.09
V+H	35	10	-3.77	V+H	35	10	-3.09	V+H	35	10	-4.77
V+H	36	10	-4.59	V+H	36	10	-2.61	V+H	36	10	-5.26
V+H	37	10	-3.97	V+H	37	10	-2.83	V+H	37	10	-6.50
V+H	38	10	-4.36	V+H	38	10	-2.16	V+H	38	10	-5.51
V+H	39	10	-5.18	V+H	39	10	-1.98	V+H	39	10	-4.80
V+H	40	10	-4.96	V+H	40	10	-2.90	V+H	40	10	-5.30
V+H	41	10	-3.63	V+H	41	10	-2.60	V+H	41	10	-6.49
V+H	42	10	-4.08	V+H	42	10	-2.73	V+H	42	10	-5.46
V+H	43	10	-3.26	V+H	43	10	-1.99	V+H	43	10	-5.54
V+H	44	10	-5.40	V+H	44	10	-3.09	V+H	44	10	-4.67
V+H	45	10	-3.84	V+H	45	10	-2.29	V+H	45	10	-6.45
V+H	46	10	-4.70	V+H	46	10	-1.91	V+H	46	10	-6.21
V+H	47	10	-3.93	V+H	47	10	-1.84	V+H	47	10	-4.70
V	48	4	0.07	V	48	4	1.65	V	48	4	-1.57
V	49	4	0.33	V	49	4	2.26	V	49	4	-1.77



V	50	4	0.26	V	50	4	1.62	V	50	4	-1.26
V	51	4	0.61	V	51	4	1.16	V	51	4	-0.55
V	52	4	0.54	V	52	4	1.31	V	52	4	0.64
V	53	4	0.28	V	53	4	1.28	V	53	4	-1.17
V	54	4	1.09	V	54	4	1.64	V	54	4	-1.14
V	55	4	0.97	V	55	4	2.34	V	55	4	-1.29
V	56	4	0.61	V	56	4	1.07	V	56	4	0.39
V	57	4	0.66	V	57	4	1.84	V	57	4	-0.52
V	58	4	1.09	V	58	4	1.31	V	58	4	0.47
V	59	4	0.69	V	59	4	2.54	V	59	4	-1.08
V	60	4	0.23	V	60	4	1.04	V	60	4	-1.46
V	61	4	0.31	V	61	4	1.45	V	61	4	-1.31
V	62	4	0.95	V	62	4	1.89	V	62	4	-0.10
V	63	4	0.77	V	63	4	2.20	V	63	4	0.47
H	64	4	0.48	H	64	4	1.81	H	64	4	-1.52
H	65	4	0.23	H	65	4	1.59	H	65	4	-1.63
H	66	4	0.65	H	66	4	1.80	H	66	4	-0.70
H	67	4	-0.15	H	67	4	1.10	H	67	4	-0.47
H	68	4	0.70	H	68	4	1.48	H	68	4	-0.22
H	69	4	0.43	H	69	4	1.41	H	69	4	0.04
H	70	4	0.67	H	70	4	2.37	H	70	4	-1.41
H	71	4	1.23	H	71	4	1.76	H	71	4	-0.85
H	72	4	-0.29	H	72	4	1.18	H	72	4	0.37
H	73	4	1.52	H	73	4	1.60	H	73	4	-1.44
H	74	4	0.67	H	74	4	1.48	H	74	4	0.53
H	75	4	1.06	H	75	4	1.59	H	75	4	-1.65
H	76	4	1.23	H	76	4	1.40	H	76	4	-0.85
H	77	4	0.76	H	77	4	1.98	H	77	4	-0.56
H	78	4	0.38	H	78	4	1.62	H	78	4	-1.22
H	79	4	0.07	H	79	4	1.83	H	79	4	-0.34
V+H	80	8	-3.85	V+H	80	8	-1.91	V+H	80	8	-4.89
V+H	81	8	-3.28	V+H	81	8	-1.41	V+H	81	8	-4.93
V+H	82	8	-3.13	V+H	82	8	-1.74	V+H	82	8	-4.06
V+H	83	8	-3.59	V+H	83	8	-2.73	V+H	83	8	-4.00
V+H	84	8	-3.80	V+H	84	8	-2.08	V+H	84	8	-4.29
V+H	85	8	-3.28	V+H	85	8	-2.38	V+H	85	8	-5.46
V+H	86	8	-3.41	V+H	86	8	-1.59	V+H	86	8	-4.97
V+H	87	8	-3.96	V+H	87	8	-1.60	V+H	87	8	-4.39
V+H	88	8	-4.14	V+H	88	8	-2.60	V+H	88	8	-4.17
V+H	89	8	-2.87	V+H	89	8	-1.95	V+H	89	8	-5.35
V+H	90	8	-3.41	V+H	90	8	-2.08	V+H	90	8	-4.04
V+H	91	8	-3.06	V+H	91	8	-1.63	V+H	91	8	-5.06
V+H	92	8	-4.21	V+H	92	8	-2.65	V+H	92	8	-4.33
V+H	93	8	-3.09	V+H	93	8	-1.62	V+H	93	8	-5.60
V+H	94	8	-3.82	V+H	94	8	-1.91	V+H	94	8	-5.16
V+H	95	8	-3.26	V+H	95	8	-1.40	V+H	95	8	-4.64
V	96	2	2.71	V	96	2	4.46	V	96	2	1.13
V	97	2	2.85	V	97	2	4.46	V	97	2	1.12
V	98	2	2.92	V	98	2	4.31	V	98	2	1.12
V	99	2	2.96	V	99	2	3.50	V	99	2	1.86
V	100	2	2.83	V	100	2	3.50	V	100	2	1.86
V	101	2	2.92	V	101	2	3.53	V	101	2	1.86
V	102	2	2.91	V	102	2	3.70	V	102	2	1.12
V	103	2	2.71	V	103	2	3.84	V	103	2	1.17
V	104	2	2.96	V	104	2	3.50	V	104	2	1.66
V	105	2	2.83	V	105	2	3.84	V	105	2	1.68



V	106	2	2.91	V	106	2	3.50	V	106	2	1.86
V	107	2	2.91	V	107	2	4.22	V	107	2	1.68
V	108	2	2.78	V	108	2	3.53	V	108	2	1.17
V	109	2	2.92	V	109	2	3.70	V	109	2	1.66
V	110	2	2.78	V	110	2	3.84	V	110	2	1.86
V	111	2	2.96	V	111	2	3.53	V	111	2	1.66
V	112	2	2.91	V	112	2	4.31	V	112	2	1.86
V	113	2	2.92	V	113	2	3.53	V	113	2	1.12
H	114	2	3.21	H	114	2	3.71	H	114	2	1.23
H	115	2	2.82	H	115	2	3.71	H	115	2	1.23
H	116	2	3.21	H	116	2	3.71	H	116	2	1.23
H	117	2	2.81	H	117	2	3.27	H	117	2	1.49
H	118	2	3.83	H	118	2	3.27	H	118	2	1.49
H	119	2	3.21	H	119	2	3.29	H	119	2	1.49
H	120	2	3.38	H	120	2	3.33	H	120	2	1.23
H	121	2	4.36	H	121	2	3.41	H	121	2	1.27
H	122	2	2.81	H	122	2	3.27	H	122	2	1.54
H	123	2	3.83	H	123	2	3.41	H	123	2	1.27
H	124	2	3.38	H	124	2	3.27	H	124	2	1.49
H	125	2	3.38	H	125	2	3.57	H	125	2	1.27
H	126	2	4.15	H	126	2	3.29	H	126	2	1.27
H	127	2	3.21	H	127	2	3.33	H	127	2	1.54
H	128	2	4.15	H	128	2	3.41	H	128	2	1.49
H	129	2	2.81	H	129	2	3.29	H	129	2	1.54
H	130	2	4.15	H	130	2	3.71	H	130	2	1.49
H	131	2	2.82	H	131	2	3.29	H	131	2	1.23
V+H	132	4	-1.22	V+H	132	4	0.82	V+H	132	4	-2.09
V+H	133	4	-0.48	V+H	133	4	0.90	V+H	133	4	-2.20
V+H	134	4	-0.59	V+H	134	4	0.82	V+H	134	4	-2.20
V+H	135	4	-0.81	V+H	135	4	-0.06	V+H	135	4	-1.91
V+H	136	4	-0.91	V+H	136	4	-0.06	V+H	136	4	-1.91
V+H	137	4	-0.59	V+H	137	4	-0.06	V+H	137	4	-1.91
V+H	138	4	-0.66	V+H	138	4	0.16	V+H	138	4	-2.20
V+H	139	4	-0.87	V+H	139	4	0.16	V+H	139	4	-2.12
V+H	140	4	-0.81	V+H	140	4	-0.06	V+H	140	4	-2.04
V+H	141	4	-0.91	V+H	141	4	0.16	V+H	141	4	-2.00
V+H	142	4	-0.66	V+H	142	4	-0.06	V+H	142	4	-1.91
V+H	143	4	-0.66	V+H	143	4	0.48	V+H	143	4	-2.00
V+H	144	4	-0.53	V+H	144	4	-0.06	V+H	144	4	-2.12
V+H	145	4	-0.59	V+H	145	4	0.16	V+H	145	4	-2.04
V+H	146	4	-0.53	V+H	146	4	0.16	V+H	146	4	-1.91
V+H	147	4	-0.81	V+H	147	4	-0.06	V+H	147	4	-2.04
V+H	148	4	-0.45	V+H	148	4	-0.01	V+H	148	4	-1.91
V+H	149	4	-0.61	V+H	149	4	-0.06	V+H	149	4	-1.93
V	150	1	5.51	V	150	1	6.45	V	150	1	4.65
V	151	1	5.99	V	151	1	7.13	V	151	1	4.08
H	152	1	6.32	H	152	1	5.51	H	152	1	3.63
H	153	1	6.21	H	153	1	7.45	H	153	1	4.70
V+H	154	2	2.00	V+H	154	2	2.67	V+H	154	2	0.80
V+H	155	2	2.43	V+H	155	2	3.54	V+H	155	2	0.87