

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Maximum Permissible Exposure

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Evaluation: 9/19/2012

Test Engineer: David Bare

General Test Configuration

Calculation uses the free space transmission formula:

$$S = (PG)/(4 \pi d^2)$$

Where: S is power density (W/m²), P is output power (W), G is antenna gain relative to isotropic, d is separation distance from the transmitting antenna (m).

Summary of Results

Device complies with Power Density requirements at 20cm separation:	No
If not, required separation distance (in cm):	21.5

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

All of the transmitters can operate simultaneously but only on 1 channel at a time.

Maximum eirp is calculated as follows:

Uses the average power for each radio (where given), otherwise uses the peak power; sums EIRP for each radio.

Maximum EIRP for all radios is compared to the lowest MPE limit for all transmitter frequencies.

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Standard:	FCC	Class:	N/A

Use: General
 Antenna: Various

All transmitters (Cellular, Ralink Wi-Fi, Bluetooth, Zigbee and EUT)
 Fusion Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		24.67	8.40	33.1	2.028	Varies	1	2.028	33.07
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.729	34.36

$S_{(20cm)} = 0.543 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.9cm**

Fusion Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		24.04	8.96	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.696	34.31

$S_{(20cm)} = 0.536 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.8cm**

Client:	Systech Corporation	Job Number:	J87687
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Standard:	FCC	Class:	N/A

Fusion Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		24.67	8.40	33.1	2.028	Varies	1	2.028	33.07
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.709	34.33

$S_{(20cm)} = 0.539 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.8cm**

Fusion Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		24.04	8.96	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.677	34.28

$S_{(20cm)} = 0.533 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.8cm**

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Standard:	FCC	Class:	N/A

Fusion Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		24.67	8.40	33.1	2.028	Varies	1	2.028	33.07
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.696	34.31

$S_{(20cm)} = 0.536 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$

19.8cm

Fusion Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		24.04	8.96	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.664	34.25

$S_{(20cm)} = 0.530 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$

18.7cm

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Standard:	FCC	Class:	N/A

Fusion Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		24.67	8.40	33.1	2.028	Varies	1	2.028	33.07
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.677	34.28

$S_{(20cm)} = 0.533 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.7cm**

Fusion Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		24.04	8.96	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.644	34.22

$S_{(20cm)} = 0.526 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.6cm**

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Standard:	FCC	Class:	N/A

Foxlink Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		23.91	1.26	25.2	0.329	Varies	1	0.329	25.17
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.030	30.13

$S_{(20cm)} = 0.205 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **12.2cm**

Foxlink Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		23.56	1.56	25.1	0.325	Varies	1	0.325	25.12
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.026	30.11

$S_{(20cm)} = 0.204 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **11.6cm**

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Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Foxlink Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		23.91	1.26	25.2	0.329	Varies	1	0.329	25.17
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.011	30.05

$S_{(20cm)} = 0.201 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ 12.1cm

Foxlink Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		23.56	1.56	25.1	0.325	Varies	1	0.325	25.12
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.007	30.03

$S_{(20cm)} = 0.200 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ 11.5cm

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Foxlink Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aleran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		23.91	1.26	25.2	0.329	Varies	1	0.329	25.17
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.997	29.99

$S_{(20cm)} = 0.198 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$

12.0cm

Foxlink Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aleran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		23.56	1.56	25.1	0.325	Varies	1	0.325	25.12
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.994	29.97

$S_{(20cm)} = 0.198 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$

11.4cm

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Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Foxlink Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		23.91	1.26	25.2	0.329	Varies	1	0.329	25.17
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.978	29.90

$S_{(20cm)} = 0.195 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ 11.9cm

Foxlink Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		23.56	1.56	25.1	0.325	Varies	1	0.325	25.12
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.974	29.89

$S_{(20cm)} = 0.194 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ 11.3cm

Client:	System Corporation	Job Number:	J87687
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Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

NovaTel Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
777-787	Cellular		24.25	8.50	32.8	1.884	Varies	1	1.884	32.75
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.585	34.12

$S_{(20cm)} = 0.514 \text{ mW/cm}^2$ Limit 0.518 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.9cm**

NovaTel Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		26.98	7.00	34.0	2.500	Varies	1	2.500	33.98
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	3.201	35.05

$S_{(20cm)} = 0.637 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **21.5cm**

NovaTel Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		30.00	3.00	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.696	34.31

$S_{(20cm)} = 0.536 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.8cm**

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Standard:	FCC	Class:	N/A

NovaTel Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aleran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
777-787	Cellular		24.25	8.50	32.8	1.884	Varies	1	1.884	32.75
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.565	34.09

$S_{(20cm)} = 0.510 \text{ mW/cm}^2$ Limit 0.518 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.9cm**

NovaTel Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aleran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		26.98	7.00	34.0	2.500	Varies	1	2.500	33.98
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	3.182	35.03

$S_{(20cm)} = 0.633 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **21.5cm**

NovaTel Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aleran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		30.00	3.00	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.677	34.28

$S_{(20cm)} = 0.533 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.8cm**

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

NovaTel Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
777-787	Cellular		24.25	8.50	32.8	1.884	Varies	1	1.884	32.75
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.552	34.07

$S_{(20cm)} = 0.508 \text{ mW/cm}^2$ Limit 0.518 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.8cm**

NovaTel Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		26.98	6.10	33.1	2.032	Varies	1	2.032	33.08
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.701	34.31

$S_{(20cm)} = 0.537 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.8cm**

NovaTel Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		30.00	3.00	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.664	34.25

$S_{(20cm)} = 0.530 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.7cm**

Client:	System Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

NovaTel Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aleran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
777-787	Cellular		24.25	8.50	32.8	1.884	Varies	1	1.884	32.75
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.533	34.04

$S_{(20cm)} = 0.504 \text{ mW/cm}^2$ Limit 0.518 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.7cm**

NovaTel Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aleran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
824-849	Cellular		26.98	6.10	33.1	2.032	Varies	1	2.032	33.08
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.681	34.28

$S_{(20cm)} = 0.533 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **19.7cm**

NovaTel Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aleran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average		dBm	W			W	dBm
1850 - 1910	Cellular		30.00	3.00	33.0	1.995	Varies	1	1.995	33.00
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	2.644	34.22

$S_{(20cm)} = 0.526 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **18.6cm**

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Hauwei Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
824-849	Cellular		26.65	4.28	30.9	1.239	Varies	1	1.239	30.93
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.940	32.88

$S_{(20cm)} = 0.386 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **16.8cm**

Hauwei Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
1850 - 1910	Cellular		0.44	3.00	3.4	0.002	Varies	1	0.002	3.44
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.703	28.47

$S_{(20cm)} = 0.140 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **9.6cm**

¹ Maximum average power based on calculation of source based time average for cellular operation

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Hauwei Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
824-849	Cellular		26.65	4.28	30.9	1.239	Varies	1	1.239	30.93
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.920	32.83

$S_{(20cm)} = 0.382 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **16.7cm**

Hauwei Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A11091301 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
1850 - 1910	Cellular		0.44	3.00	3.4	0.002	Varies	1	0.002	3.44
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.71	3.00	20.7	0.118	79	1	0.118	20.71
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.684	28.35

$S_{(20cm)} = 0.136 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **9.5cm**

¹ Maximum average power based on calculation of source based time average for cellular operation

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Hauwei Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
824-849	Cellular		26.65	4.28	30.9	1.239	Varies	1	1.239	30.93
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.907	32.80

$S_{(20cm)} = 0.379 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **16.6cm**

Hauwei Cellular, Ralink Wi-Fi, Vencer Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
1850 - 1910	Cellular		0.44	3.00	3.4	0.002	Varies	1	0.002	3.44
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		12.12	1.00	13.1	0.021	79	1	0.021	13.12
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.671	28.27

$S_{(20cm)} = 0.133 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$ **9.4cm**

¹ Maximum average power based on calculation of source based time average for cellular operation

Client:	Systech Corporation	Job Number:	J87687
Model:	ZM3102	T-Log Number:	T87722
Contact:	Zen Barelka	Account Manager:	Christine Krebill
Standard:	FCC	Class:	N/A

Hauwei Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
824-849	Cellular		26.65	4.28	30.9	1.239	Varies	1	1.239	30.93
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	1.888	32.76

$S_{(20cm)} = 0.376 \text{ mW/cm}^2$ Limit 0.549 mW/cm^2 Distance where $S \leq \text{MPE Limit}$

16.5cm

Hauwei Cellular, Ralink Wi-Fi, Panasonic Bluetooth, Aneran X7J-A10051702 Zigbee and EUT

Band	Mode	Output Power		Antenna gain (Max)	EIRP		Channels Available	Channels Used	Total EIRP	
		Peak	Average ¹		dBm	W			W	dBm
1850 - 1910	Cellular		0.44	3.00	3.4	0.002	Varies	1	0.002	3.44
2400 - 2483.5	WiFi	23.8	-	3.70	27.5	0.562	11	1	0.562	27.50
2401 - 2483.5	Bluetooth		-0.50	0.90	0.4	0.001	79	1	0.001	0.40
2401 - 2483.5	Zigbee		17.30	2.00	19.3	0.085	79	1	0.085	19.30
908.4	FSK		-3.00	0.00	-3.0	0.001	1	1	0.001	-3.00
Totals:								5	0.651	28.14

$S_{(20cm)} = 0.130 \text{ mW/cm}^2$ Limit 0.606 mW/cm^2 Distance where $S \leq \text{MPE Limit}$

9.3cm

¹ Maximum average power based on calculation of source based time average for cellular operation