ANTENNA UNDER TEST (AUT) REPORT

For the

eero Model V010001

Wi-Fi Router/Access Point

FCC ID 2AEM4-711917312

IC ID: 20631-711917312

Version	Date	Author	Description
A	9/8/2023	C. Clarke	Release for FCC filing. Incorporated all prior review feedback.

The eero Model V010001 uses custom designed antennas.

Antenna locations and construction details can be found in the Antenna Test Report Photographs exhibit.

Summary Characteristics of each antenna are given in the table below:

Antenna	**Frequency Range**	**Max Gain (dBi)**
ANT1	5 GHz WLAN CH0 5150-5850 MHz	
	UNII-1	3.82
	UNII-2A	3.21
	UNII-2C	3.36
	UNII-3	3.27
ANT2	2.4 GHz WLAN CH0 2400-2483.5 MHz	4.19
ANT3	6 GHz WLAN CH0 5925-7125 MHz	
	UNII-5	4.62
	UNII-6	5.80
	UNII-7	5.87
	UNII-8	4.37
ANT4	5 GHz WLAN CH1 5150-5850 MHz	
	UNII-1	3.91
	UNII-2A	4.32
	UNII-2C	3.89
	UNII-3	3.72
ANT5	6 GHz WLAN CH1 5925-7125 MHz	
	UNII-5	5.29
	UNII-6	4.05
	UNII-7	4.83
	UNII-8	4.40
ANT6	5 GHz WLAN CH2 5150-5850 MHz	
	UNII-1	3.29
	UNII-2A	3.05
	UNII-2C	3.88
	UNII-3	4.16

ANT7	2.4 GHz WLAN CH1 2400-2483.5 MHz	3.36
ANT8	6 GHz WLAN CH2 5925-7125 MHz	
	UNII-5	5.02
	UNII-6	5.64
	UNII-7	5.34
	UNII-8	4.62
ANT9	5 GHz WLAN CH3 5150-5850 MHz	
	UNII-1	4.47
	UNII-2A	4.30
	UNII-2C	3.20
	UNII-3	3.28
ANT10	6 GHz WLAN CH3 5925-7125 MHz	
	UNII-5	5.54
	UNII-6	3.62
	UNII-7	3.75
	UNII-8	3.53
ANT11	2.4 GHz; BLE/802.15.4 2402-2480 MHz	4.90

Summary Antenna Gains

Calculated per KDB 662911 with no unintentional Beamforming and with $N_{ANT} < 5$

2.4 GHz Wi-Fi	3.80
UNII-1	3.89
UNII-2A	3.76
UNII-2C	3.59
UNII-3	3.62
UNII-5	5.13
UNII-6	4.88
UNII-7	5.02
UNII-8	4.35

2.4 GHz; BLE/802.15.4	4.90

eero Model V010001 Antenna Data Test Report

Test Date: May 15, 2023

Location: Data collection performed at Luxshare Antenna Group;

Luxshare Precision Industry Co., LTD

Wireless Communications BU

No. 158 Jinchang Road, Jinxi Town

+86 138-1721-3541

Technician: Xingyu Guo

Supervisor: Justin Fu

Luxshare test equipment

GTS Rayzone2800 Anechoic Chamber

3x3x3 m^3 chamber size

Passive Measurements 600-8500 MHz

Keysight E5063A Spectrum Analyzer

Test software– GTS MaxSign

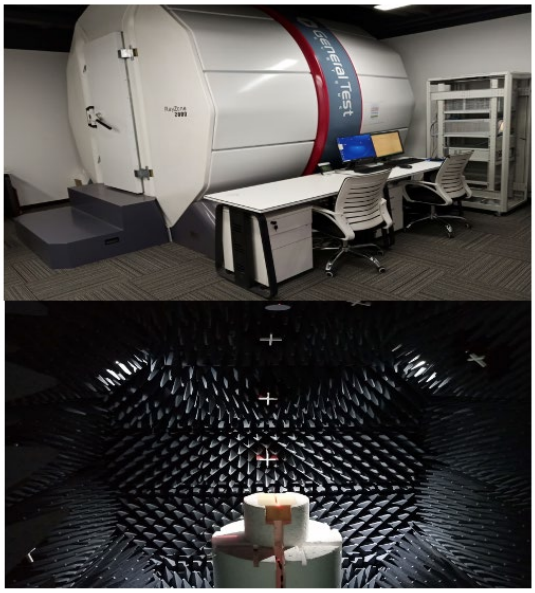


Figure 1. GTS Rayzone2800 Anechoic Chamber

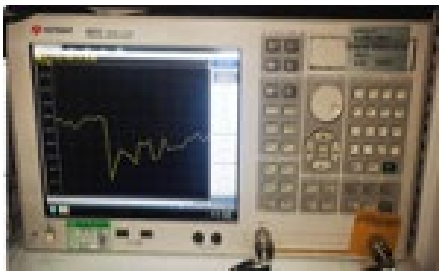


Figure 2. Keysight E5071C Network Analyzer

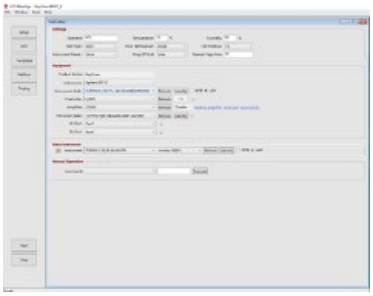


Figure 3. GTS MaxSign

Table 1. Equipment and Calibrations Dates

Equipment	Calibration Date
Rayzone2800	2023/02/09
Keysight 5071C	2023/01/13

1. Setup

Device Under Test is placed in chamber in the Chamber. DUT is categorized as “tabletop” and has only one allowed orientation, with the major axis vertical.

Software settings are confirmed and testing is performed (See measurement data).

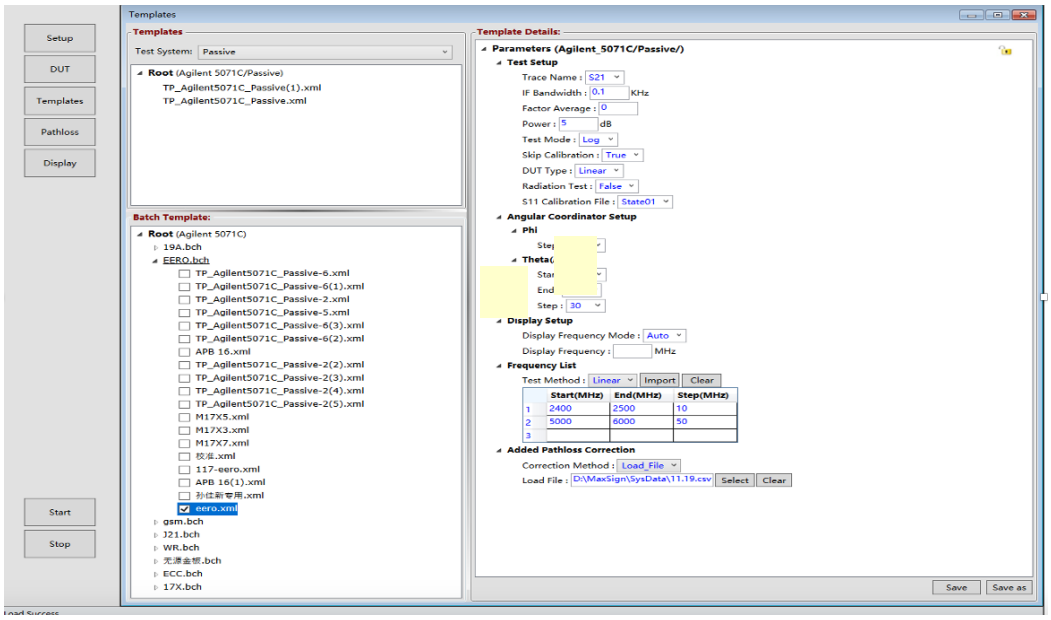


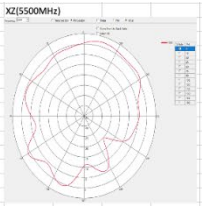
Figure 5. Test software settings

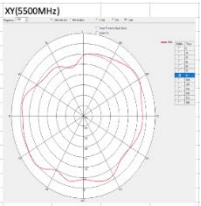
1. Measurement Data

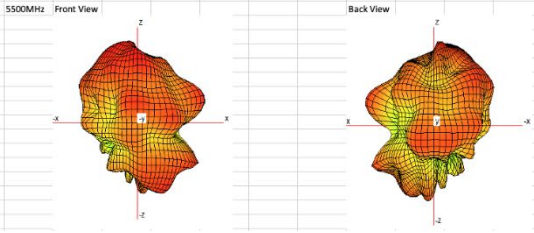
Antenna 1 – 5 GHz WLAN CH0 5150-5850 MHz

ANT1

Frequency	Efficiency	Gain
5000	62%	2.45
5050	64%	2.57
5100	69%	3.06
5150	66%	3.46
5200	66%	3.82
5250	63%	3.08
5300	61%	3.21
5350	61%	3.10
5400	62%	3.21
5450	68%	3.36
5500	65%	3.22
5550	70%	3.48
5600	73%	3.54
5650	71%	3.12
5700	69%	3.22
5750	68%	3.26
5800	61%	3.08
5850	57%	3.27
5900	54%	2.66
5950	55%	2.99
6000	49%	2.81



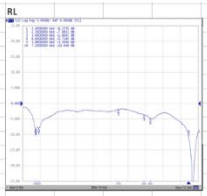


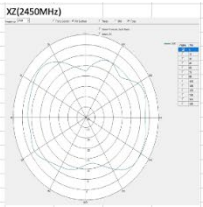


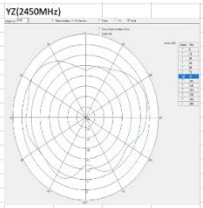
Antenna 2 – 2.4 GHz WLAN CH0 2400-2483.5 MHz

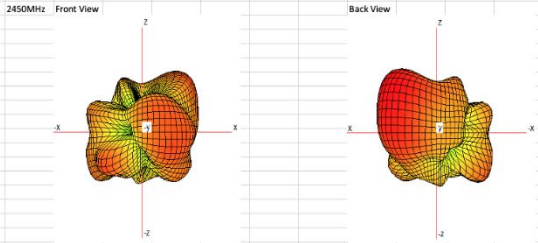
ANT2

Frequency	Efficiency	Gain
2400	52%	2.37
2410	58%	2.92
2420	62%	3.35
2430	63%	3.56
2440	60%	3.50
2450	61%	3.68
2460	60%	3.79
2470	60%	4.19
2480	62%	4.63
2490	64%	4.94
2500	65%	5.11





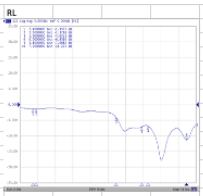


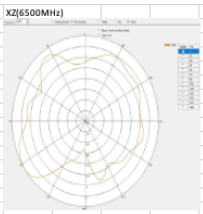


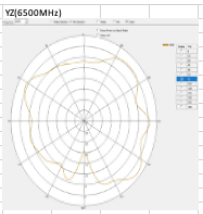
Antenna 3 – 6 GHz WLAN CH0 5925-7125 MHz

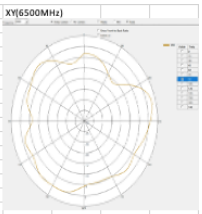
ANT3

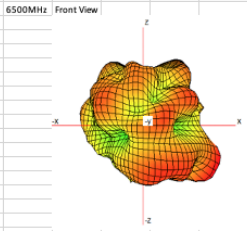
Frequency	Efficiency	Gain
5800	64%	3.65
5850	65%	3.12
5900	63%	3.38
5950	67%	3.98
6000	62%	4.02
6050	64%	4.25
6100	67%	4.76
6150	71%	4.62
6200	71%	4.78
6250	70%	4.77
6300	76%	5.21
6350	75%	5.64
6400	76%	5.80
6450	77%	5.94
6500	72%	5.76
6550	72%	5.81
6600	71%	5.58
6650	72%	5.87
6700	70%	5.74
6750	68%	5.44
6800	70%	5.41
6850	65%	4.73
6900	61%	4.23
6950	54%	3.63
7000	56%	3.88
7050	56%	3.77
7100	61%	4.26
7150	63%	4.69
7200	63%	4.32

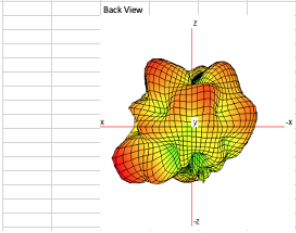








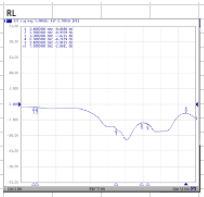


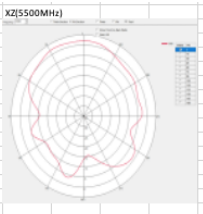


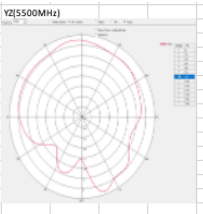
Antenna 4 – 5 GHz WLAN CH1 5150-5850 MHz

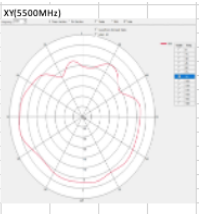
ANT4

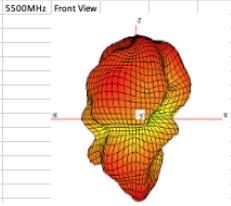
Frequency	Efficiency	Gain
5000	57%	3.21
5050	62%	2.72
5100	70%	3.41
5150	68%	3.30
5200	72%	3.91
5250	73%	3.68
5300	73%	4.32
5350	70%	4.46
5400	68%	4.22
5450	67%	3.89
5500	60%	2.85
5550	60%	2.68
5600	60%	2.66
5650	57%	2.66
5700	58%	3.11
5750	59%	3.55
5800	57%	3.03
5850	57%	3.72
5900	57%	4.32
5950	60%	4.92
6000	56%	4.18

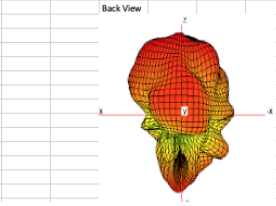








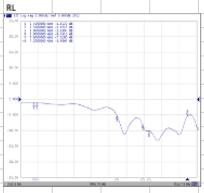


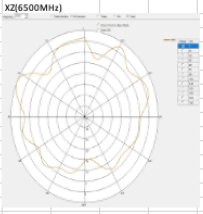


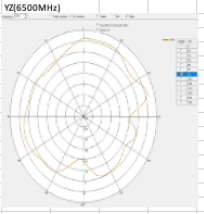
Antenna 5 – 6 GHz WLAN CH1 5925-7125 MHz

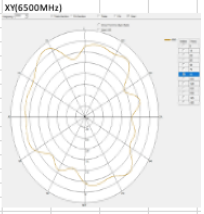
ANT5

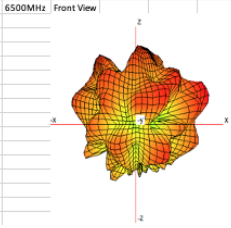
Frequency	Efficiency	Gain
5800	58%	3.66
5850	63%	4.47
5900	66%	4.79
5950	74%	4.92
6000	72%	4.79
6050	76%	5.50
6100	78%	5.45
6150	79%	5.29
6200	79%	4.53
6250	75%	4.17
6300	74%	4.33
6350	69%	4.15
6400	66%	4.05
6450	65%	4.05
6500	59%	3.63
6550	60%	4.12
6600	61%	4.61
6650	63%	4.83
6700	64%	4.65
6750	67%	4.46
6800	71%	4.61
6850	67%	4.40
6900	65%	4.05
6950	59%	3.35
7000	59%	3.50
7050	62%	3.87
7100	58%	3.49
7150	51%	2.99
7200	47%	2.26

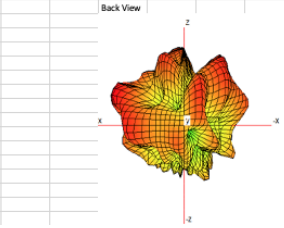








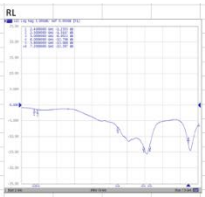


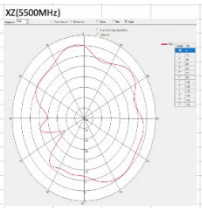


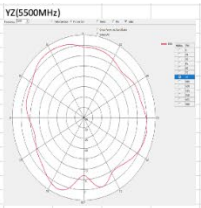
Antenna 6 – 5 GHz WLAN CH2 5150-5850 MHz

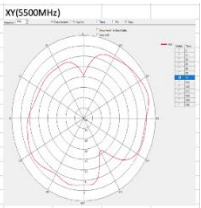
ANT6

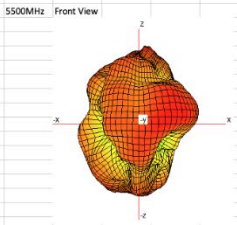
Frequency	Efficiency	Gain
5000	53%	2.37
5050	58%	2.92
5100	65%	3.69
5150	63%	3.02
5200	65%	3.29
5250	65%	2.87
5300	65%	3.05
5350	62%	2.87
5400	61%	3.15
5450	64%	3.88
5500	58%	3.49
5550	61%	3.72
5600	63%	3.95
5650	63%	3.57
5700	64%	3.91
5750	67%	3.77
5800	66%	3.81
5850	65%	4.16
5900	64%	3.51
5950	68%	3.40
6000	66%	3.19

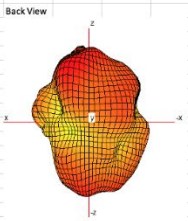








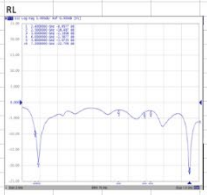


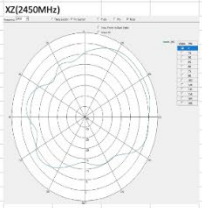


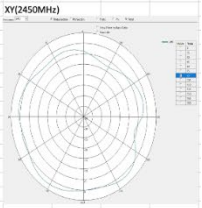
Antenna 7 – 2.4 GHz WLAN CH1 2400-2483.5 MHz

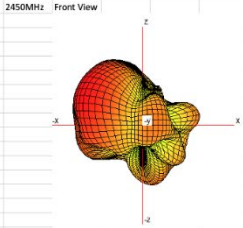
ANT7

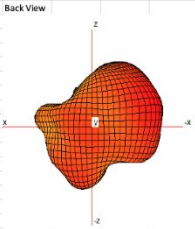
Frequency	Efficiency	Gain
2400	64%	3.30
2410	65%	3.34
2420	67%	3.48
2430	67%	3.54
2440	65%	3.36
2450	66%	3.37
2460	67%	3.35
2470	69%	3.36
2480	73%	3.56
2490	74%	3.73
2500	74%	3.70







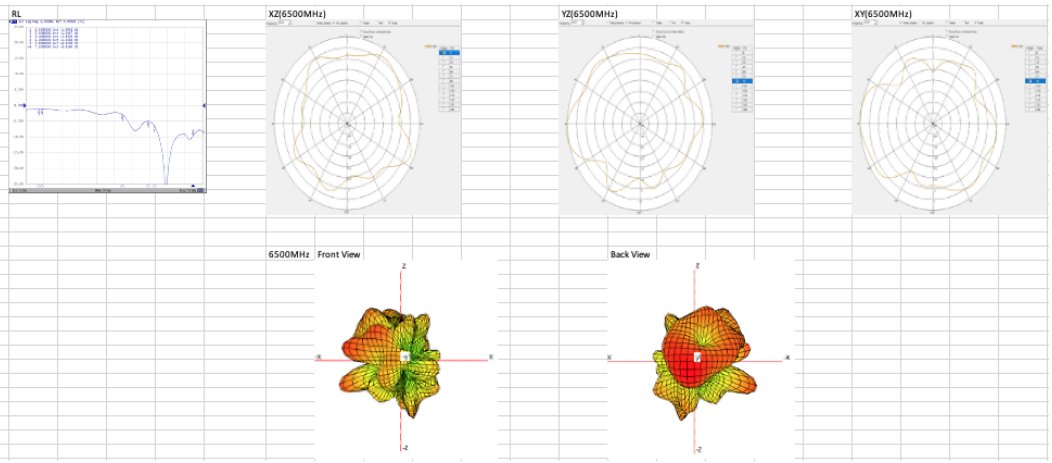




Antenna 8 – 6 GHz WLAN CH2 5925-7125 MHz

ANT8

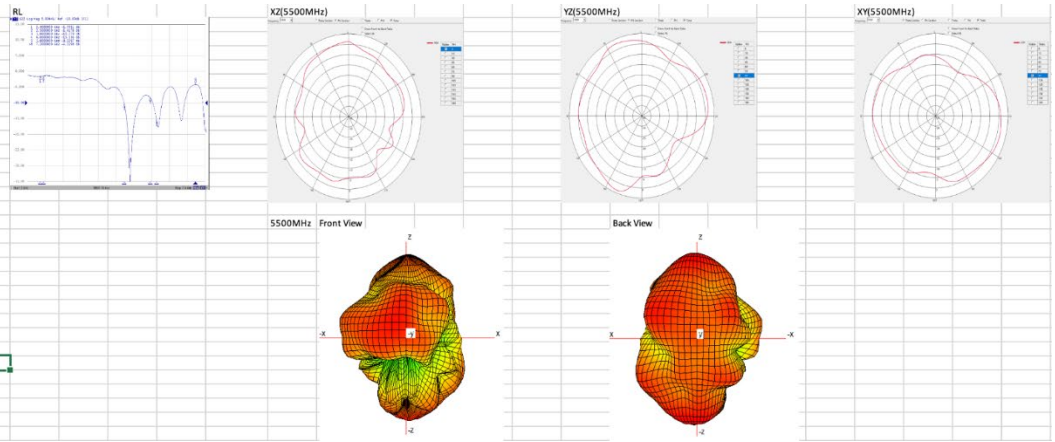
Frequency	Efficiency	Gain
5800	49%	2.8
5850	52%	2.7
5900	53%	2.9
5950	59%	3.9
6000	58%	4.2
6050	63%	4.5
6100	67%	4.4
6150	71%	5.0
6200	72%	5.4
6250	72%	5.0
6300	76%	5.6
6350	74%	5.5
6400	74%	5.6
6450	72%	5.4
6500	67%	5.3
6550	67%	5.2
6600	68%	5.3
6650	71%	5.3
6700	70%	5.2
6750	71%	5.1
6800	74%	5.1
6850	70%	4.6
6900	66%	4.1
6950	59%	3.4
7000	61%	3.1
7050	61%	3.1
7100	64%	3.3
7150	63%	3.5
7200	61%	3.8



Antenna 9 – 5 GHz WLAN CH3 5150-5850 MHz

ANT9

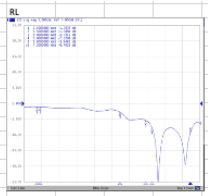
Frequency	Efficiency	Gain
5000	65%	3.73
5050	67%	4.00
5100	73%	4.33
5150	72%	4.13
5200	74%	4.47
5250	74%	4.64
5300	76%	4.30
5350	72%	3.66
5400	70%	3.07
5450	71%	3.20
5500	62%	2.70
5550	62%	2.70
5600	61%	2.63
5650	58%	2.18
5700	59%	2.17
5750	61%	2.35
5800	61%	2.34
5850	63%	3.28
5900	64%	4.31
5950	69%	5.41
6000	68%	5.70

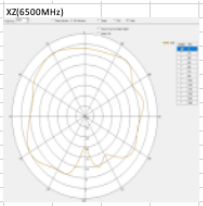


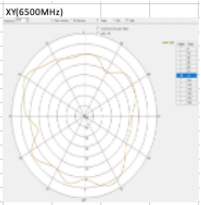
Antenna 10 – 6 GHz WLAN CH3 5925-7125 MHz

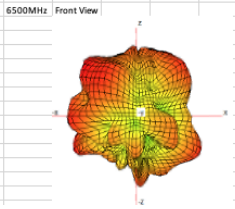
ANT10

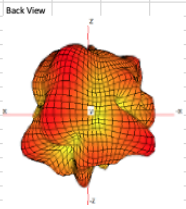
Frequency	Efficiency	Gain
5800	48%	2.12
5850	51%	2.62
5900	54%	3.02
5950	62%	3.95
6000	63%	4.35
6050	69%	5.06
6100	74%	5.37
6150	80%	5.54
6200	79%	5.50
6250	77%	5.03
6300	75%	4.74
6350	67%	4.17
6400	63%	3.62
6450	60%	3.28
6500	55%	2.99
6550	55%	3.12
6600	56%	3.34
6650	58%	3.75
6700	59%	3.94
6750	63%	4.02
6800	69%	3.97
6850	68%	3.53
6900	68%	4.03
6950	63%	4.22
7000	66%	5.13
7050	67%	5.31
7100	67%	5.25
7150	65%	5.22
7200	63%	5.06











BLE/802.15.4 – 2.4 GHz; BLE/ZigBee 2402-2480 MHz

BLE/802.15.4

Frequency	Efficiency	Gain
2400	69%	4.9
2410	69%	4.8
2420	70%	4.8
2430	70%	4.7
2440	67%	4.3
2450	68%	4.2
2460	67%	4.1
2470	67%	4.1
2480	69%	4.3
2490	69%	4.2
2500	65%	4.0