

JAPAN MIC
TEST REPORT
For

SZ DJI TECHNOLOGY CO., LTD

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Nanshan, Shenzhen, Guangdong, China

Model: RD2428R

Report Type: Original Report	Product Type: Omnidirectional Digital Radar
Report Number: RDG191203007-07	
Report Date: 2019-12-17	
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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

Equipment Name		Omnidirectional Digital Radar
Tested Model Number		RD2428R
Technical Parameters	Modulation Type	FMCW
	Emission Type	N0N
	Frequency Range	24150 MHz
	Output Power	2.0mW
	Antenna Gain	Omni-directional Antenna: 14 dBi; Directional Antenna: 17dBi
Nominal Power Supply:		DC 13.7V from system
Voltage Range		12.3V to 15.1V DC
External Dimension		109mm(Ø)*152mm(H)
Serial Number		191203007 (Assigned by BACL, Dongguan)
Received Date		201912/03

Objective

The objective of the manufacturer is to demonstrate compliance with Radio Law of Japan item 8 of Article 2 Paragraph 1, Specified Low Power Radio Equipment.

Related Submittal(s)/Grant(s)

No related submittal.

Test Methodology

All measurements contained in this report were conducted with technical regulations of the Radio Law of Japan.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “△”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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EUT TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in Engineering Mode, which was provided by the manufacturer.

The extreme voltage test conditions which were declared by the manufacturer and the normal conditions are as below:

NV: Normal Voltage: 13.7Vdc

LV: Low Voltage: 12.3Vdc

HV: High Voltage: 15.1Vdc

EUT Exercise Software

No software was used.

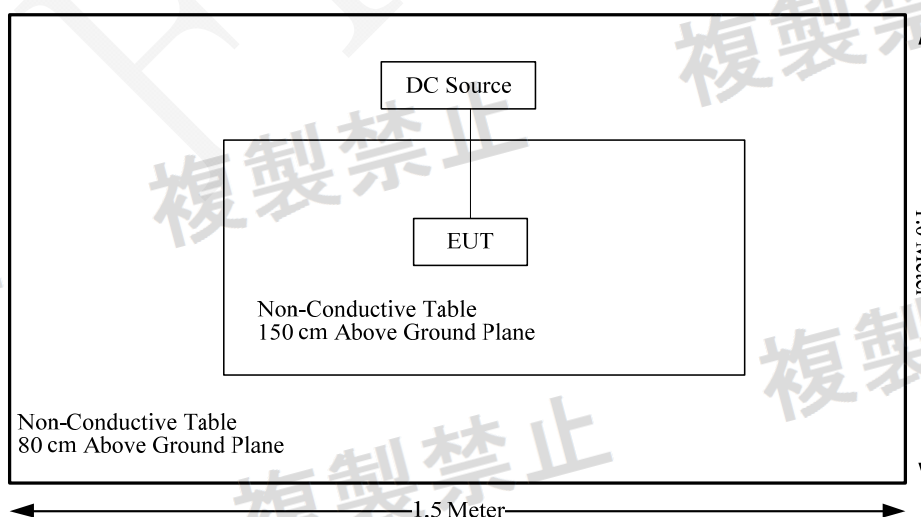
Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Pro instrument	DC Power Supply	pps3300	/

Configuration of Test Setup



SUMMARY OF TEST RESULTS

Article 2, Paragraph 1, Item 8 Rules Section	Description of Test	Result
1	Frequency Tolerance	Compliance
2	Occupied Bandwidth	Compliance
3	Antenna Output Power and Output Power Tolerance	Compliance
4	Unwanted Emission Strength	Compliance
5	Secondary Radiated Emission Strength	Compliance
6	Housing Requirements	Compliance
7	Interference Prevention Function	Compliance

FREQUENCY TOLERANCE

Limit

Within the designated frequency band: 24.05~24.25GHz.

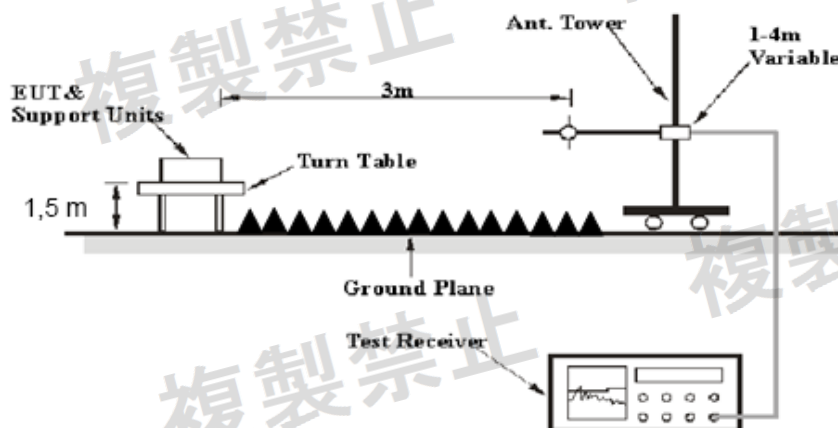
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-05-09	2020-05-09
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2019-06-27	2020-06-27
Pro instrument	DC Power Supply	pps3300	N/A	N/A	N/A
UNI-T	Multimeter	UT39A	M130199938	2019-07-23	2020-07-23

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

❖ Measurement System Diagram



❖ Spectrum Analyzer Conditions

Put spectrum analyzer frequency span wide enough to capture the complete power envelope, including all sidebands. Using the marker of the spectrum analyzer, find the lowest frequency and highest frequency of the equipment under test.

If the EUT can't set at un-modulation mode, measure the 10dBc center frequency.

Test Data**Environmental Conditions**

Temperature:	23.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.9 kPa

The testing was performed by Tyler Pan and Vern Shen on 2019-12-12.

Test Result: Compliant

Test Mode: Transmitting

Omni-directional module:

Frequency		Low Frequency			High Frequency			F _L Limit (MHz)	F _H Limit (MHz)
Voltage (V _{DC})		LV	NV	HV	LV	NV	HV		
Measure Frequency	(MHz)	24055.1	24055.3	24055.2	24244.6	24244.7	24244.9	24050	24250

Directional module:

Frequency		Low Frequency			High Frequency			F _L Limit (MHz)	F _H Limit (MHz)
Voltage (V _{DC})		LV	NV	HV	LV	NV	HV		
Measure Frequency	(MHz)	24060.8	24061.3	24061.1	24237.6	24237.7	24237.7	24050	24250

Note: extreme voltage was declared by manufacture.

OCCUPIED BANDWIDTH

Limit

Occupied bandwidth: 200MHz

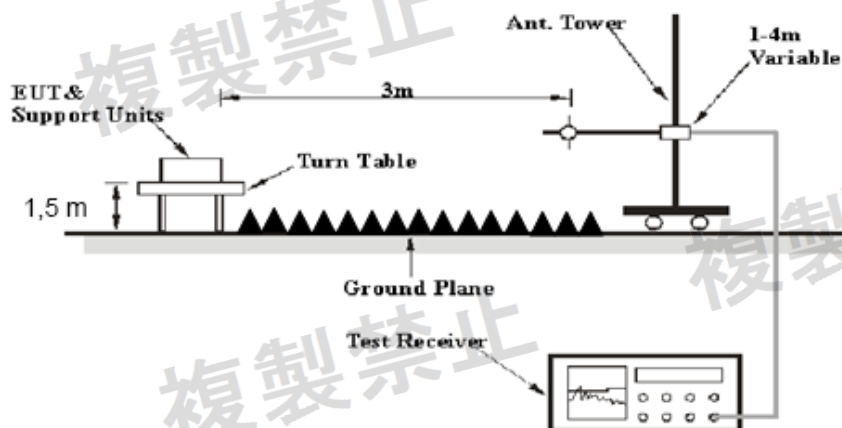
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-05-09	2020-05-09
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2019-06-27	2020-06-27
Pro instrument	DC Power Supply	pps3300	N/A	N/A	N/A
UNI-T	Multimeter	UT39A	M130199938	2019-07-23	2020-07-23

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

❖ Measurement System Diagram



❖ Spectrum Analyzer Conditions

- Span: Wide enough to capture the complete power envelope, including all sidebands
- RBW: 1 MHz
- VBW: 3 MHz
- Sweep time: Auto, Marker: Marker Off
- Log scal : 10dB/Div, Data points : 501points (400 points or more)
- Detection: Positive Peak, Sweep mode: Continuous

Test Data**Environmental Conditions**

Temperature:	23.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.9 kPa

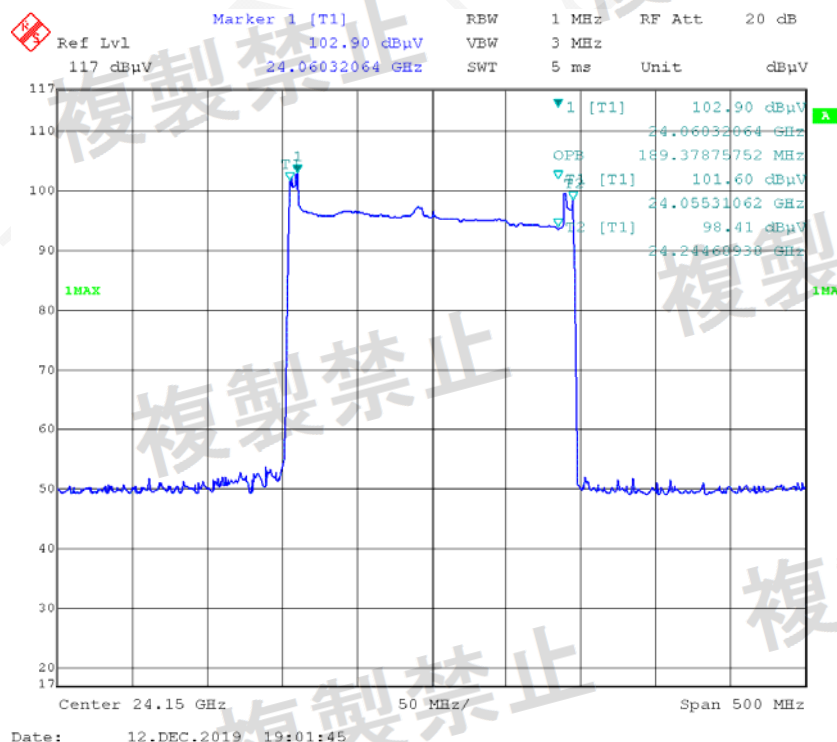
The testing was performed by Tyler Pan and Vern Shen on 2019-12-12.

Test Result: Compliant

Please refer to the below table and test plot for normal voltage.

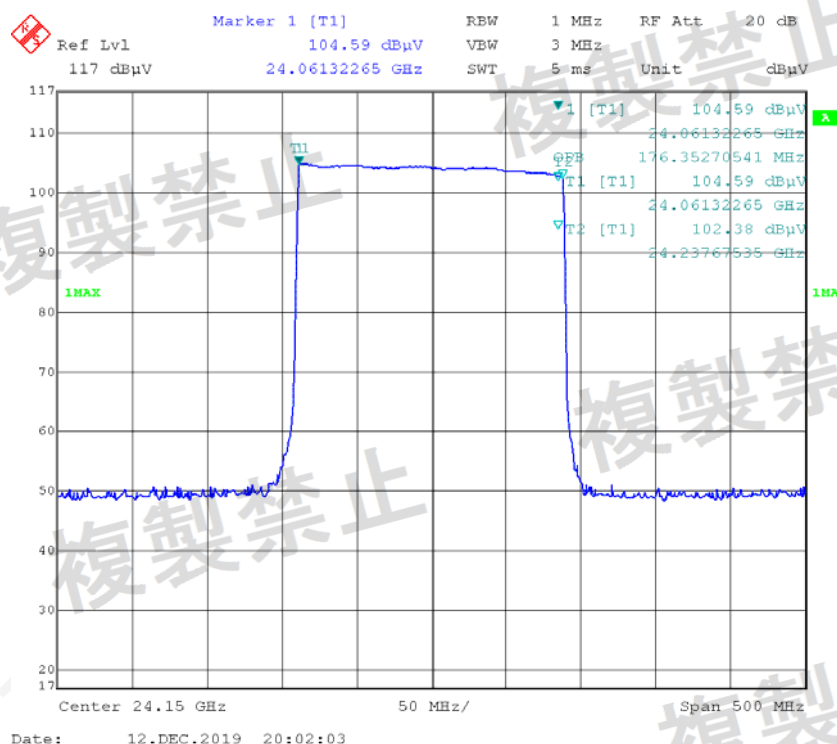
Omni-directional module:

Frequency Range (GHz)		24.05-24.25			Limit
Voltage (V _{DC})		LV	NV	HV	
Occupied Bandwidth	MHz	189.9	189.4	189.7	<200MHz

Occupied Bandwidth

Directional module:

Frequency Range (GHz)		24.05-24.25			Limit
Voltage (V _{DC})		LV	NV	HV	
Occupied Bandwidth	MHz	176.8	176.4	176.6	<200MHz

Occupied Bandwidth

OUTPUT POWER AND OUTPUT POWER TOLERANCE

Limit

- The output power should 20mW or less.
- The Output Power Tolerance must be within +50%, -50%.

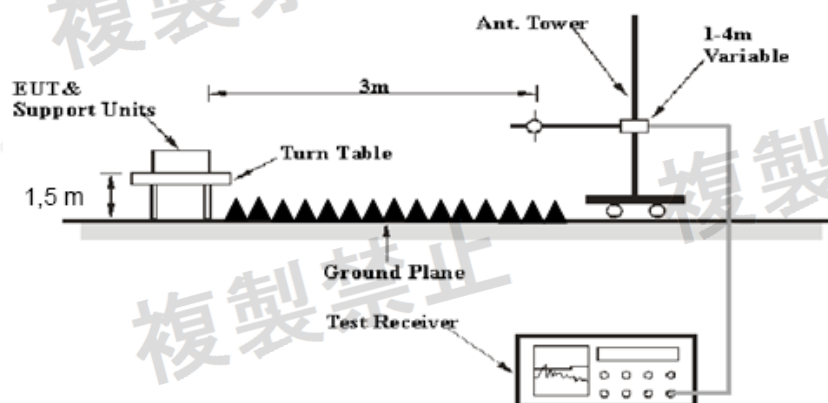
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-05-09	2020-05-09
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-12-06	2020-12-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2019-06-27	2020-06-27
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10
Pro instrument	DC Power Supply	pps3300	N/A	N/A	N/A
UNI-T	Multimeter	UT39A	M130199938	2019-07-23	2020-07-23

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

❖ Measurement System Diagram



❖ Spectrum Analyzer Conditions

- Frequency Center: Frequency to measure
- RBW : 1MHz
- VBW : 3MHz
- Sweep Mode: continues Sweep
- Detection: Peak
- Log scale : 10dB/Div, Data points : 501points (400 points or more)
- Reference level : Enough level for maximum dynamic range

Test Data**Environmental Conditions**

Temperature:	23.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.9 kPa

The testing was performed by Tyler Pan and Vern Shen on 2019-12-12.

Test Result: Compliant

Voltage (V _{DC})	Frequency (MHz)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)	
Omni-directional module						
LV	24150	102.8	-3.2	23	2.5	17.3
NV	24150	102.9	-3.1	23	2.5	17.4
HV	24150	102.7	-3.3	23	2.5	17.2
Directional module						
LV	24150	104.5	-1.5	23	2.5	19.0
NV	24150	104.8	-1.2	23	2.5	19.3
HV	24150	104.9	-1.1	23	2.5	19.4

Frequency (GHz)		24.05-24.25						Limit
		Omni-directional module			Directional module			
Voltage (V _{DC})		LV	NV	HV	LV	NV	HV	
EIRP	dBm	17.3	17.4	17.2	19.0	19.3	19.4	/
Antenna Power	dBm	3.3	3.4	3.2	2.0	2.3	2.4	13dBm
Antenna Power	mW	2.14	2.19	2.09	1.58	1.70	1.74	20mW
Output Power Tolerance	%	6.90	9.39	4.46	-20.76	-15.09	-13.11	-50%~+50%

Note 1: Declared power: 2.0mW

Note 2: Absolute Level = Substituted Level - Cable loss + Antenna Gain

Note 3: Antenna power = EIRP – Antenna Gain

UNWANTED EMISSION STRENGTH

Limit

Unwanted emission strength should Less than $2.5\mu\text{W}$ (-26dBm).

Test Equipment List and Details

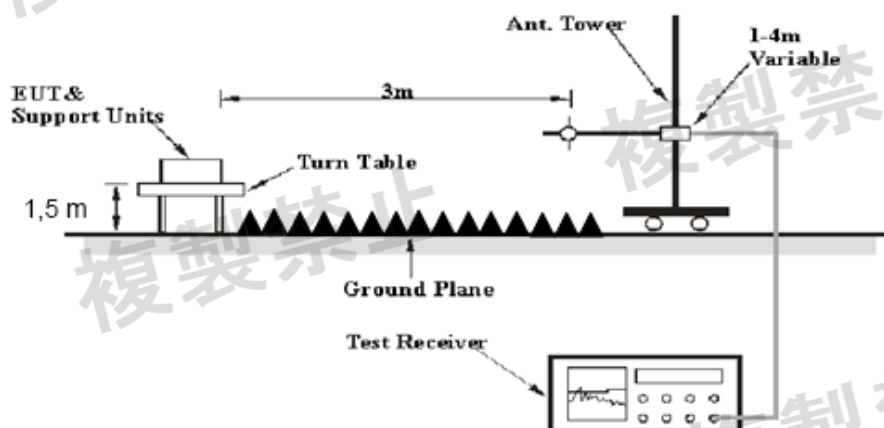
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESR3	102453	2019-09-12	2020-09-12
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2019-09-05	2020-09-05
Sonoma	Amplifier	310N	185914	2019-10-13	2020-10-13
Agilent	MXG Vector Signal Generator	N5182B	MY51350142	2019-07-19	2020-07-19
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-05-09	2020-05-09
R&S	Spectrum Analyzer	FSP 38	100478	2019-05-09	2020-05-09
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-02 1302	2017-12-06	2020-12-05
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2019-09-05	2020-09-05
MICRO-COAX	Coaxial Cable	UFA147-1- 2362-100100	64639 231029- 001	2019-02-24	2020-02-24
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2019-09-05	2020-09-05
Quinstar	Amplifier	QLW- 18405536-JO	15964001001	2019-06-27	2020-06-27
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	8564E	3943A01781	2019-03-02	2020-03-02
OML	Harmonic Mixer	WR19/M19H WD	U60313-1	2019-10-14	2022-10-14
OML	Horn Antenna	M19RH	11648-01	2019-10-14	2022-10-14
OML	Harmonic Mixer	WR12/M12H WD	E60120-1	2019-10-19	2022-10-19
OML	Horn Antenna	M12RH	E60120-2	2019-10-19	2022-10-19
OML	Harmonic Mixer	WR08/M08H WD	F60313-1	2019-10-24	2022-10-24
OML	Horn Antenna	M08RH	F60313-2	2019-10-24	2022-10-24

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

❖ Measurement System Diagram



❖ Spectrum Analyzer Conditions

- Sweep the spectrum analyser (or equivalent equipment) over a frequency range and measure the power of spurious emission.

Test Data

Environmental Conditions

Temperature:	23.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.9 kPa

The testing was performed by Tyler Pan and Vern Shen on 2019-12-12.

Test Result: Compliant*Test Mode: Transmitting***Omni-directional module:**

Voltage (V _{DC})	Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
				Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 24150 MHz									
LV	24050	H	51.71	-55.3	23	2.5	-34.80	-26	8.80
	24050	V	39.45	-67.2	23	2.5	-46.70	-26	20.70
	24250	H	48.5	-56.9	23	2.6	-36.50	-26	10.50
	24250	V	37.6	-67.5	23	2.6	-47.10	-26	21.10
	48300	H	33.37	-55.35	24	0	-31.35	-26	5.35
	48300	V	33.72	-55	24	0	-31.00	-26	5.00
	1614	H	43.54	-60.97	10.2	0.69	-51.46	-26	25.46
	1624	V	44.24	-60.77	10.27	0.7	-51.20	-26	25.20
	65.8	H	62.3	-48.26	-7.23	0.24	-55.73	-26	29.73
	486.48	V	48.32	-59.06	0	0.7	-59.76	-26	33.76
NV	24050	H	51.84	-55.2	23	2.5	-34.70	-26	8.70
	24050	V	39.56	-67.1	23	2.5	-46.60	-26	20.60
	24250	H	48.37	-57	23	2.6	-36.60	-26	10.60
	24250	V	37.67	-67.5	23	2.6	-47.10	-26	21.10
	48300	H	33.33	-55.39	24	0	-31.39	-26	5.39
	48300	V	33.68	-55.04	24	0	-31.04	-26	5.04
	1613	H	44.32	-60.2	10.19	0.69	-50.70	-26	24.70
	1613	V	44.24	-60.88	10.19	0.69	-51.38	-26	25.38
	65.8	H	60.98	-49.58	-7.23	0.24	-57.05	-26	31.05
	486.48	V	48.5	-58.88	0	0.7	-59.58	-26	33.58
HV	24050	H	51.95	-55.1	23	2.5	-34.60	-26	8.60
	24050	V	40.12	-66.5	23	2.5	-46.00	-26	20.00
	24250	H	49.03	-56.4	23	2.6	-36.00	-26	10.00
	24250	V	38.5	-66.6	23	2.6	-46.20	-26	20.20
	48300	H	33.27	-55.45	24	0	-31.45	-26	5.45
	48300	V	33.71	-55.01	24	0	-31.01	-26	5.01
	1620	H	44.1	-60.35	10.24	0.69	-50.80	-26	24.80
	1613	V	44.41	-60.71	10.19	0.69	-51.21	-26	25.21
	65.8	H	61.44	-49.12	-7.23	0.24	-56.59	-26	30.59
	486.48	V	49.13	-58.25	0	0.7	-58.95	-26	32.95

Directional module:

Voltage (V _{DC})	Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
				Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 24150 MHz									
LV	24050	H	39.78	-67.2	23	2.5	-46.70	-26	20.70
	24050	V	54.22	-52.4	23	2.5	-31.90	-26	5.90
	24250	H	37.52	-67.9	23	2.6	-47.50	-26	21.50
	24250	V	51.67	-53.5	23	2.6	-33.10	-26	7.10
	48300	H	32.7	-56.02	24	0	-32.02	-26	6.02
	48300	V	33.1	-55.62	24	0	-31.62	-26	5.62
	1614	H	43.54	-60.97	10.2	0.69	-51.46	-26	25.46
	1624	V	44.24	-60.77	10.27	0.7	-51.20	-26	25.20
	238.5	H	55.71	-53.39	0	0.5	-53.89	-26	27.89
	486.48	V	43.46	-63.92	0	0.7	-64.62	-26	38.62
NV	24050	H	40.26	-66.4	23	2.5	-45.90	-26	19.90
	24050	V	54.71	-52.3	23	2.5	-31.80	-26	5.80
	24250	H	37.48	-67.6	23	2.6	-47.20	-26	21.20
	24250	V	51.46	-53.9	23	2.6	-33.50	-26	7.50
	48300	H	32.74	-55.98	24	0	-31.98	-26	5.98
	48300	V	33.71	-55.01	24	0	-31.01	-26	5.01
	2362	H	40.3	-62.04	11.88	1.27	-51.43	-26	25.43
	1624	V	48.6	-56.41	10.27	0.7	-46.84	-26	20.84
	238.5	H	56	-53.1	0	0.5	-53.60	-26	27.60
	486.48	V	44.15	-63.23	0	0.7	-63.93	-26	37.93
HV	24050	H	40.22	-66.8	23	2.5	-46.30	-26	20.30
	24050	V	54.04	-52.6	23	2.5	-32.10	-26	6.10
	24250	H	38.14	-67.2	23	2.6	-46.80	-26	20.80
	24250	V	50.878	-54.2	23	2.6	-33.80	-26	7.80
	48300	H	32.68	-56.04	24	0	-32.04	-26	6.04
	48300	V	32.8	-55.92	24	0	-31.92	-26	5.92
	1620	H	44.1	-60.35	10.24	0.69	-50.80	-26	24.80
	1613	V	44.41	-60.71	10.19	0.69	-51.21	-26	25.21
	238.5	H	54.98	-54.12	0	0.5	-54.62	-26	28.62
	486.48	V	42.79	-64.59	0	0.7	-65.29	-26	39.29

Note 1: The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.

Note 2:

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

SECONDARY RADIATED EMISSION STRENGTH**Limit**

The secondary radiated emission strength should less than 2.5 μ W(-26dBm).

Test Equipment List and Details

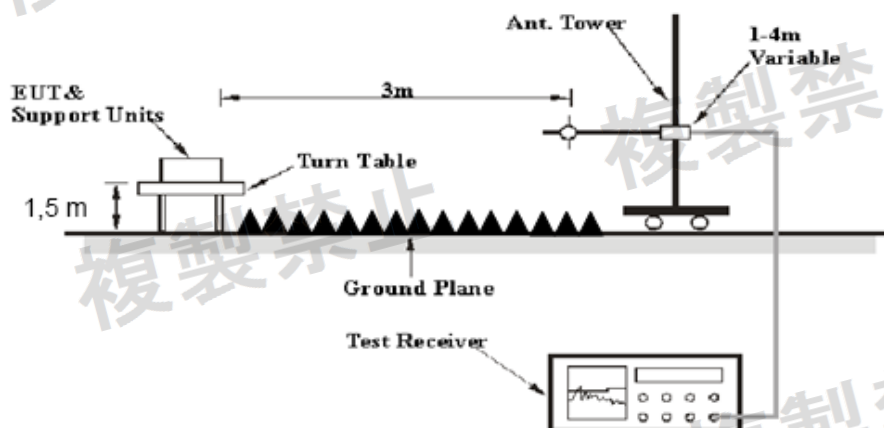
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESR3	102453	2019-09-12	2020-09-12
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2019-09-05	2020-09-05
Sonoma	Amplifier	310N	185914	2019-10-13	2020-10-13
Agilent	MXG Vector Signal Generator	N5182B	MY51350142	2019-07-19	2020-07-19
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-05-09	2020-05-09
R&S	Spectrum Analyzer	FSP 38	100478	2019-05-09	2020-05-09
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2017-12-06	2020-12-05
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-02 1302	2017-12-06	2020-12-05
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2019-09-05	2020-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2019-09-05	2020-09-05
MICRO-COAX	Coaxial Cable	UFA147-1- 2362-100100	64639 231029- 001	2019-02-24	2020-02-24
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2019-09-05	2020-09-05
Quinstar	Amplifier	QLW- 18405536-JO	15964001001	2019-06-27	2020-06-27
Agilent	Signal Generator	E8247C	MY43321350	2019-12-10	2020-12-10

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	8564E	3943A01781	2019-03-02	2020-03-02
OML	Harmonic Mixer	WR19/M19H WD	U60313-1	2019-10-14	2022-10-14
OML	Horn Antenna	M19RH	11648-01	2019-10-14	2022-10-14
OML	Harmonic Mixer	WR12/M12H WD	E60120-1	2019-10-19	2022-10-19
OML	Horn Antenna	M12RH	E60120-2	2019-10-19	2022-10-19
OML	Harmonic Mixer	WR08/M08H WD	F60313-1	2019-10-24	2022-10-24
OML	Horn Antenna	M08RH	F60313-2	2019-10-24	2022-10-24

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

❖ Measurement System Diagram



❖ Spectrum Analyzer Conditions

- Sweep the spectrum analyser (or equivalent equipment) over a frequency range and measure the power of spurious emission.

Measurement Result

Environmental Conditions

Temperature:	23.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.9 kPa

The testing was performed by Tyler Pan and Vern Shen on 2019-12-12.

Test Result: Compliant*Test Mode: Receiving***Omni-directional module:**

Voltage (V _{DC})	Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
				Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 24150MHz									
LV	3013	V	41.77	-58.04	13.9	1.54	-45.68	-26	19.68
	1476	V	48.1	-56.62	9.38	1.31	-48.55	-26	22.55
	65.8	H	62.87	-47.69	-7.23	0.24	-55.16	-26	29.16
	486.48	V	48.65	-58.73	0	0.7	-59.43	-26	33.43
NV	2975	H	42.57	-57.3	13.98	1.46	-44.78	-26	18.78
	1476	V	47.87	-56.85	9.38	1.31	-48.78	-26	22.78
	65.8	H	61.89	-48.67	-7.23	0.24	-56.14	-26	30.14
	486.48	V	49.35	-58.03	0	0.7	-58.73	-26	32.73
HV	3112	V	42.174	-57.61	13.25	1.8	-46.16	-26	20.16
	1476	V	47.27	-57.45	9.38	1.31	-49.38	-26	23.38
	65.8	H	63.21	-47.35	-7.23	0.24	-54.82	-26	28.82
	486.48	V	48.72	-58.66	0	0.7	-59.36	-26	33.36

Directional module:

Voltage (V _{DC})	Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
				Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Frequency: 24150MHz									
LV	1621	H	39.1	-65.34	10.25	0.69	-55.78	-26	29.78
	1624	V	49.1	-55.91	10.27	0.7	-46.34	-26	20.34
	238.5	V	55.9	-56.26	0	0.5	-56.76	-26	30.76
	486.48	H	44.26	-60.05	0	0.7	-60.75	-26	34.75
NV	1601	H	38	-66.63	10.11	0.68	-57.20	-26	31.20
	1579	V	48.6	-56.58	9.97	0.82	-47.43	-26	21.43
	238.5	V	55.46	-56.7	0	0.5	-57.20	-26	31.20
	486.48	H	42.16	-62.15	0	0.7	-62.85	-26	36.85
HV	1642	H	40.2	-64.04	10.39	0.71	-54.36	-26	28.36
	1634	V	40.57	-64.34	10.34	0.7	-54.70	-26	28.70
	238.5	V	53.68	-58.48	0	0.5	-58.98	-26	32.98
	486.48	H	44.16	-60.15	0	0.7	-60.85	-26	34.85

Note 1: The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.

Note 2:

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

INTERFERENCE PREVENTION FUNCTION

Requirement

The EUT shall have the interference prevention capability to transmit or to receive the identification automatically, so that sender and receiver shall exclude other equipment.

Test Procedure

In the case that the EUT has the function of automatically transmitting the identification code:

1. Transmit the predetermined identification codes from EUT
2. Check the transmitted identification codes with the demodulator.

In the case of receiving the identification codes:

1. Transmit the predetermined identification codes from the counterpart.
2. Check if communication is normal
3. Transmit the signal other than predetermined ID codes from the counterpart.
4. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

Test Data

Environmental Conditions

Temperature:	23.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.9 kPa

The testing was performed by Tyler Pan and Vern Shen on 2019-12-12.

Test Result: Compliance

CONSTRUCTION PROTECTION CONFIRMATION

Limit

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

Confirmation Method

The EUT was locked by special screw, so the EUT can't be opened easily. Please refer the EUT photo.

******END OF REPORT******