

ANT SB B1 with sensor, Free Space

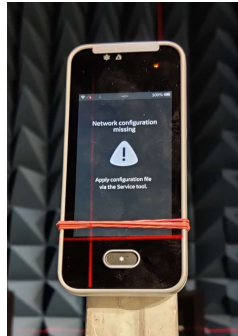


ANT SB with sensor, Body Normal

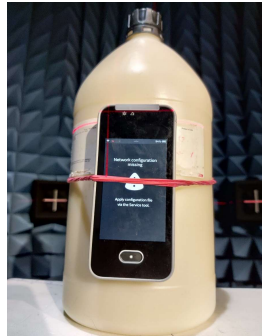
(Old picture, same setup but without cable in this measurement)



ANT HUB A1, Free Space



ANT HUB A1, Body Normal



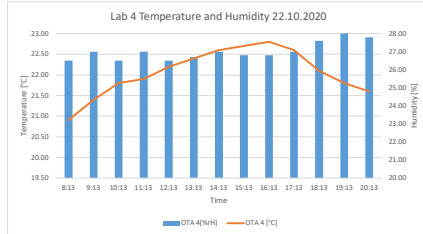
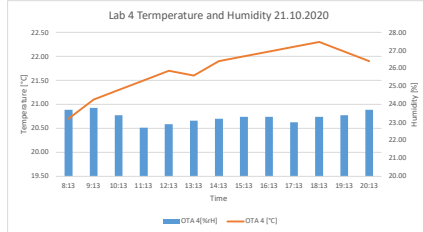
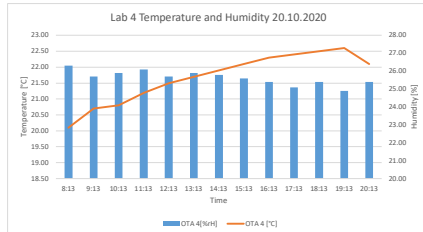
Instrument name: OTA 4		9.11.2020 9:33:47			
	Minimum	Maximum	Mean value	Limit values	
OTA 4 [°C]	19,1	23,9	21,068	10,0/27,0	
OTA 4 [%RH]	22,7	52,3	34,416	10,0/70,0	

37307382
OTA 4 chamber temperature & humidity logger

id	Date	Time	OTA 4 [°C]	OTA 4[%RH]
309	20.10.2020	08:13:00	20.10	26.30
310	20.10.2020	09:13:00	20.70	25.70
311	20.10.2020	10:13:00	20.80	25.90
312	20.10.2020	11:13:00	21.20	26.10
313	20.10.2020	12:13:00	21.50	25.70
314	20.10.2020	13:13:00	21.70	25.90
315	20.10.2020	14:13:00	21.90	25.80
316	20.10.2020	15:13:00	22.10	25.60
317	20.10.2020	16:13:00	22.30	25.40
318	20.10.2020	17:13:00	22.40	25.10
319	20.10.2020	18:13:00	22.50	25.40
320	20.10.2020	19:13:00	22.60	24.90
321	20.10.2020	20:13:00	22.10	25.40
Average			21.68	25.63

		OTA 4 [°C]		OTA 4[%RH]	
333	21.10.2020	08:13:00	20.70	23.70	
334	21.10.2020	09:13:00	21.10	23.80	
335	21.10.2020	10:13:00	21.30	23.40	
336	21.10.2020	11:13:00	21.50	22.70	
337	21.10.2020	12:13:00	21.70	22.90	
338	21.10.2020	13:13:00	21.60	23.10	
339	21.10.2020	14:13:00	21.90	23.20	
340	21.10.2020	15:13:00	22.00	23.30	
341	21.10.2020	16:13:00	22.10	23.30	
342	21.10.2020	17:13:00	22.20	23.00	
343	21.10.2020	18:13:00	22.30	23.30	
344	21.10.2020	19:13:00	22.10	23.40	
345	21.10.2020	20:13:00	21.90	23.70	
Average			21.72	23.29	

		OTA 4 [°C]		OTA 4[%RH]	
357	22.10.2020	08:13:00	20.90	26.50	
358	22.10.2020	09:13:00	21.40	27.00	
359	22.10.2020	10:13:00	21.80	26.50	
360	22.10.2020	11:13:00	21.90	27.00	
361	22.10.2020	12:13:00	22.20	26.50	
362	22.10.2020	13:13:00	22.40	26.70	
363	22.10.2020	14:13:00	22.60	27.00	
364	22.10.2020	15:13:00	22.70	26.80	
365	22.10.2020	16:13:00	22.80	26.80	
366	22.10.2020	17:13:00	22.60	27.00	
367	22.10.2020	18:13:00	22.10	27.60	
368	22.10.2020	19:13:00	21.80	28.00	
369	22.10.2020	20:13:00	21.60	27.80	
Average			22.06	27.02	



Test Equipment

Main used test equipment are listed below. For full equipment list and calibration intervals, please contact the testing laboratory.

Type of Equipment	Type	Manufacturer
Diagonal Dual Polarized Horn Measurement Antenna	114960	ETS
Positioner Controller	2090	EMCO
3D Positioner	Custom Made	ETS-Lindgren
Switching System	MSN-6TD-06-DEC-SP	American Microwave
Switching System	SW6AD-A61	Pulsar
Anechoic Chamber	4	ETS-Lindgren
Power meter	NRP-221	Rohde & Schwarz
Signal Analyzer	MS2692A	Anritsu

Two polarizations (Hor&Ver) measured

Measured MBAN Channels:

Channel 0	2362 MHz
Channel 11	2390.2 MHz
Channel 13	2395.4 MHz
Channel 15	2402 MHz
Channel 31	2443 MHz
Channel 46	2481.5 MHz
Channel 47	2485.5 MHz
Channel 52	2498 MHz

Measured WLAN Channels:

WLAN 2.4 GHz	Channel 1	2412 MHz
	Channel 6	2437 MHz
	Channel 11	2462 MHz
	Channel 13	2472 MHz
WLAN 5 GHz	Channel 36	5180 MHz
	Channel 48	5240 MHz
	Channel 64	5320 MHz
	Channel 100	5500 MHz
	Channel 108	5540 MHz
	Channel 116	5580 MHz
	Channel 128	5640 MHz
	Channel 140	5700 MHz
	Channel 153	5765 MHz
	Channel 165	5825 MHz

22.10.

WLAN 2.4GHz

ANT HUB A1, Top Antenna

Channel	CH 1	CH 6	CH 11	CH 13
Frequency	2412MHz	2437MHz	2462MHz	2472MHz
EIRP Tot	14.64	18.48	15.46	18.22
EIRP H	13.33	16.60	11.68	14.94
EIRP V	14.19	17.91	15.35	18.14
TRP	9.85	12.08	9.63	12.18

ANT HUB A2, Top Antenna

Channel	CH 1	CH 6	CH 11	CH 13
Frequency	2412MHz	2437MHz	2462MHz	2472MHz
EIRP Tot	12.12	-	-	15.78
EIRP H	10.50	-	-	12.73
EIRP V	11.22	-	-	15.75
TRP	4.29	-	-	8.85

ANT HUB A1, Top Antenna, Body Normal

Channel	CH 1	CH 6	CH 11	CH 13
Frequency	2412MHz	2437MHz	2462MHz	2472MHz
EIRP Tot	12.67	-	-	16.94
EIRP H	10.16	-	-	15.92
EIRP V	9.10	-	-	12.23
TRP	6.367	-	-	9.27

ANT HUB A1, Top Antenna, Body Flipped

Channel	CH 1	CH 6	CH 11	CH 13
Frequency	2412MHz	2437MHz	2462MHz	2472MHz
EIRP Tot	13.07	-	-	15.98
EIRP H	11.63	-	-	14.19
EIRP V	9.61	-	-	13.027
TRP	6.61	-	-	9.37

WLAN 5GHz

ANT HUB A1, Top Antenna

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	12.67	13.99	-	12.96	16.69	18.95	18.83	-	18.09	-	14.97	20.53	16.39
EIRP H	9.39	10.47	-	8.91	12.47	14.65	14.69	-	14.15	-	11.87	17.91	14.39
EIRP V	11.24	12.26	-	11.19	15.00	17.24	17.60	-	16.19	-	12.91	18.41	13.27
TRP	6.96	7.78	-	6.29	9.00	10.99	10.65	-	10.15	-	6.82	12.16	8.38

ANT HUB A2, Top Antenna

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	12.22	-	-	-	-	-	-	-	-	-	-	-	15.80
EIRP H	8.53	-	-	-	-	-	-	-	-	-	-	-	13.60
EIRP V	11.41	-	-	-	-	-	-	-	-	-	-	-	15.80
TRP	6.46	-	-	-	-	-	-	-	-	-	-	-	8.30

ANT HUB A1, Bottom Antenna

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	14.06	13.82	-	11.55	14.02	15.52	14.90	-	15.35	-	10.82	17.49	13.53
EIRP H	12.06	12.97	-	11.19	13.85	15.09	14.75	-	15.24	-	10.53	17.41	13.35
EIRP V	12.87	12.87	-	9.20	11.43	14.21	13.98	-	14.65	-	9.82	15.37	11.92
TRP	8.82	9.19	-	6.60	8.84	10.89	10.35	-	10.36	-	6.05	11.33	7.81

ANT HUB A2, Bottom Antenna

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	12.81	-	-	-	-	-	-	-	-	-	-	-	12.45
EIRP H	11.64	-	-	-	-	-	-	-	-	-	-	-	12.28
EIRP V	11.98	-	-	-	-	-	-	-	-	-	-	-	10.51
TRP	7.91	-	-	-	-	-	-	-	-	-	-	-	7.04

ANT HUB A1, Top Antenna, Body Normal

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	11.63	-	-	-	14.12	-	-	-	-	-	-	-	14.08
EIRP H	10.88	-	-	-	12.82	-	-	-	-	-	-	-	13.71
EIRP V	9.90	-	-	-	11.96	-	-	-	-	-	-	-	11.68
TRP	5.07	-	-	-	7.14	-	-	-	-	-	-	-	6.44

ANT HUB A1, Top Antenna, Body Flipped

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	13.71	-	-	-	16.40	-	-	-	-	-	-	-	15.31
EIRP H	9.88	-	-	-	13.69	-	-	-	-	-	-	-	14.63
EIRP V	12.10	-	-	-	13.57	-	-	-	-	-	-	-	13.89
TRP	5.09	-	-	-	7.41	-	-	-	-	-	-	-	6.36

ANT HUB A1, Bottom Antenna, Body Normal

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	14.50	-	-	-	12.49	-	-	-	-	-	-	-	13.15
EIRP H	13.71	-	-	-	12.13	-	-	-	-	-	-	-	11.99
EIRP V	10.77	-	-	-	8.80	-	-	-	-	-	-	-	11.16
TRP	7.43	-	-	-	6.50	-	-	-	-	-	-	-	6.09

ANT HUB A1, Bottom Antenna, Body Flipped

Channel	CH 36	CH 48	CH 56	CH 64	CH 100	CH 108	CH 116	CH 124	CH 128	CH 132	CH 140	CH 153	CH 165
Frequency	5180MHz	5240MHz	5280MHz	5320MHz	5500MHz	5540MHz	5580MHz	5620MHz	5640 MHz	5660MHz	5700MHz	5765MHz	5825MHz
EIRP Tot	14.40	-	-	-	13.60	-	-	-	-	-	-	-	14.16
EIRP H	11.96	-	-	-	12.94	-	-	-	-	-	-	-	13.55
EIRP V	11.88	-	-	-	10.22	-	-	-	-	-	-	-	10.80
TRP	6.85	-	-	-	7.26	-	-	-	-	-	-	-	6.14

Duty cycle

On	0	5.47 ms	5.47	0.241
Off	5.47	5.711 ms	5.711	0.957801
			0.94	-0.187 dB
				-0.269