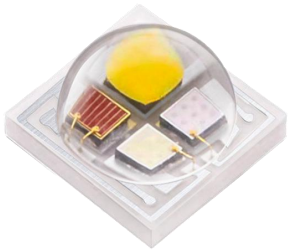
MN-S3535
RGBW Color



Features:

- 4in1 SMD LED
- High cost performance
- Ceramic base
- Small distance between chips
- Excellent color mixing effect
- RoHS compliant, EN62471
- high thermal conductivity
- Reflow soldering available

- Landscape lighting
- Intelligent Lighting
- Smart Lighting
- Stage lighting
- General decorative lighting

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Characteristics

Characteristics	Unit	Min	Typical	Max
Dimension L*W	mm		3.5*3.5	
Beam Angle 2θ1/2	deg.		120	140
Wavelength WL	nm	450		660
Color Temperature CCT	K	2700		12000
Power Dissipation PD	W		4	
Operating Temperature Top	°C	-40		+85
Storage Temperature Tst	°C	-40		+85
Testing Point Tc	°C			85
Junction Temperature Tj	°C			125
Reverse Current (Vr=5V) Ir	uA			10
Thermal Resistance Rj-c	°C/W		16	
ESD (HBM)	V			2000
Reflow Soldering(Lead-Free) ST	°C			230
Moisture Sensitivity Level, MSL	Level		4	

Part Number Nomenclature

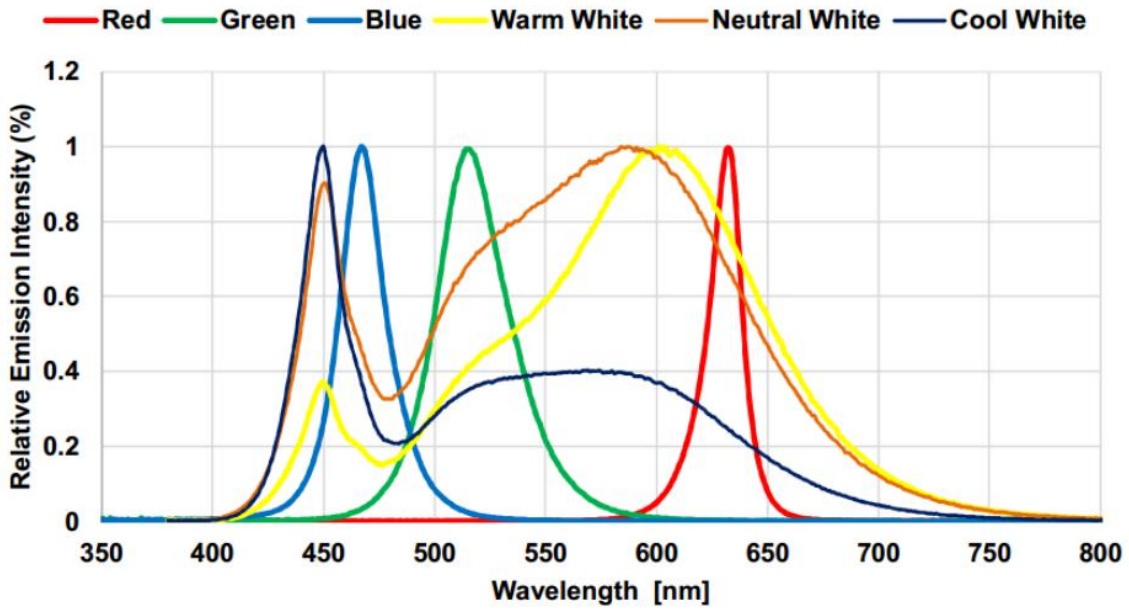
MN —— S3535 —— RGBWC60 —— 4

Company Name	SMD type	Color Type	Power
MOON	3535	R: 620-630nm G: 520-530nm B: 455-465nm W60: 6000-6500K	4: 4W

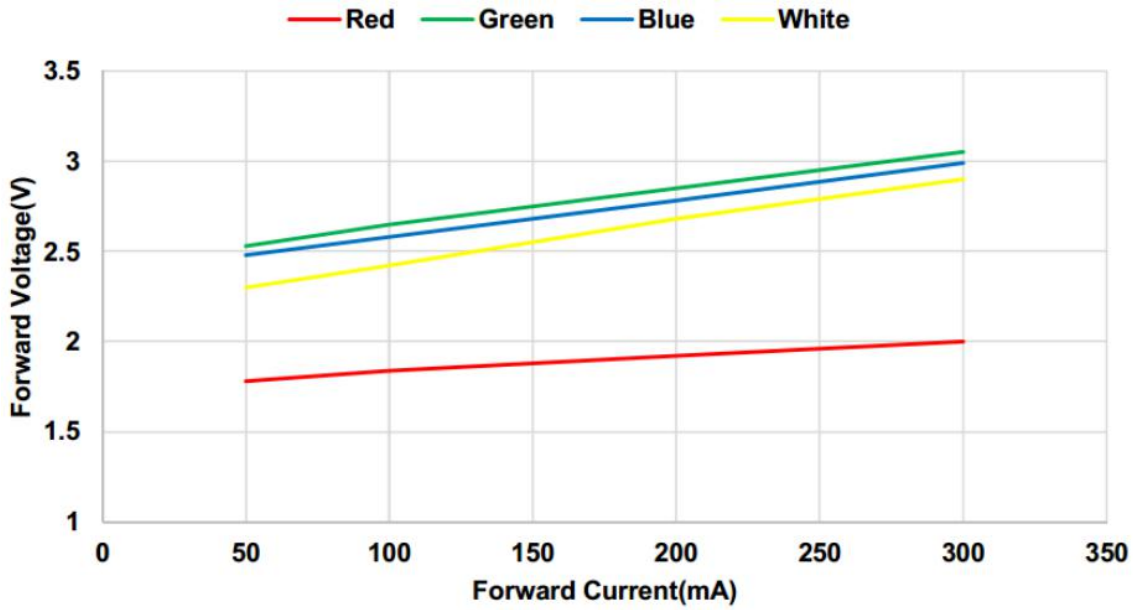
Specifications (Tc = 25°C)

Color	Wavelength (nm)	Voltage (V)	Current (mA)	Lumen (LM)	Part Number
RGBW	620-625	2.0-2.6	350	50-70	MN-S3535RGBWC304 MN-S3535RGBWC404 MN-S3535RGBWC604
	520-525	2.8-3.4	350	110-130	
	455-460	2.8-3.4	350	20-30	
	2800-3200K	2.8-3.4	350	110-130	
	4000-4500K				
	6000-6500K				

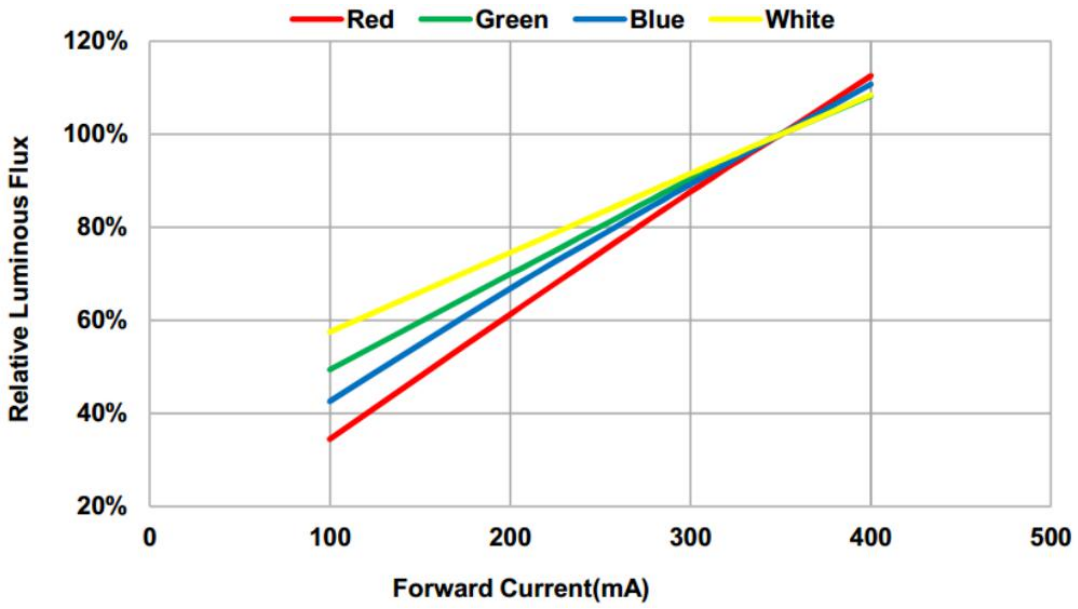
Spectral Features（Tc = 25°C）



Forward Volt vs. Forward Current (Tc = 25°C)

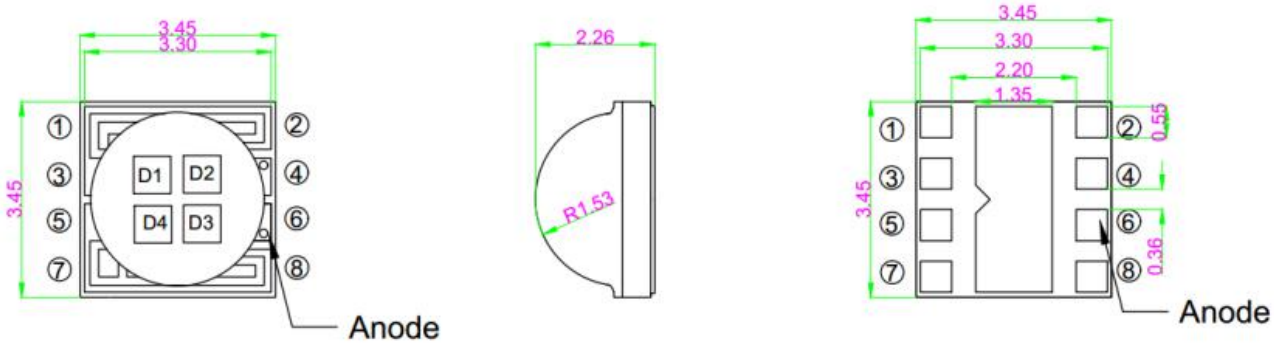


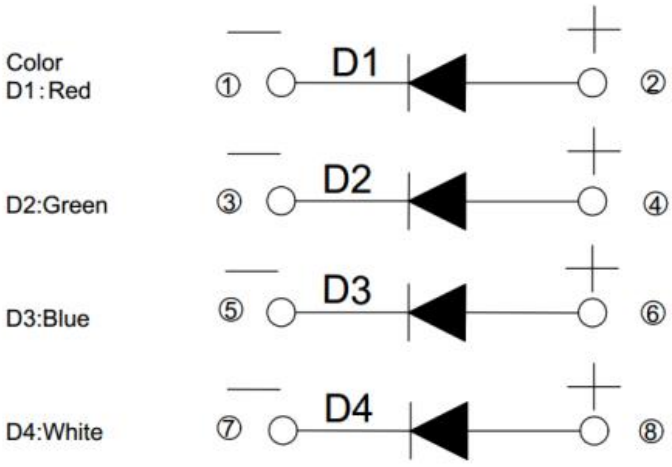
LM vs. Luminous intensity (Tc = 25°C)



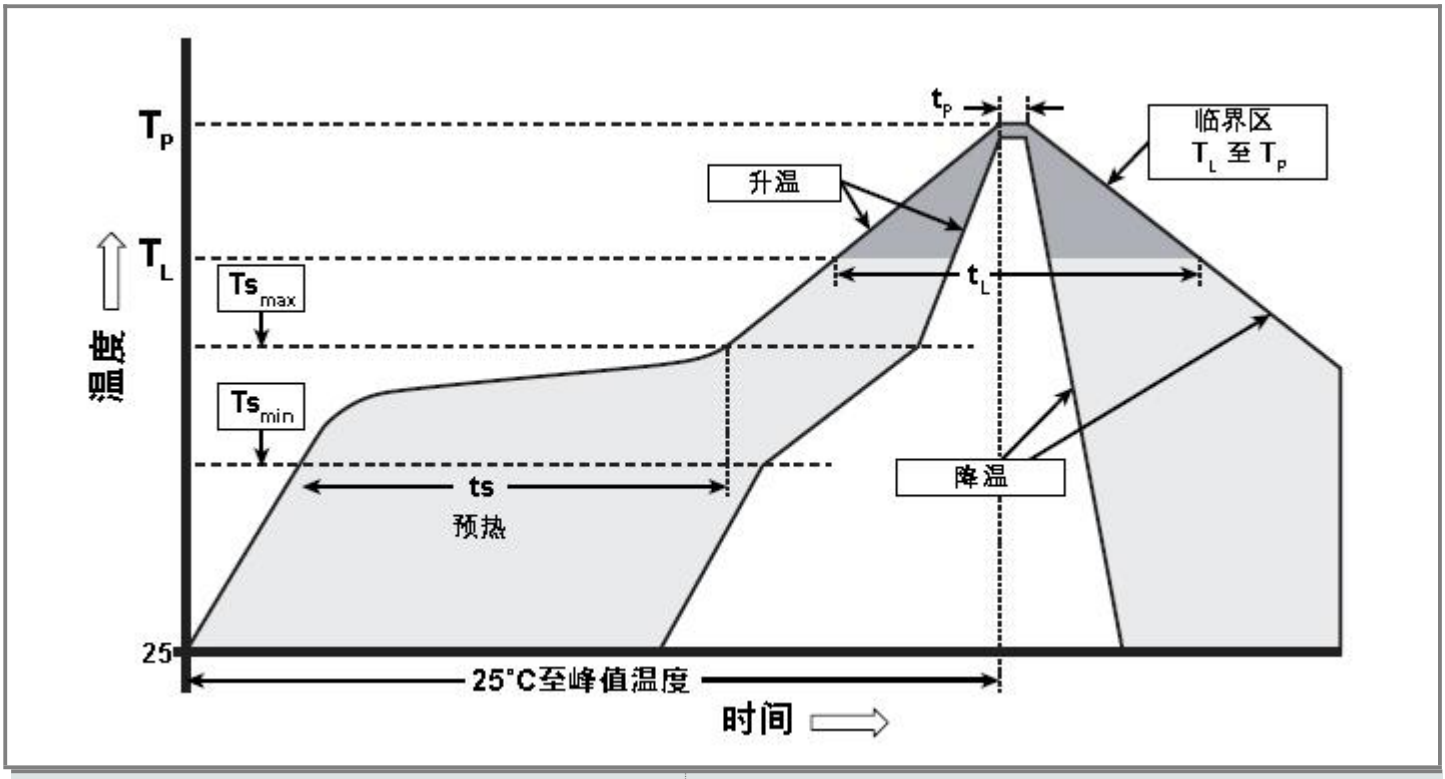
Dimension (Unit:mm)

Tolerance+/-0.1mm





Reflow Soldering



Reflow Soldering Characteristics	lead-free solder
Average Ramp Up (Ts max to Tp)	1.2 °C/second max.
Preheat (Tsmin)	120 °C
Preheat (Tsmax)	170 °C
Preheat (tsmin to tsmax)	60-150 seconds
Temp Maintenance: (TL)	217 °C
Time Maintenance :(tL)	50-90 seconds
Peak Temp (Tp)	235-245 °C
(5°C before Reach 220 °C)(tp)	20-40 seconds
Ramp Down	6 °C/second max.
25°C(Time to Reach Peak Temp)	4 minutes max.

Notes: The data in the document is juts for reference. Pleases do the initial inspection in accordance with the reflow soldering characteristics in data sheet strictly (Tolerance should be considered). Do not proceed mass production before initial inspection in order to avoid unnecessary loss.

Reliability Tests

Test Items	Test Conditions	Sample Quantity	Ac/Re
Aging Test	IF=350mA Ta=25°C×1000hrs	22	0/1
	IF=350mA Ta=85°C×1000hrs	22	0/1
High Temperature Storage	100℃ × 1000 hours	22	0/1
Low Temperature Storage	-40℃ × 1000 hours	22	0/1
High Temp & Humidity	IF=350mA 85°C, 85 %RH for 1000 hours	22	0/1
Temperature Shock	-40℃ × 30 minutes – +100℃ × 30 minutes, 100 cycle	22	0/1
ESD (HBM)	2000V HBM/Time	10	0/1

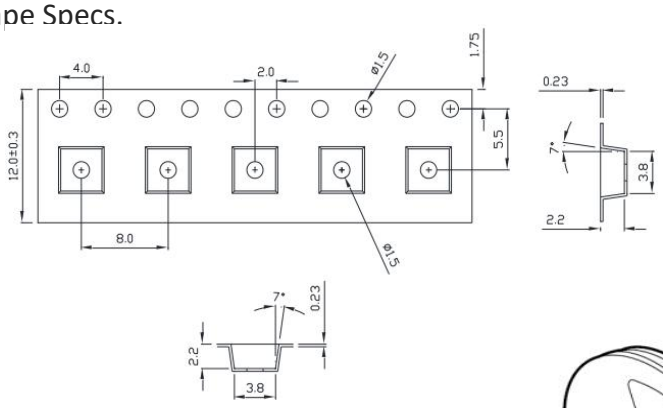
Criteria for Judging Led Failure (Tc=25°C)

Items	Symbol	Test Conditions	Criteria for Judging LED Failure
Forward Voltage	VF	IF=350mA	>U × 1.1
Reverse Current	IR	VR=5V	IR≥10μA
Luminous Flux	ϕv	IF=350mA	<S × 0.7

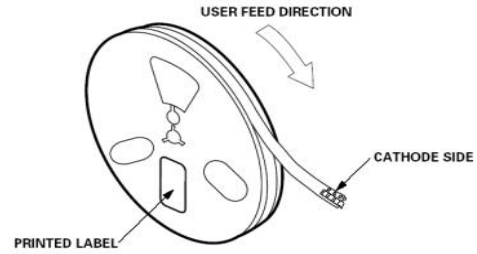
U refers to max value； S refers to initial value.
Notes： Judging criteria based on Tc=25°C.

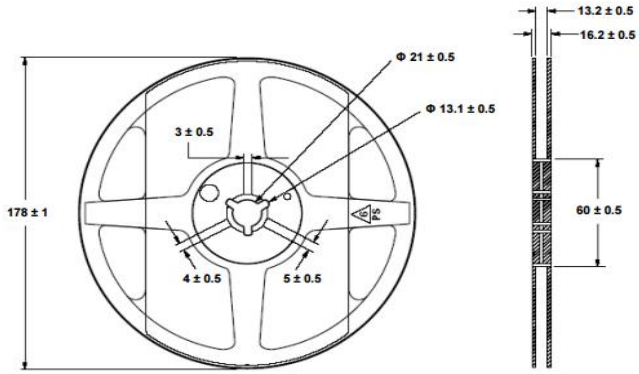
Packaging (Unit:mm)

Tape Specs.

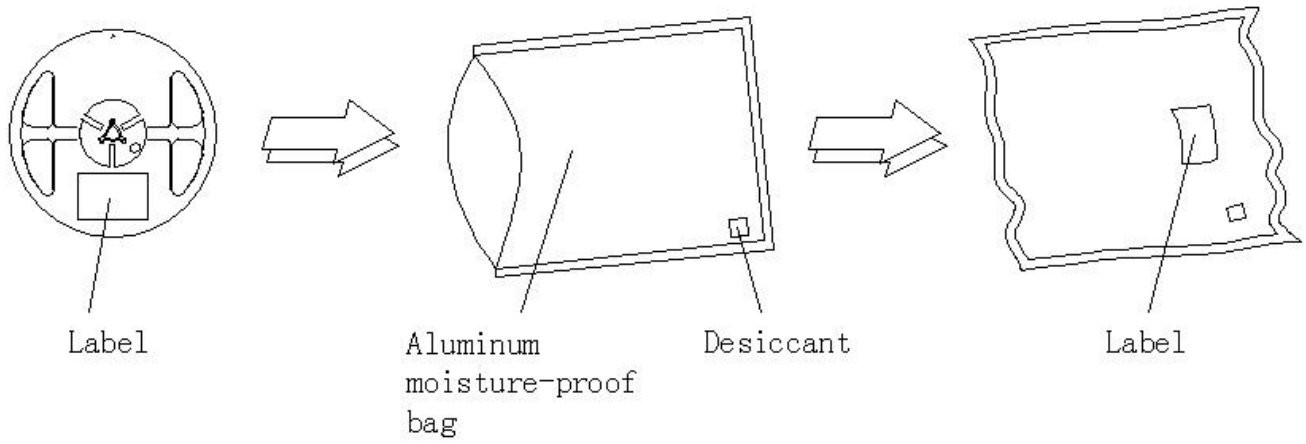


Reel Specs. 1000pcs/reel





Moisture Barrier Bag



Precautions

Product Specifications

This is a product family data sheet without extra emphasis on a specific model. The specifications in the document refers to its general value under certain test conditions. Please consult sales representative or technical people if encounters specs that are not listed. (Tolerance should be considered).

Operation Tips

1. Middle temperature solder paste is recommended to lead-free reflow soldering. The maximum temperature set up to 220 °C ± 5 °C (the actual temperature of the tunnel furnace should be daily measured). The time of peak temperature must less than 45 seconds. Over-temperature, overtime will lead to lens off, deformation. Please do not put any pressure on the product during reflow soldering process. When the product cool to the room temperature, it can go to the following manufacturing process.

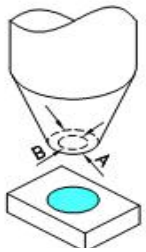
2. Stencil thickness recommended 0.08mm.
3. Please don't use heating platform to solder the LEDs.
4. To protect the LED from damage, please don't impact or pile up the LEDs after reflow soldering.

Service Conditions

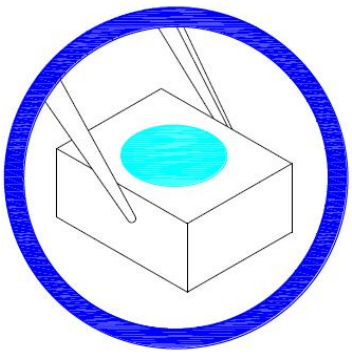
1.The LEDs should be dehumidified @65 °C ± 5 °C for 12 Hours when the aluminum moisture-proof bag opened for 1 week.
2. The products must be operated within the rated range of parameters. Constant current drivers are recommended.

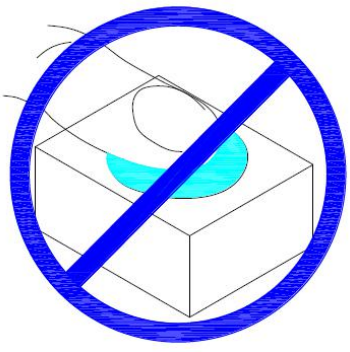
Installation

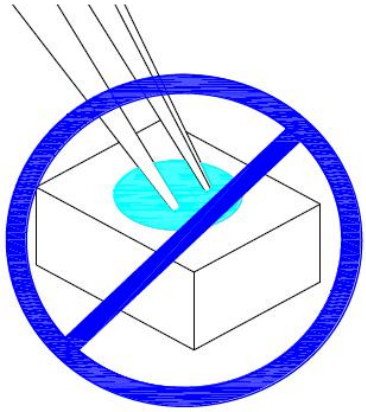
The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper.



Handle the component along the side surface by using forceps or appropriate tools; Do not directly touch or handle the silicone lens surface, it may damage the internal circuitry.

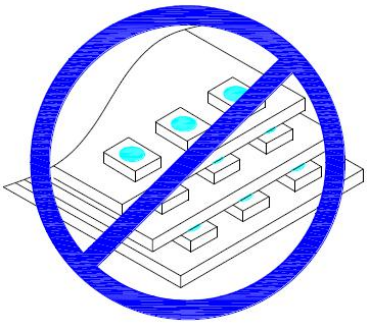






Precautions

Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage the Internal circuitry



Not suitable to operate in acidic envi-ronment, PH<7

ESD Protection

Statics or surge volt would cause LED failure. When using the products, we suggest wearing anti-static wrist strap or gloves. All devices, equipment and machinery must be grounded. Precautions should be taken to protect the products from the surge voltage generated by the devices.

Heat Dissipation

The thermal design of the end product is particularly important, please consider it seriously. Do avoid high temperature condensation on the product.

Cleaning

Recommend ethanol as the only clean solvent.

Others

The bright light emitted by LED may hurt the eyes. Do not look directly at the products when not wearing protective glasses. The strong irritant glare makes people feel uncomfortable and precautions should be taken during usage.