



Risk assessment

Company name: Razer Inc.

Company address: 9 Pasteur, Irvine, CA92618, USA

The product is defined as below:

Brand name: RAZER

Model number: RZ01-0533

Product name: Gaming Mouse

The product is including 2.4GHz function, it shall be under the Radio Equipment Directive, DIRECTIVE 2014/53/EU.

Standard used:

RED	ETSI EN 301 489-1 V2.2.3 (2019-11)
	ETSI EN 301 489-3 V2.3.2 (2023-01)
	ETSI EN 300 440 V2.2.1 (2018-07)
	EN 50663:2017
	EN 62479:2010
EMC	EN 55032:2015+A11:2020
	EN 55035:2017+A11:2020
SAFETY	IEC 62368 -1:2018
	EN IEC 62368-1:2020+A11:2020
	IEC 62133-2:2017+A1:2021



Risk assessment

Risk assessment analysis

Risk Assessment for EU RED 2014/53/EU	
Scope	Risk (Hazards) Identification
Article 3.1(a) – Health / Safety	
Item #1	Risks due to harm to humans or animals related to sharp edges and corners.
Item #2	Risks due to Acoustic sounds, Excessive sound volume may damage the hearing of the user.
Item	
RF Exposure (SAR / MPE)	
Item #1	Risks due to Radiator operational distance to human
Item #2	Risks due to Radiation to human/animals, Wireless device generate radiation causing higher level of RF exposure.
Item	
Safety	
Item #1	Risks due to electric shock, Connecting the device with improper grounded equipment
Item #2	Risks due to energy related hazards
Item #3	Risks due to heat related hazards, High temperature environment or intensive sunlight can raise the heat of the device.
Item #5	Risks due to mechanical Strength
Item #7	Risks due to chemical hazards
Item	
Article 3.1(b) - EMC	
Item #1	EMI – adaptation to inbox accessories
Item #2	EMS - adaptation to inbox accessories
Item #3	Are EMC seals likely to last the expected life of the product?
Item #4	Can normal functioning of the product be disturbed by ESD.
Item #5	Can normal functioning of the product be disturbed by receiving interference from other electronic/ electrical equipment.
Item #6	Can normal functioning of the product damage other electronic devices. Some equipment are vulnerable to interference caused by the device
Article 3.2 - Spectrum	
Item #1	Transmitter power, essential requirements of the use of radio spectrum efficiency.
Item #2	Radio spurious emission, essential requirements of the use of radio spectrum efficiency.
Item #3	Harm to the radio spectrum.
Operational Environment	
Item #1	Risks due to operational temperature
Item #2	Risks due to operational humidity
Item #3	Ideal storage temperature
Item #5	Usage in extreme conditions.
Item #6	Usage with not inbox accessories, usage of incorrect accessories may result in safety/EMC issues.
Item #7	Water areas, water or any other liquid may cause a short circuit and damage to the device.
Item #8	Pressure, excessive pressure to the device could crack the device and may also injure the user.
Item #9	Road safety, distraction while driving a car can lead to car accident and results in injury or death.
Production & Change Control	
Item #1	Are there any critical manufacturing stages during in the production process that may lead to degradation of EMC performance?
Item #2	Due to the construction of the product, are there any end of production line tests or inspections required to ensure EMC performance –if so please detail?
Item #3	Does the change control process ensure that any EMC performance critical components and constructions cannot be altered?
Item #4	Is production process standard to ensure product consistency.
Other	
Item #1	Device reliability (drop test)
Item #2	



Risk assessment

Information Requirements						
Item #1	Is there adequate operational information to the end user.					
Item #2	If product is supplied as components, sub-assemblies or subsystems which do not constitute a complete product. Are the instruction for installation and use adequate for the end user.					
Item #3	User misuse the device. Misuse the device may result in unexpected hazards.					
Risk Assessment example for EU RED 2014/53/EU						
Company		Product model name		Date		
Razer Inc.		Gaming Mouse		20/05/2025		
Scope	Risk (Hazards) Identification	Risk Analysis	Risk Evaluation			Risks Control Measures
			Low	Medium	High	
Article 3.1(a) – Health / Safety						
Item #1	Risks due to harm to humans or animals related to sharp edges and corners.	Edges and corners may do harm to humans or animals	X			Safety test conducted and Passed
Item #2	Risks due to Acoustic sounds, Excessive sound volume may damage the hearing of the user.	Acoustic sounds, Excessive sound volume may damage the hearing of the user.	X			Safety Guideline have being mention in the user manual mentioning listerning of excessive loud volumne over a long peroid will damage hearing.
Item #1	Risks due to Radiator operational distance to human	The radio may influence the human's body when use in very short distance	X			RF testing have being conducted and Passed
Item #2	Risks due to Radiation to human/animals, Wireless device generate radiation causing higher level of RF exposure.	The radio may influence the Wireless device generate radiation causing higher level of RF exposure.	X			RF testing have being conducted and Passed
Safety						
Item #1	Risks due to electric shock, Connecting the device with improper grounded equipment	Connecting the device with improper grounded equipment may do harm to humans	X			Saftey test have being conducted.
Item #2	Risks due to energy related hazards	Radiation may do harms to humans	X			Emission tests have be conducted and passed
Item #3	Risks due to heat related hazards, High temperature environment or intensive sunlight can raise the heat of the device.	The overheat of the device may do harm to humans	X			Safety Guidline have being mention in the user manual mentioning to oprate the device within the specific temperature.
Item #4	Risks due to chemical hazards	The harmful chemical material may do harm to humans	X			REACH test have been conducted
Article 3.1(b) – EMC						
Item #1	EMI – adaptation to inbox accessories	User effect on EMC/EMI	X			Tested and passed using the accessories come with the retail box
Item #2	EMS - adaptation to inbox accessories	User effect on EMC/EMI	X			Tested and passed using the accessories it come with the box



Risk assessment

Item #3	Are EMC seals likely to last the expected life of the product?	N/A	-			N/A
Item #7	Can normal functioning of the product be disturbed by ESD.	Normal functioning of the product may be disturbed by ESD	X			ESD tested and passed according IEC 61000 4-2
Item #8	Can normal functioning of the product be disturbed by receiving interference from other electronic/ electrical equipment.	Normal functioning of the product may be disturbed by receiving interference from other electronic/ electrical equipment.	X			Radisted immunity test have beconducted and passed IEC 61000 4-5
Item #9	Can normal functioning of the product damage other electronic devices. Some equipment are vulnerable to interference caused by the device	Normal functioning of the product damage other electronic devices. Some equipment are vulnerable to interference caused by the device	X			Conducted immunity test have being conducted and passed IEC61000 4-6
Article 3.2 - Spectrum						
Item #1	Transmitter power, essential requirements of the use of radio spectrum efficiency.	The high transmitter power and wrong use method may do harm to radio spectrum.	X			RF test have be conducted and test passed
Item #2	Radio spurious emission, essential requirements of the use of radio spectrum efficiency.	The high radio spurious emission and wrong use method may do harm to radio spectrum.	X			RF test have be conducted and test passed
Item #3	Harm to the radio spectrum.	The product may do harm to radio spectrum.	X			RF test have be conducted and test passed
Operational Environment						
Item #1	Risks due to operational temperature	Too low or high operational temperature may do harm to humans	X			Safety Guidline have being mention in the user manual mentioning to oprate the device within the specific temperature.
Item #2	Risks due to operational humidity	Too low or high operational humidity may do harm to humans	X			Safety Guidline have being mention in the user manual mentioning to oprate the device within Dry contition and keep away from liquid.
Item #3	Ideal storage temperature	Improper storage temperature may do harm to product	X			Safety Guidline have being mention in the user manual mentioning to maintanin the headset
Item #4	Usage in extreme conditions.	The usage in extreme conditions may do harm to humans	X			Safety Guidline have being mention in the user manual mentioning to oprate the device within the specific temperature.
Item #5	Usage with not inbox accessories, usage of incorrect accessories may result in safety/EMC issues.	Usage with not inbox accessories, usage of incorrect accessories may	x			Product already come with accessories all accessories it need



Risk assessment

		result in safety/EMC issues.				
Item #6	Water areas, water or any other liquid may cause a short circuit and damage to the device.	Water areas, water or any other liquid may cause a short circuit and damage to the device.	X			Safety Guideline have being mention in the user manual mentioning to oprate the device within Dry contition and keep away from liquid
Production & Change Control						
Item	Due to the construction of the product, are there any end of production line tests or inspections required to ensure EMC performance –if so please detail?	Series production quality.	X			controls all drawing and component specification. Factory is under ISO 9001.
	Does the change control process ensure that any EMC performance critical components and constructions cannot be altered?	Design change control.	X			follows a formal design change request process. Regulatory Engineering reviews all changes and evaluates risk of change and retests when required before a change is approved.
	Is production process standard to ensure product consistency.	Production process				follows a formal design change request process. Regulatory Engineering reviews all changes and evaluates risk of change and retests when required before a change is approved.
Information Requirements						
Item #1	Is there adequate operational information to the end user.	Inadequate operational information may do harm to humans	X			Available by means of safety manual
	If product is supplied as components, sub-assemblies or subsystems which do not constitute a complete product. Are the instruction for installation and use adequate for the end user.	Improper installation of the device may do harm to humans	X			Mounting instructions for service personnel available
Item	User misuses the device. Misuse the device may result in unexpected hazards.	Misuse usage of the device may do harm to humans	X			Mounting instructions for service personnel available

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Signature: