

APPENDIX 1

SAR Measurement Data

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EXHIBIT 1. HEAD SAR MEASUREMENTS

Head SAR Measurement Summary

Antenna	Power (dBm)	CH	CH. Freq	HEAD SAR1g (W/Kg)	HEAD SAR10g (W/Kg)
			(MHz)	BP-288	BP-288
				2350mAh	2350mAh
FA-B02AR	32.76	1	118	0.254	0.197
	32.63	2	122.75	**	**
	32.62	3	127.5	0.661	0.506
	32.55	4	132.25	**	**
	32.59	5	137	1.2	0.919

FILE NAME: [ICOM-509Q HEAD FA-B02AR 118 MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

Communication System: UID 0, CW (0); Frequency: 118 MHz; Duty Cycle: 1:1
Medium parameters used (extrapolated): $f = 118 \text{ MHz}$; $\sigma = 0.724 \text{ S/m}$; $\epsilon_r = 54.42$; $\rho = 1000 \text{ kg/m}^3$;
Phantom section: Flat Section ; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

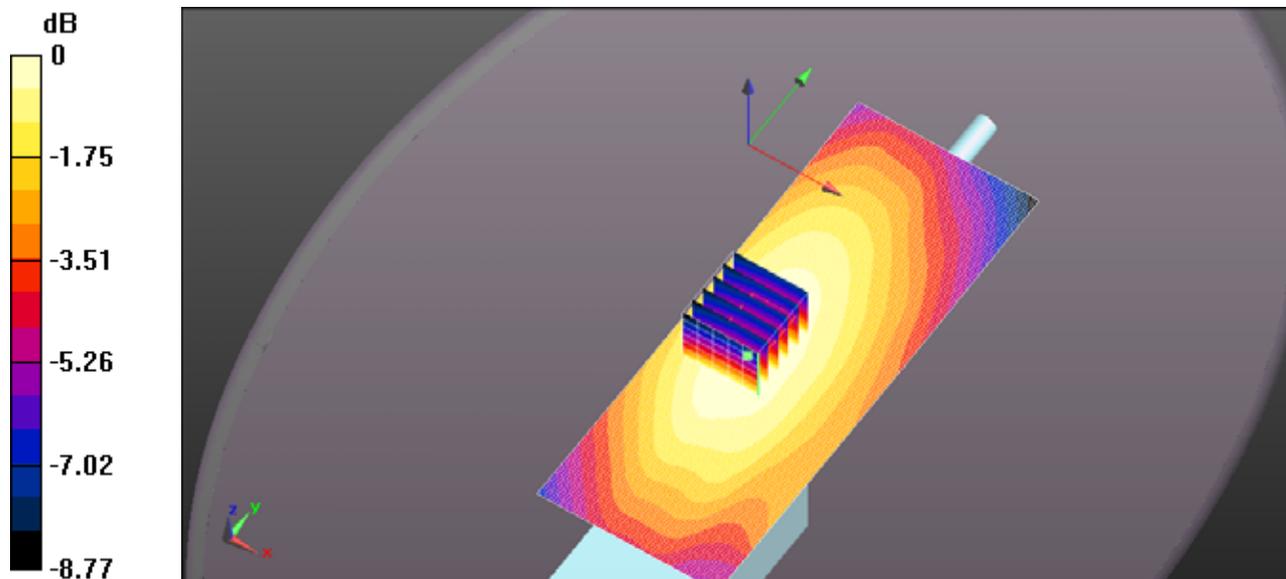
- Probe: EX3DV4 - SN3673; ConvF(10.71, 10.71, 10.71); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Head_IC-A25N/Head Front, P=1.8W, d=25mm/Area Scan (61x161x1):

Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Maximum value of SAR (interpolated) = 0.387 W/kg

Configuration_Head_IC-A25N/Head Front, P=1.8W, d=25mm/Zoom Scan (5x5x7)

(6x6x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 26.31 V/m ; Power Drift = -2.32 dB
Peak SAR (extrapolated) = 0.379 W/kg
SAR(1 g) = 0.254 W/kg ; SAR(10 g) = 0.197 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.324 W/kg



0 dB = $0.387 \text{ W/kg} = -4.13 \text{ dBW/kg}$

FILE NAME: [ICOM-5090 HEAD FA-B02AR 127.5 MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

Communication System: UID 0, CW (0); Frequency: 127.5 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 128$ MHz; $\sigma = 0.734$ S/m; $\epsilon_r = 53.861$; $\rho = 1000$ kg/m³; Phantom section:
Flat Section; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3673; ConvF(10.71, 10.71, 10.71); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Head_IC-A25N/Head Front, P=1.8W, d=25mm/Area Scan (61x131x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Configuration_Head_IC-A25N/Head Front, P=1.8W, d=25mm/Zoom Scan (5x5x7)

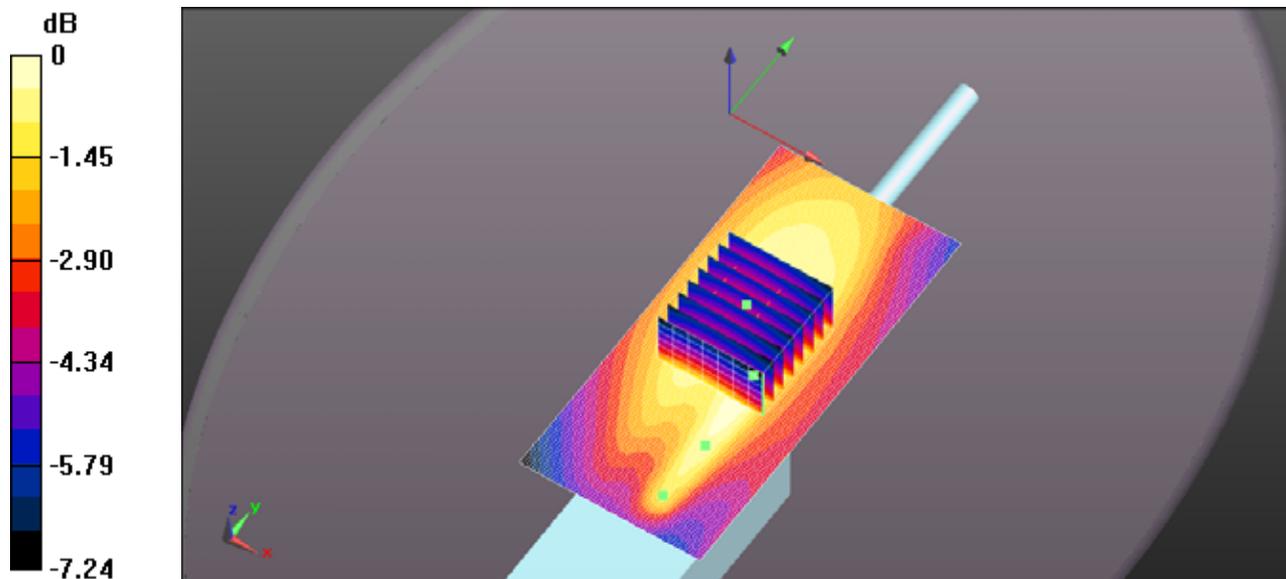
(8x8x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 43.00 V/m; Power Drift = -2.72 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.661 W/kg; SAR(10 g) = 0.506 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.861 W/kg



0 dB = 1.06 W/kg = 0.23 dBW/kg

FILE NAME: [ICOM-509Q HEAD FA-B02AR 137 MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

Communication System: UID 0, CW (0); Frequency: 137 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 137$ MHz; $\sigma = 0.744$ S/m; $\epsilon_r = 53.059$; $\rho = 1000$ kg/m³ ;
Phantom section: Flat Section ; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

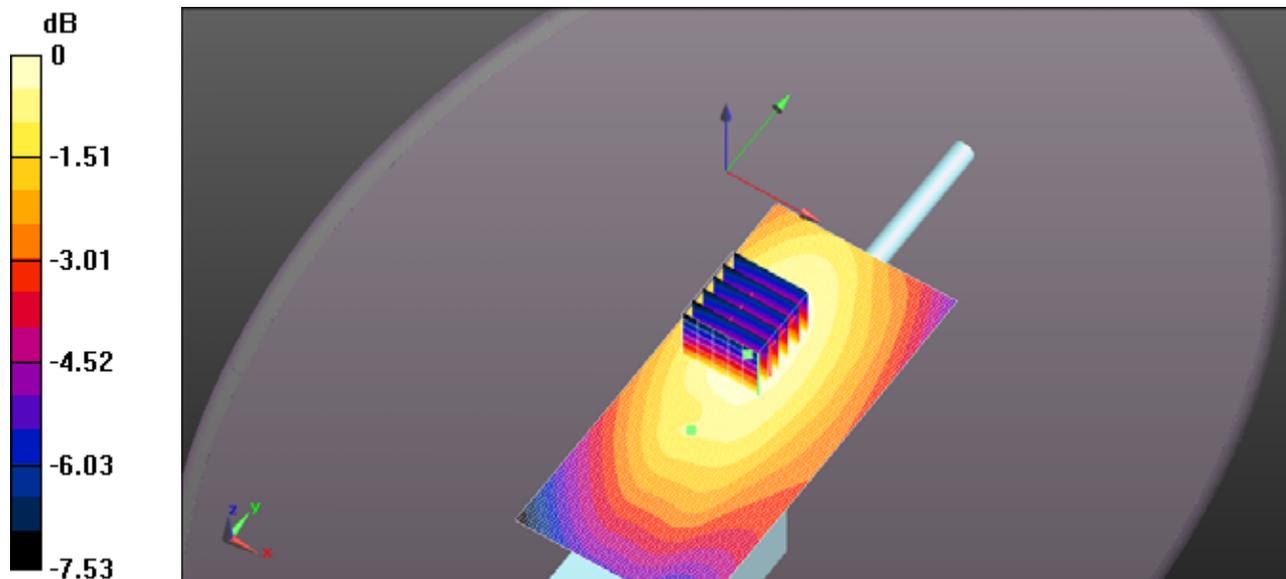
- Probe: EX3DV4 - SN3673; ConvF(10.71, 10.71, 10.71); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Head_IC-A25N/Head Front, P=1.8W, d=25mm/Area Scan (61x131x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.71 W/kg

Configuration_Head_IC-A25N/Head Front, P=1.8W, d=25mm/Zoom Scan (5x5x7)

(6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 55.97 V/m; Power Drift = -2.65 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.919 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.55 W/kg



0 dB = 1.71 W/kg = 2.34 dBW/kg

EXHIBIT 2. **BODY SAR MEASUREMENTS**

PRESCAN MEASUREMENTS

Belt Clip	Antenna	Power (dBm)	CH	CH. Freq (MHz)	BODY SAR1g (W/Kg)	BODY SAR10g (W/Kg)
					BP-288	BP-288
MB-133	FA-B02AR	32.62	3	127.5	0.748	0.577
MB-96N		32.62	3	127.5	0.475	0.371

MB-133 Resulted in the Highest SAR Values.

FILE NAME: [ICOM-509Q BODY PRESCAN MB-133 FA-B02AR 127.5MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

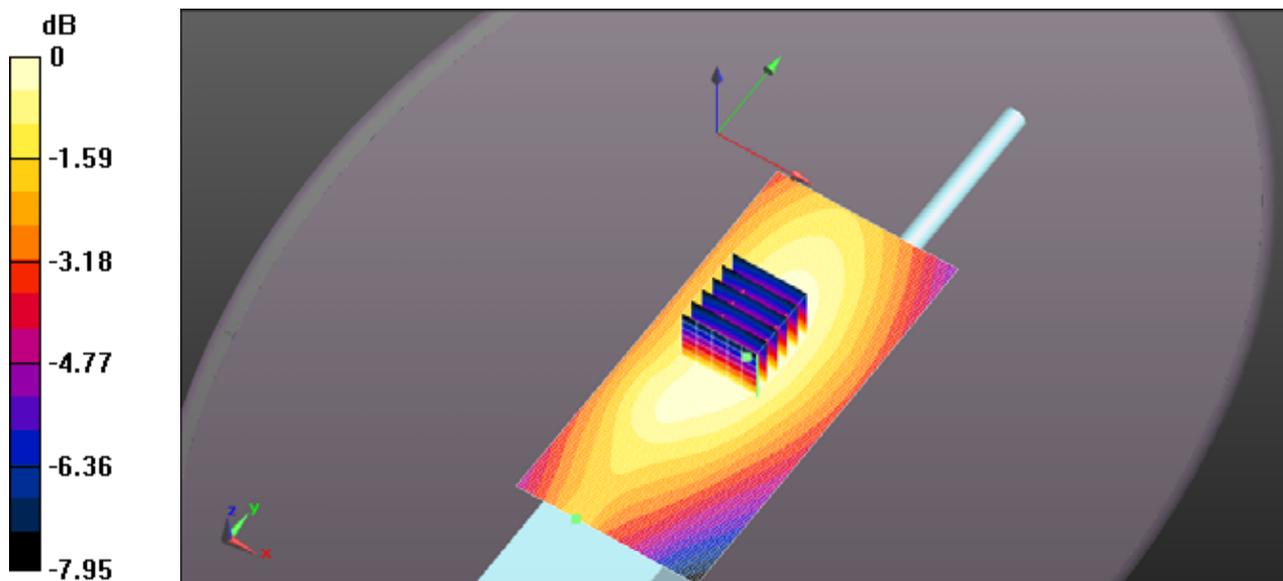
Communication System: UID 0, CW (0); Frequency: 127.5 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 128 \text{ MHz}$; $\sigma = 0.755 \text{ S/m}$; $\epsilon_r = 62.545$; $\rho = 1000 \text{ kg/m}^3$; Phantom section:
Flat Section; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3673; ConvF(10.55, 10.55, 10.55); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Body_IC-A25N/Body Back, d=0mm/Area Scan (61x131x1): Interpolated
grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.949 W/kg

Configuration_Body_IC-A25N/Body Back, d=0mm/Zoom Scan (5x5x7) (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 37.82 V/m; Power Drift = -0.84 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.748 W/kg; SAR(10 g) = 0.577 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.954 W/kg



FILE NAME: [ICOM-509Q BODY PRESCAN MB-96N FA-B02AR 127.5MHZ.DA52:0](#)

DUT: IC-A25N; **Type:** VHF Transceiver; **Serial:** 00000502

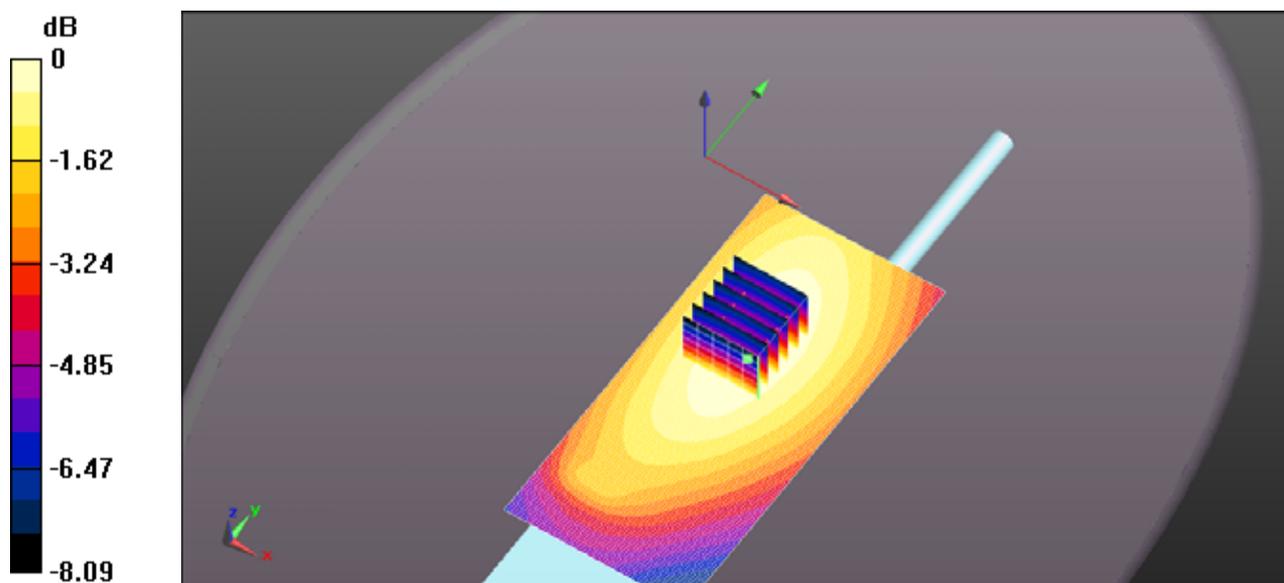
Communication System: UID 0, CW (0); Frequency: 127.5 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 128$ MHz; $\sigma = 0.755$ S/m; $\epsilon_r = 62.545$; $\rho = 1000$ kg/m³; Phantom section:
Flat Section; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3673; ConvF(10.55, 10.55, 10.55); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Body_IC-A25N/Body Back, d=0mm/Area Scan (61x131x1): Interpolated
grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.604 W/kg

Configuration_Body_IC-A25N/Body Back, d=0mm/Zoom Scan (5x5x7) (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 29.22 V/m; Power Drift = -0.83 dB
Peak SAR (extrapolated) = 0.700 W/kg
SAR(1 g) = 0.475 W/kg; SAR(10 g) = 0.371 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.603 W/kg



0 dB = 0.604 W/kg = -2.19 dBW/kg

Final Body SAR Measurements

Antenna	Power (dBm)	CH	CH. Freq	BODY SAR1g (W/Kg)		BODY SAR10g (W/Kg)	
				BP-288	BP-288		
			(MHz)	MB-133	MB-133		
FA-B02AR	32.76	1	118	0.459	0.356		
	32.63	2	122.75	**	**		
	32.62	3	127.5	0.7	0.538		
	32.55	4	132.25	**	**		
	32.59	5	137	0.176	0.134		

FILE NAME: [ICOM-5090 BODY FA-B02AR 118MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

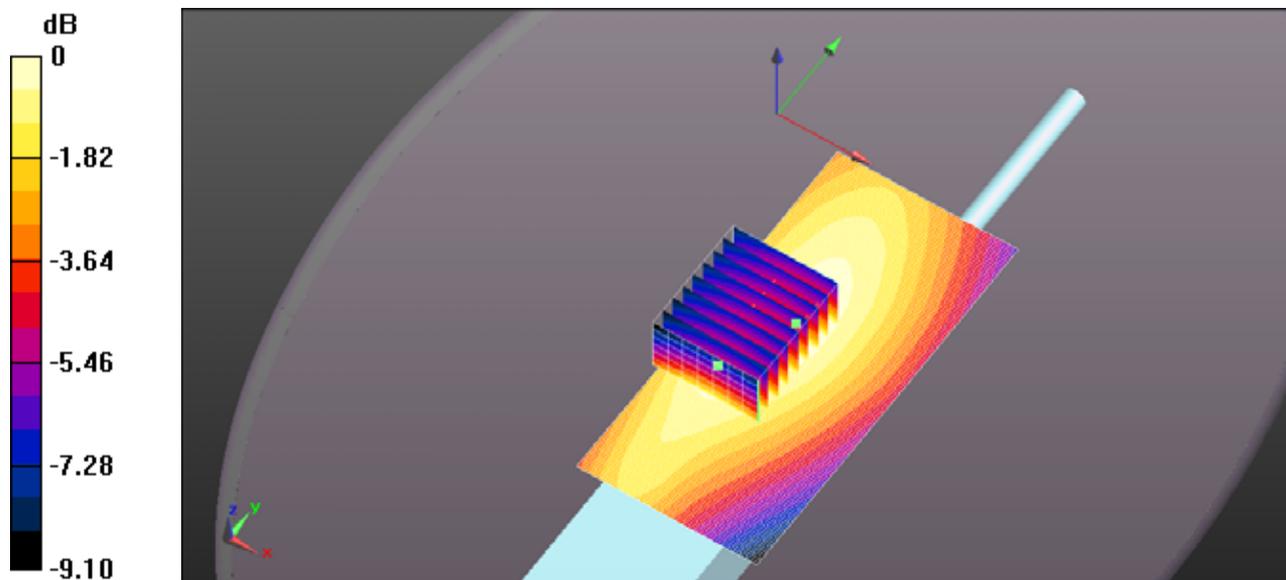
Communication System: UID 0, CW (0); Frequency: 118 MHz; Duty Cycle: 1:1
Medium parameters used (extrapolated): $f = 118 \text{ MHz}$; $\sigma = 0.752 \text{ S/m}$; $\epsilon_r = 62.693$; $\rho = 1000 \text{ kg/m}^3$;
Phantom section: Flat Section ; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3673; ConvF(10.55, 10.55, 10.55); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Body_IC-A25N/Body Back, d=0mm/Area Scan (61x131x1): Interpolated
grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.600 W/kg

Configuration_Body_IC-A25N/Body Back, d=0mm/Zoom Scan (5x5x7) (8x9x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 27.40 V/m; Power Drift = -0.33 dB
Peak SAR (extrapolated) = 0.702 W/kg
SAR(1 g) = 0.459 W/kg; SAR(10 g) = 0.356 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.581 W/kg



FILE NAME: [ICOM-5090 BODY FA-B02AR 127.5MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

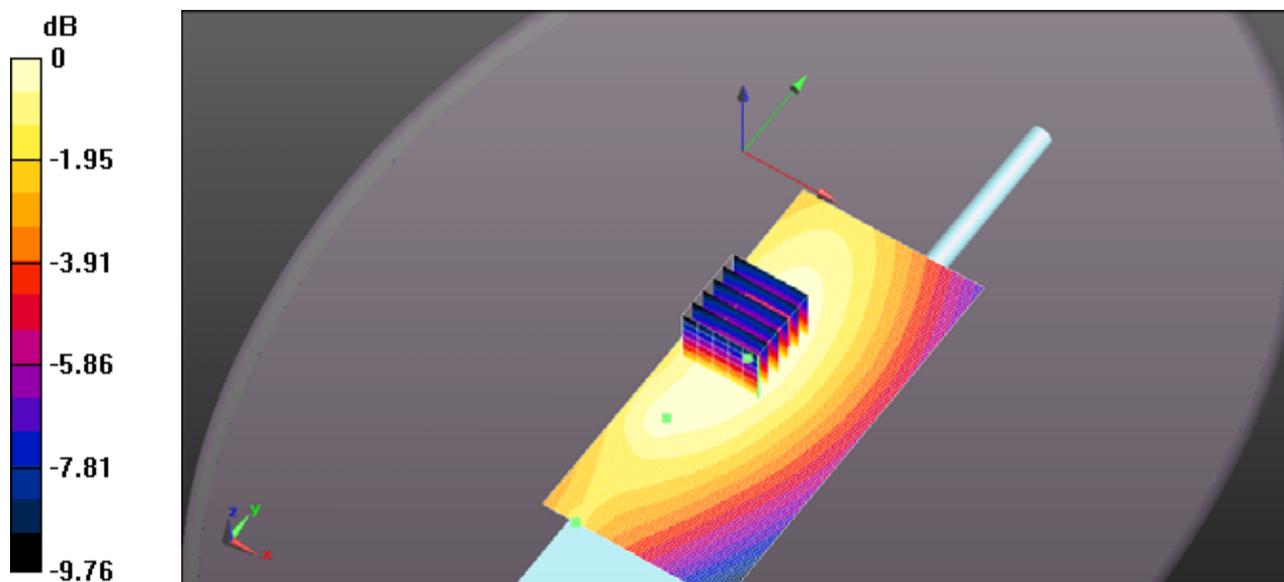
Communication System: UID 0, CW (0); Frequency: 127.5 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 128$ MHz; $\sigma = 0.755$ S/m; $\epsilon_r = 62.545$; $\rho = 1000$ kg/m³; Phantom section:
Flat Section; Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3673; ConvF(10.55, 10.55, 10.55); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASYS 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Body_IC-A25N/Body Back, d=0mm/Area Scan (61x131x1): Interpolated
grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.890 W/kg

Configuration_Body_IC-A25N/Body Back, d=0mm/Zoom Scan (5x5x7) (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 32.92 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.700 W/kg; SAR(10 g) = 0.538 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.895 W/kg



0 dB = 0.890 W/kg = -0.50 dBW/kg

FILE NAME: [ICOM-5090 BODY FA-B02AR 137MHZ.DA52:0](#)

DUT: IC-A25N; Type: VHF Transceiver; Serial: 00000502

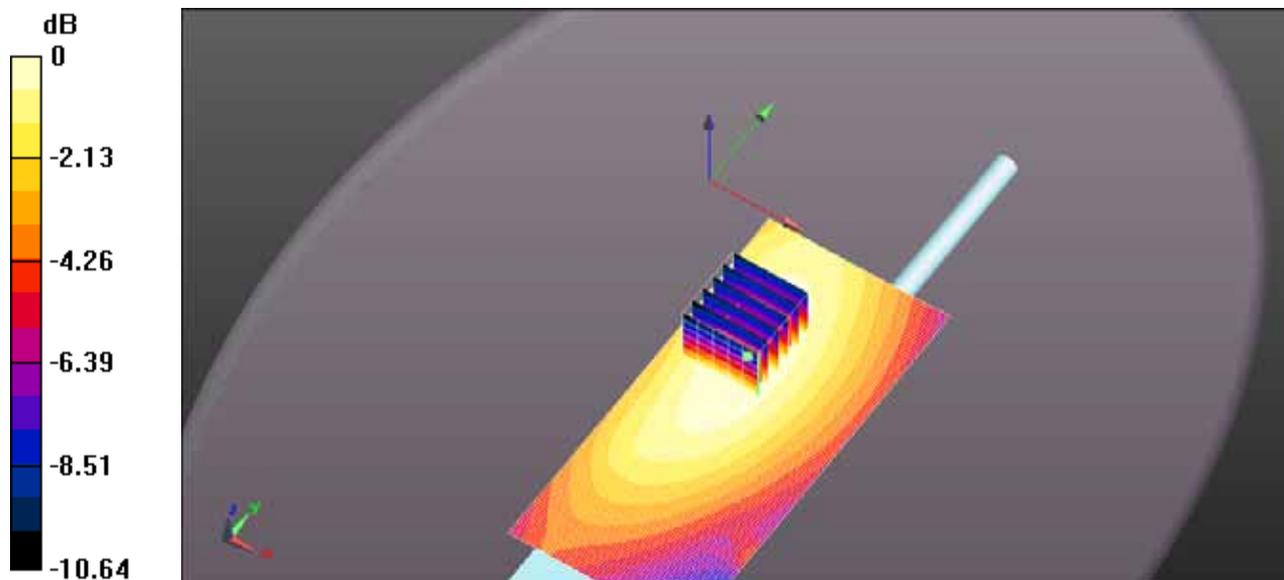
Communication System: UID 0, CW (0); Frequency: 137 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 137$ MHz; $\sigma = 0.76$ S/m; $\epsilon_r = 61.802$; $\rho = 1000$ kg/m³ ;
Phantom section: Flat Section ; Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3673; ConvF(10.55, 10.55, 10.55); Calibrated: 8/23/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn874; Calibrated: 8/14/2018
- Phantom: ELI 4.0; Type: QD OVA 001 BB; Serial: 1057
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Configuration_Body_IC-A25N/Body Back, d=0mm/Area Scan (61x131x1): Interpolated
grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.227 W/kg

Configuration_Body_IC-A25N/Body Back, d=0mm/Zoom Scan (5x5x7) (6x6x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.56 V/m; Power Drift = -0.38 dB
Peak SAR (extrapolated) = 0.262 W/kg
SAR(1 g) = 0.176 W/kg; SAR(10 g) = 0.134 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.225 W/kg



0 dB = 0.227 W/kg = -6.45 dBW/kg