

**MOTOROLA SOLUTIONS****MS ISO/IEC 17025
TESTING
SAMM No.0826****Exhibit 7B: SAR Test Report Photographs****Motorola Solutions Inc****EME Test Laboratory**

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Report Revision History

Date	Revision	Comments
3/06/2018	A	Initial release

1.0 Highest SAR Test Position per body location

1.1 Body

DUT w/ antenna PMAE4003A with offered battery PMNN4098B and body worn kit HLN6602A against the phantom with an audio accessory kit PMMN4013A attached. Same position used for the other applicable offered antennas and batteries (with audio accessory attached).



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
PMAE4003A	10	*21-26	*21-31
NAE6522AR	10	21	23
8505816K24A	10	21	23
PMAE4002A	10	21	25
PMAE4016A	10	*20-25	*15-21

(*) Depending on applicable offered battery

1.2 Face

Front of DUT w/ antenna PMAE4002A with offered battery NNTN4970A separated 2.5cm from the phantom without an audio accessory attached. Same position used for the other applicable offered antennas and batteries (with audio accessory attached).



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
PMAE4003A	30	33	39
NAE6522AR	30	34	37
8505816K24A	30	34	37
PMAE4002A	30	*32-33	*34-39
PMAE4016A	30	33	42

(*) Depending on applicable offered battery

1.3 Head

Not applicable.

1.4 Hand

Not applicable

2.0 Other SAR tested positions at the body

2.1 Body worn

DUT with antenna PMAE4003A with offered battery NNTN4851A, audio PMMN4013A and body worn kit HLN8255B. Same position used for the other applicable offered antenna and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	9	33	39
8505816K24A	9	33	39
PMAE4003A	9	33	*40-44
PMAE4002A	9	33	43
PMAE4016A	9	33	57

(*) Depending on applicable offered battery

DUT with antenna PMAE4003A with offered battery NNTN4497DR, body worn kit HLN9701B w/ NNTN5243A and audio PMMN4013A. Same position used with offered antenna, audio and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	10	40	49
8505816K24A	10	40	48
PMAE4003A	10	*38-45	*49-60
PMAE4002A	10	38	54
PMAE4016A	10	45	73

(*) Depending on applicable offered battery

DUT with antenna PMAE4003A with offered battery PMNN4072A, body worn kit RLN4570A and audio PMMN4013A .Same position used with offered antenna, audio and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	0	20	23
8505816K24A	0	20	23
PMAE4003A	0	*17-25	*20-30
PMAE4002A	0	*17-25	*20-30
PMAE4016A	0	*19-25	*19-25

(*) Depending on applicable offered battery

DUT with antenna PMAE4003A with offered battery NNTN4851A, body worn kit RLN4815A and audio PMMN4013A .Same position used with offered antenna, audio and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	12	40	42
8505816K24A	12	40	45
PMAE4003A	*11-13	*40-44	*46-53
PMAE4002A	12	40	49
PMAE4016A	12	40	59

(*) Depending on applicable offered battery

DUT with antenna PMAE4003A with offered battery PMNN4098A, body worn kit RLN5383A w/ NTN5243A and audio PMMN4013A .Same position used with offered antenna, audio and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	10	55	70
8505816K24A	10	55	74
PMAE4003A	10	*55-60	*73-86
PMAE4002A	10	55	80
PMAE4016A	10	55	110

(*) Depending on applicable offered battery

DUT with antenna PMAE4003A with offered battery NNTN4851A, body worn kit RLN5385B w/ NTN5243A and audio PMMN4013A .Same position used with offered antenna, audio and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	0	50	66
8505816K24A	0	50	69
PMAE4003A	0	*48-55	*69-78
PMAE4002A	0	51	69
PMAE4016A	0	52	99

(*) Depending on applicable offered battery

DUT with antenna PMAE4003A with offered battery PMNN4072A, body worn kit RLN5644A and audio PMMN4013A .Same position used with offered antenna, audio and battery accessories.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAE6522AR	4	35	44
8505816K24A	4	34	47
PMAE4003A	*3-4	*31-38	*44-48
PMAE4002A	4	34	48
PMAE4016A	4	35	71

(*) Depending on applicable offered battery

2.2 Front Side against phantom

Not applicable.

2.3 Back side against phantom

Not applicable.

2.4 Front 2.5cm separation

Not applicable

2.5 Antenna 2.5cm separation

Not applicable

2.6 Back 2.5cm separation

Not applicable

3.0 Other SAR tested positions at the face

- 3.1 Back of DUT at 2.5cm separation**
Not applicable.

4.0 Other SAR tested positions at the head

- 4.1 Left ear touch**
Not applicable.

- 4.2 Left ear tilt**
Not applicable.

- 4.3 Right ear touch**
Not applicable.

- 4.4 Right ear tilt**
Not applicable.

5.0 Other SAR tested positions at the hand

- 5.1 Left side**
Not applicable.

- 5.2 Right side**
Not applicable.

- 5.3 Top side**
Not applicable.

- 5.4 Bottom side**
Not applicable.

- 5.5 Back side**
Not applicable.

6.0 DUT and Accessory Photos

The purpose of these photos is to illustrate the tested accessories. Refer to Part 1 of 2, section 7.0 for additional details on the offered accessories.

6.1 Antenna dimension and photo(s):

Antenna Kit #	Physical Length (mm)	Electrical Length
PMAE4016A	170	¼ wave
PMAE4003A	90	¼ wave
PMAE4002A	90	¼ wave
NAE6522AR	75	¼ wave
8505816K24A	80	¼ wave



Left to Right: NAE6522AR, 8505816K24A, PMAE4003A, PMAE4002A, PMAE4016A

6.2 Body worn accessories



Front View Chest Pack

HLN6602A



Front View Chest Pack

RLN4570A

HLN9701B



Front View



Back View



Side View

RLN5383A



Front View



Back View



Side View

RLN5385B



Front View



Back View



Side View

Belt Clip RLN5644A



Back View



Side View

Belt Clip HLN8255B



Back View



Side View

NTN5243A



RLN4815A



6.3 Battery accessories:



NNTN4497DR
FRONT, SIDE AND BACK VIEW



NNTN4851A
FRONT, SIDE AND BACK VIEW



NNTN4970A
FRONT, SIDE AND BACK VIEW



PMNN4072A
FRONT, SIDE AND BACK VIEW



PMNN4098A
FRONT, SIDE AND BACK VIEW



PMNN4251AR
FRONT, SIDE AND BACK VIEW



PMNN4253AR
FRONT, SIDE AND BACK VIEW



**PMNN4254AR
FRONT, SIDE AND BACK VIEW**



**PMNN4258AR
FRONT, SIDE AND BACK VIEW**



**PMNN4259AR
FRONT, SIDE AND BACK VIEW**



**PMNN4458BR
FRONT, SIDE AND BACK VIEW**



**PMNN4450AR
FRONT, SIDE AND BACK VIEW**

6.4 Audio accessories:



PMLN6530A



PMLN6531A



PMLN6537A



PMLN6540A



PMLN6539A



PMLN6541A



PMMN4013A



PMLN6538A



PMMN4092A

6.5 DUT Dimensions

	Height (mm)	Width (mm)	Depth (mm)
Radio only (w/o battery)	127	62	35
Radio with battery NNTN4497DR	127	62	44
Radio with battery NNTN4851A	127	62	42
Radio with battery NNTN4970A	127	62	41
Radio with battery PMNN4072A	127	62	41
Radio with battery PMNN4098A	127	62	42
Radio with battery PMNN4251AR	127	62	44
Radio with battery PMNN4253AR	127	62	41
Radio with battery PMNN4254AR	127	62	44
Radio with battery PMNN4258AR	127	62	44
Radio with battery PMNN4259AR	127	62	44
Radio with battery PMNN4458BR	127	62	44
Radio with battery PMNN4450AR	127	62	44

For illustration purposes only - the following figure reflects the location of the device's dimensions.



Note: H = Height; W = Width; D = Depth

$W1 = (\text{Width @ Top}) / (\text{Width @ PTT})$

$D2 = (\text{Depth @ Bottom}) / (\text{Depth @ PTT})$