



# ARACION

INNOVATION | COMMITMENT | EXCELLENCE

EMC/Microwave/RF Testing Solutions | Turnkey Lab Setups | Product Testing Lab

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# COMPANY PROFILE

## ARACION: EMPOWERING INNOVATION THROUGH COMMITMENT AND EXCELLENCE

Based in London, United Kingdom, Aracion has been at the forefront of RF, wireless, 5G, and testing services since its establishment in 2014. Our mission is to provide tailored solutions to electronic OEMs, ODMs, and R&D companies throughout their product lifecycle, from conception to regulatory compliance

### **Pioneering Solutions:**

Aracion boasts an in-house Research and Development team dedicated to innovation. Whether your focus is wireless, RF, EMC, 5G, or testing and measurement, our reputation for delivering customized, cutting-edge services precedes us.

### **Industry Insight:**

Our experts are well-connected with the committees that set industry standards, ensuring that our clients' testing facilities align seamlessly with their business objectives.

**Our objective** is to earn the distinction of being a vital partner in the emerging application economy. We aim to empower our clients to achieve exceptional returns on their technology investments through our top-tier industry solutions, deep domain expertise, and global reach.

# EMC CHAMBERS

Our EMC Anechoic Test Chambers are shielded enclosure lined with high performance anechoic (anti-echo) material.

This creates an accurate, stable and repeatable testing environment for EMC measurements.

## Markets

Aerospace and Defense

Consumer Electronics

Telecommunications

Automotive

## OUR SOLUTIONS

### Industry Standards

Commercial, Automotive, Military, Residential, Aeronautic

### Standard Chambers

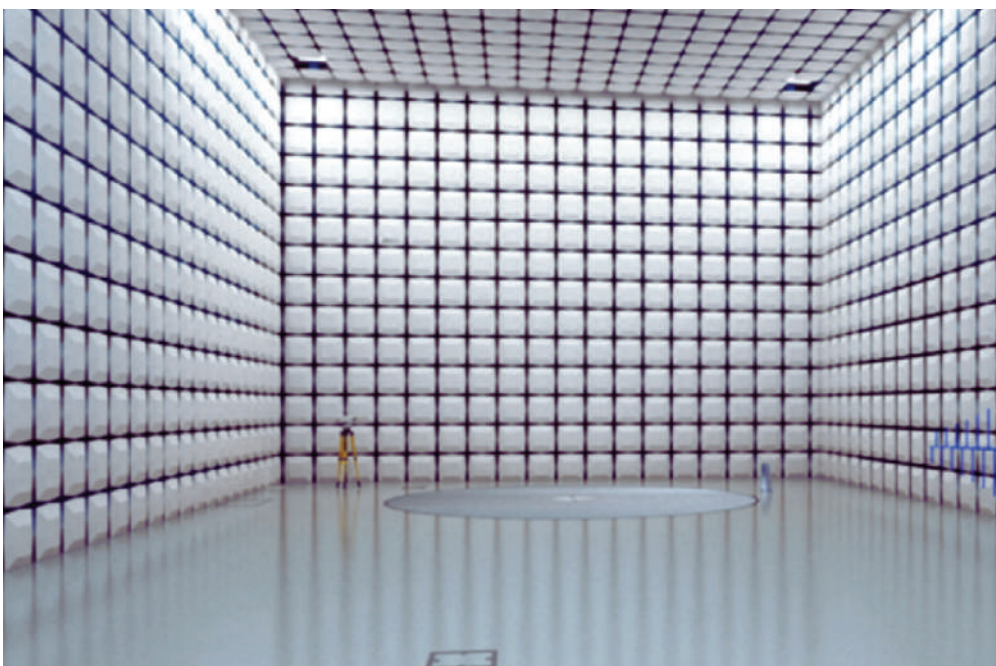
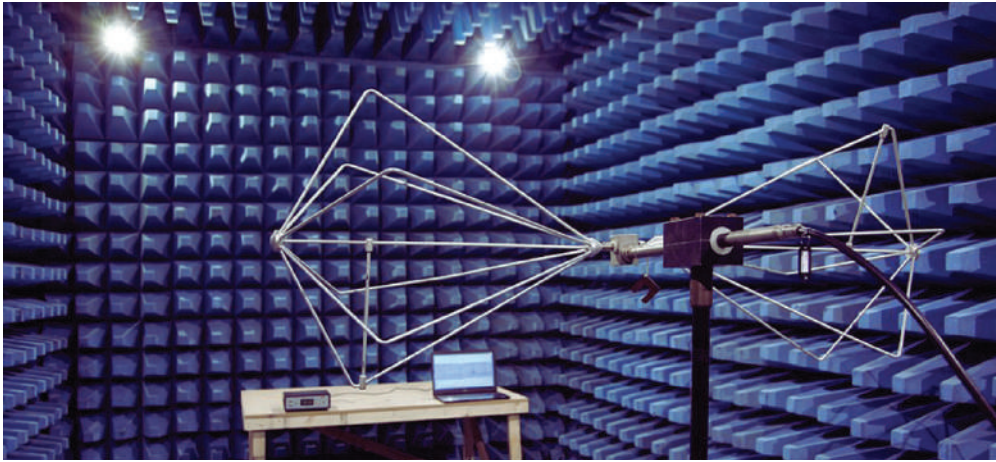
Test chambers for measurement testing at 1m, 3m, 5m, and 10m

### Pre-Compliant & Compliant Solutions

Standard chamber configurations available for R&D and product certification

### Semi-Anechoic Chamber Or Fully-Anechoic Chamber

For tests with a reflective floor plate or in completely reflection-free chambers.





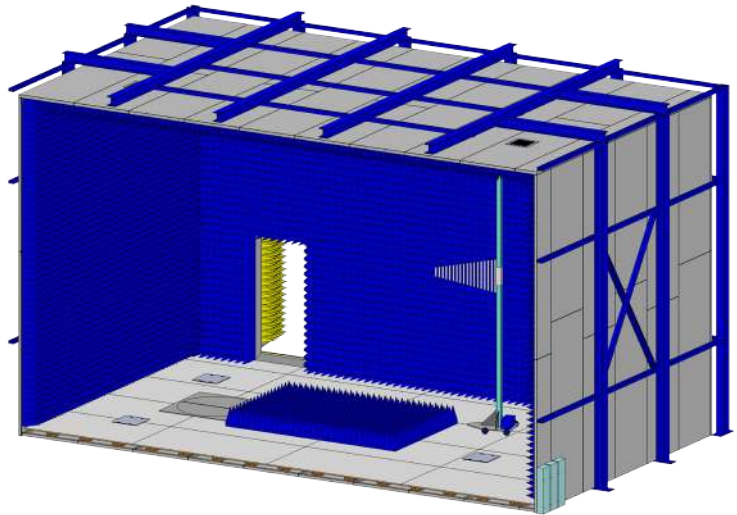
## SEMI-ANECHOIC CHAMBERS

Aracion's Semi-Anechoic Chambers offer meticulously controlled environments for conducting precise electromagnetic testing. Featuring specialized absorbers strategically placed on walls and ceilings, these chambers are perfectly suited for EMC Testing of smaller products, guaranteeing adherence to Radio Directives and regulatory standards. Our innovative design ensures that each chamber is tailored to meet the highest standards in precision testing, providing accurate and reliable results.

**Frequency Range: 30 MHz-18/40 GHz**

### Applications:

1. EMC Testing
2. Radio Directive Compliance
3. Antenna Testing
4. Wireless Communication Devices
5. Automotive Electronics
6. Aerospace and Defense



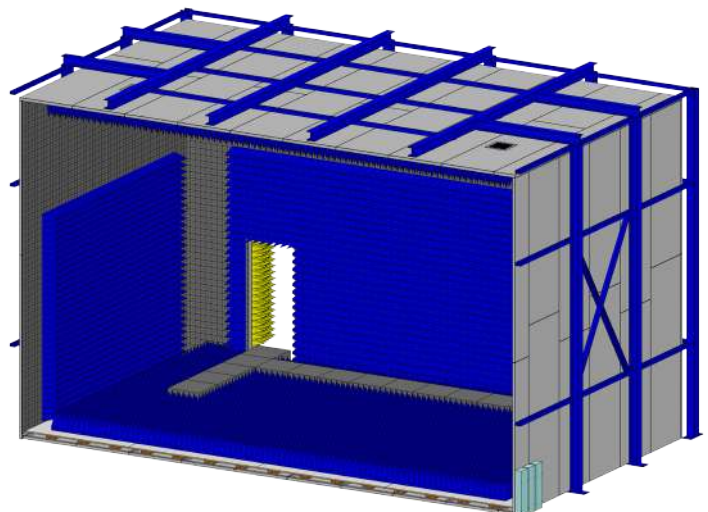
## FULL-ANECHOIC CHAMBERS

Aracion's Full Anechoic Chambers replicate free space conditions by enveloping all surfaces, including the floor, with specialized absorbers. This configuration is perfectly suited for conducting EMC Testing on compact products and ensuring compliance with Radio Directives. Aracion's innovative approach guarantees a tailored testing environment that meets the highest standards in precision testing for electromagnetic compatibility.

**Frequency Range: 80 MHz-110 GHz**

### Applications:

1. EMC Testing
2. Antenna Pattern Measurement
3. Wireless Device Testing
4. Radar Cross Section (RCS) Measurement
5. Radio Frequency (RF) Propagation Studies
6. Electromagnetic Interference (EMI) Testing





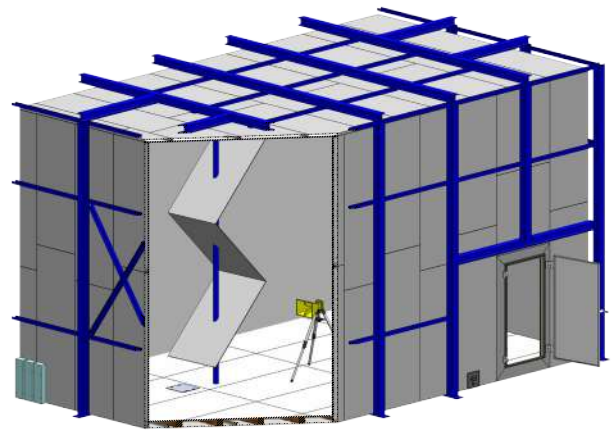
## REVERBERATION CHAMBER

Aracion's Reverberation chambers are meticulously crafted to address the exacting demands of Electromagnetic Compatibility (EMC) testing across a spectrum of industries. Engineered with precision at the forefront, our chambers ensure uniform field distribution, spanning a wide frequency range to accommodate the testing needs of diverse electronic devices. The adaptive stirring system further augments field uniformity, enabling versatile configurations tailored to specific testing requirements.

### Frequency Range: up to 110 GHz

#### Applications:

1. Automotive: Validate the EMC performance of automotive electronics and onboard systems to ensure compliance with industry standards and regulations
2. Aerospace: Certify the electromagnetic compatibility of avionics, communication systems, and aerospace electronics for optimal performance in flight operations.
3. Defense: Verify the EMC resilience of defense electronics and communication systems to ensure mission-critical functionality and reliability.



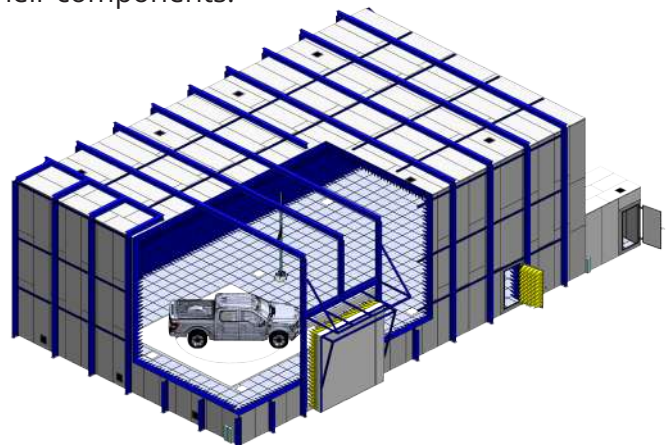
## AUTOMOTIVE CHAMBER

Aracion's Automotive Testing Chambers represent a pinnacle in automotive testing excellence, engineered to surpass the rigorous standards of the automotive industry. Setting new benchmarks, these chambers offer a versatile and meticulously controlled environment for comprehensive testing. From climate simulation to vibration and shock testing, they provide an all-encompassing solution, ensuring the durability and reliability of vehicles and their components.

### Frequency Range: up to 110 GHz

#### Applications:

1. Vehicle Durability Testing
2. Component Testing: Assess the performance and reliability of individual vehicle components
3. Climate and Environmental Testing

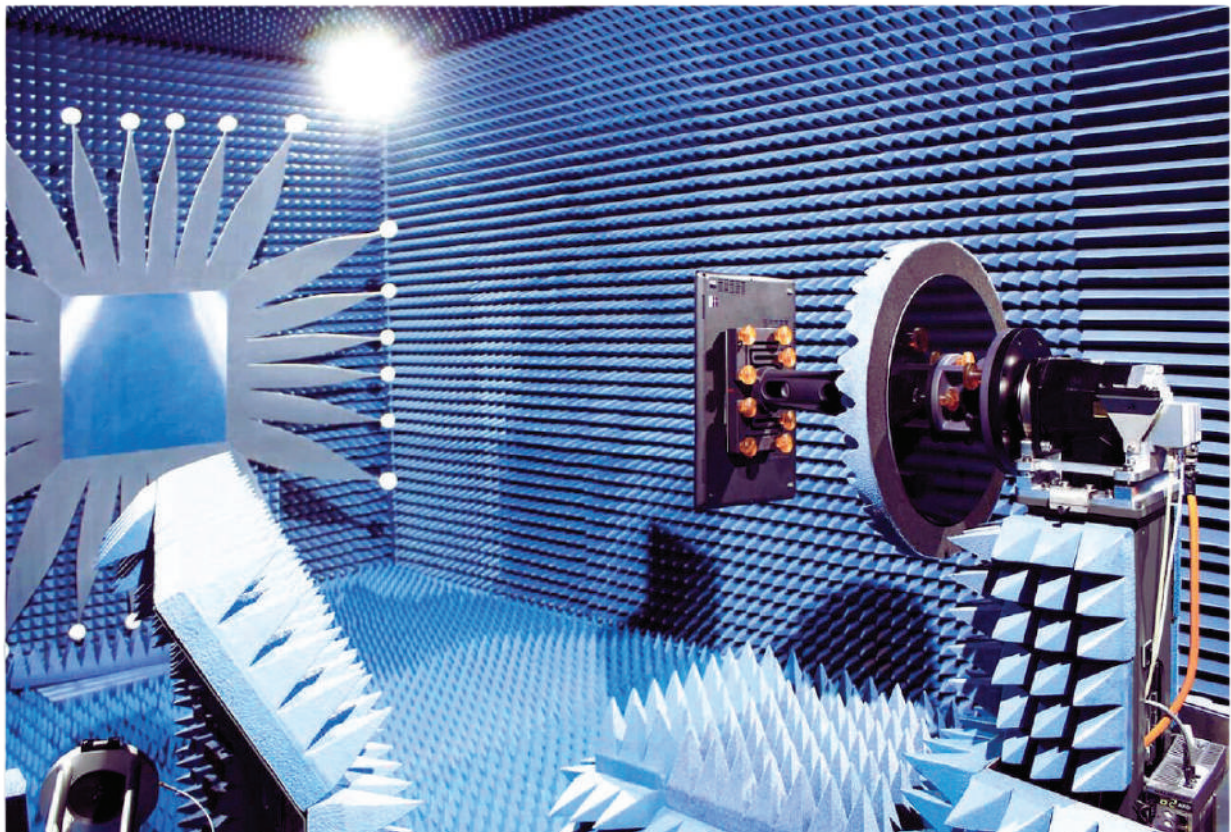


# MICROWAVE CHAMBERS

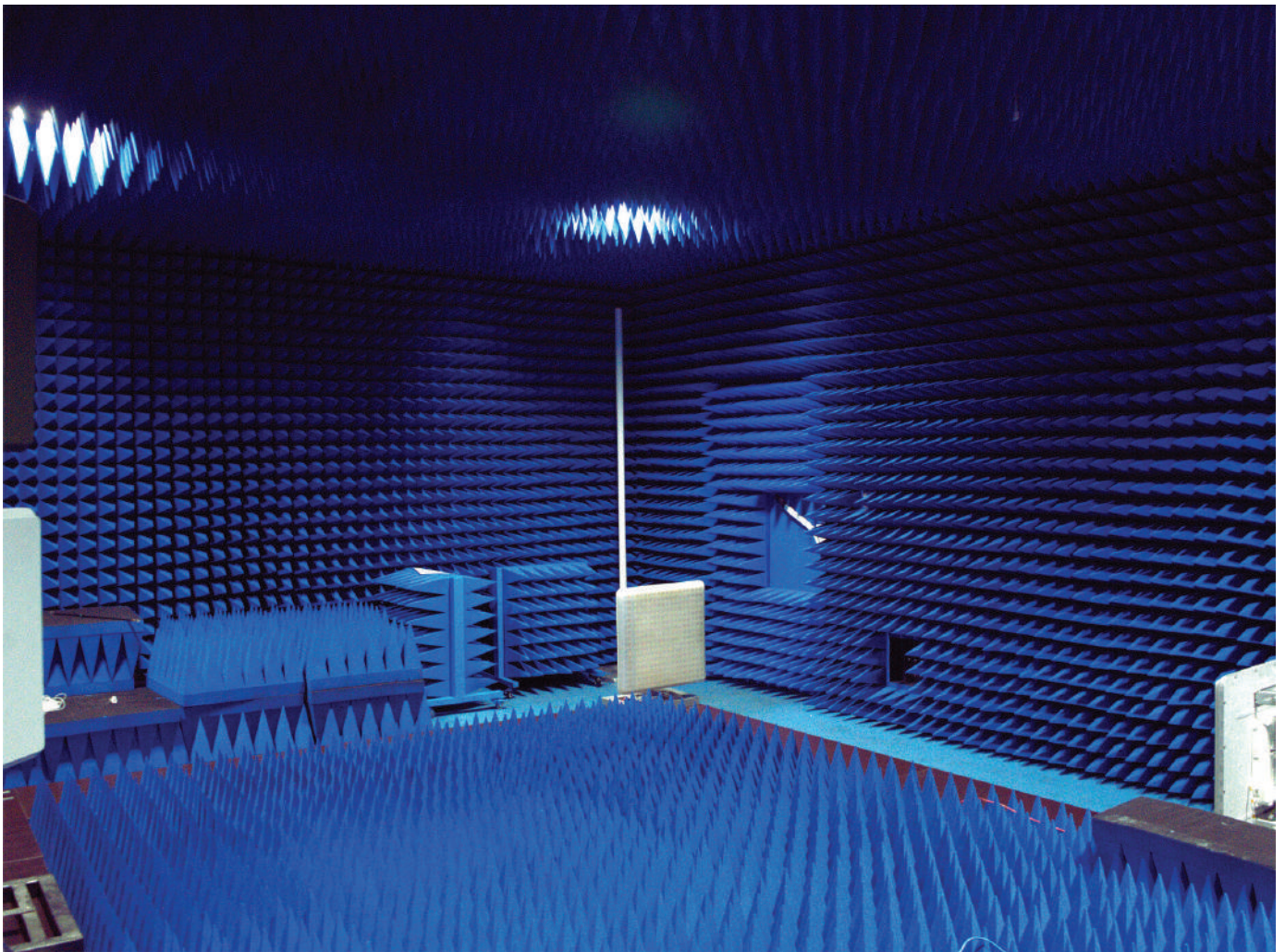
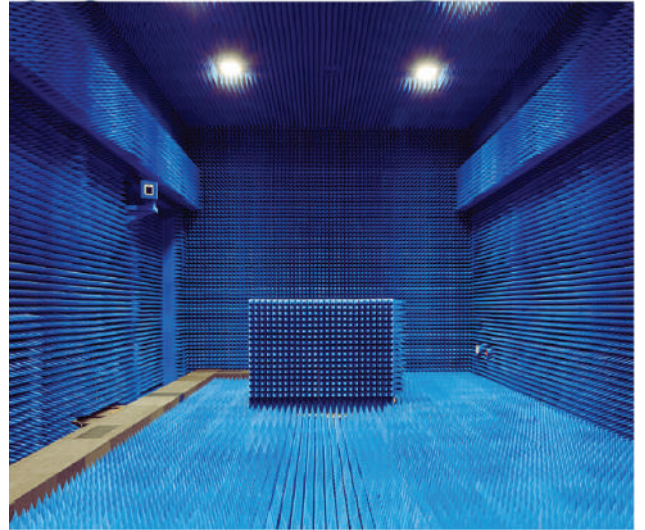
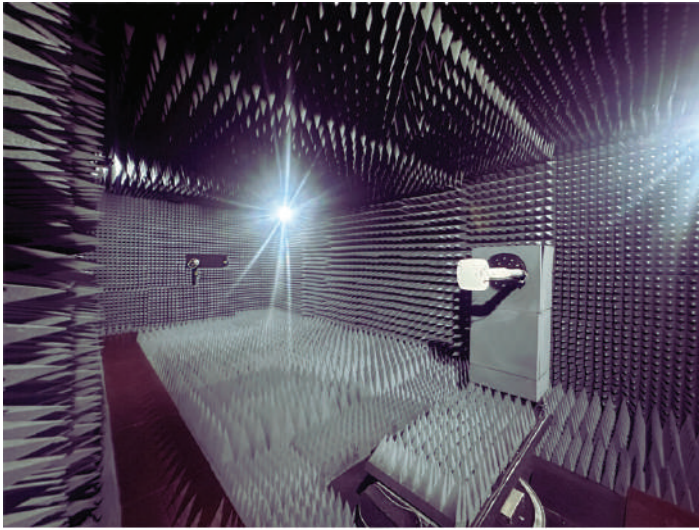
Our chambers can be designed for frequencies extending from 70 MHz to 110 GHz, depending on the requirements. We design these chambers individually to suit the specific application and detailed customer wishes. Test applications extend from RFID chips to satellites.

## Applications

Antenna measurement chambers: Tests of non-mounted antennae for near field (NF), far-field (FF) applications or as compact range solutions Over-the-air testing (OTA): Testing of wireless communication devices such as smartphones or tablets, based on the standards applied by the industry association CTIA RFID chips: Testing of the antennae properties of RFID chips Radar cross-section (RCS): Testing of the radar cross-section Radome: Testing of electromagnetic permeability for domed structures protecting antenna.









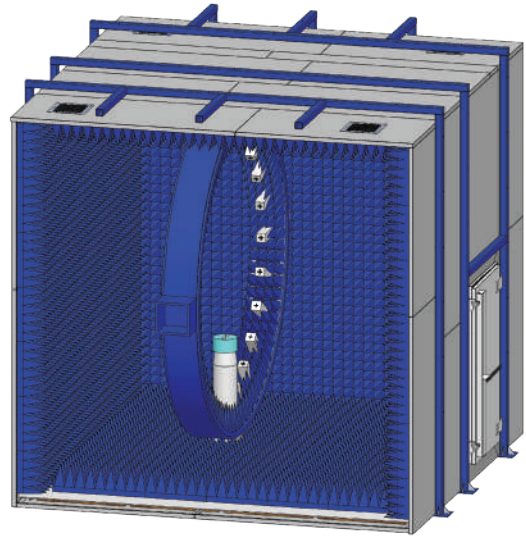
## MIMO CHAMBERS

Aracion's MIMO Chambers are the pinnacle of excellence in testing wireless communication systems. Crafted with precision engineering and equipped with an adaptive antenna system, our chambers guarantee unparalleled spatial coverage accuracy and dynamic flexibility. Setting the standard for advanced technology, these chambers provide a sophisticated platform for nuanced evaluations in wireless communication.

**Frequency Range: up to 110 GHz**

### Applications:

1. Wireless Communication System Testing
2. Antenna Array Characterization
3. Beamforming Algorithm Validation
4. Multiple Input Multiple Output (MIMO) Device Performance Evaluation
5. Channel Capacity and Throughput Testing
6. 5G and Wi-Fi System Optimization



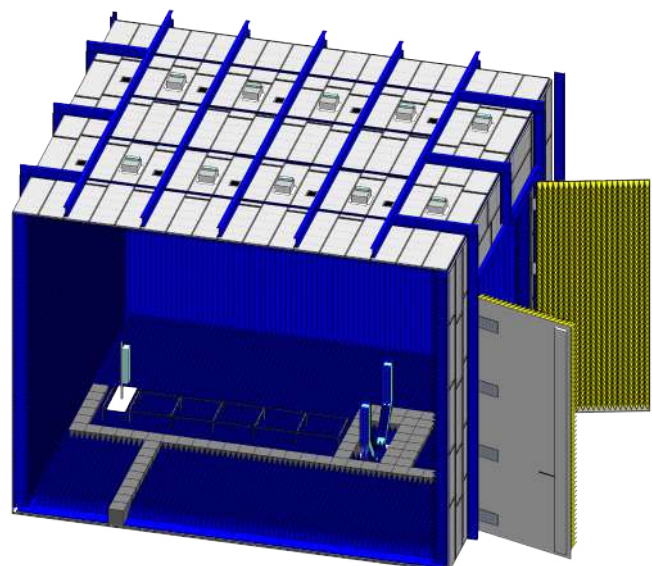
## PIM CHAMBERS

Aracion's PIM Chambers are the epitome of precision engineering, crafted to meet the stringent testing requirements across diverse industries. With unrivalled accuracy, these chambers provide a controlled environment for precise Passive Intermodulation (PIM) assessments. Featuring advanced attributes such as a wide frequency range and customizable configurations, our PIM Chambers offer versatile solutions for testing and validating PIM-prone devices.

**Frequency Range: Up to 110 GHz**

### Applications:

1. Testing Passive Intermodulation (PIM) in Telecommunication Systems
2. Antenna and RF Component Testing
3. Base Station and Tower Site Testing
4. Radio Frequency (RF) System Validation
5. Wireless Network Optimization
6. Interference Analysis and Mitigation



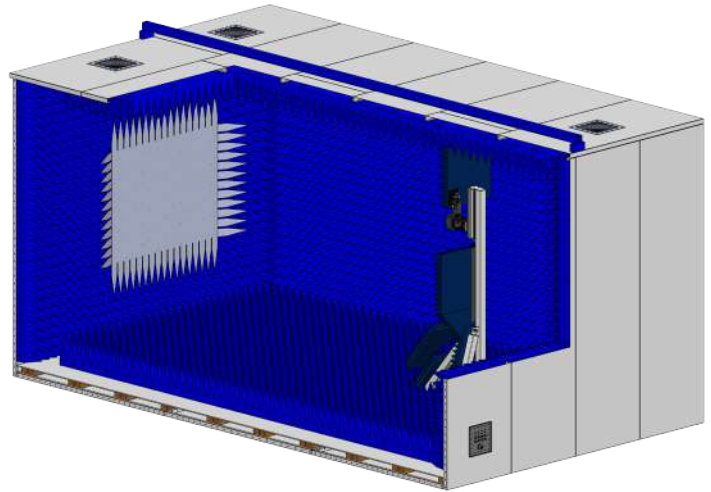
# COMPACT ANTENNA TEST RANGE CHAMBERS (CATR)

Aracion's CATR Chambers are at the forefront of Compact Antenna Test Range (CATR) testing, delivering unparalleled precision across diverse industries. These chambers provide a highly controlled testing environment, ensuring accurate assessments of antennas and their performance. With advanced features like an expansive frequency spectrum and adaptable configurations, they offer flexible solutions to meet the diverse needs of antenna testing and validation.

**Frequency Range: Up to 110 GHz**

## Applications:

1. Antenna Testing and Characterization
2. Radar Cross Section (RCS) Measurement
3. Wireless Communication System Testing
4. Satellite Communication System Testing
5. Radio Frequency (RF) Propagation Studies
6. Automotive Radar Testing



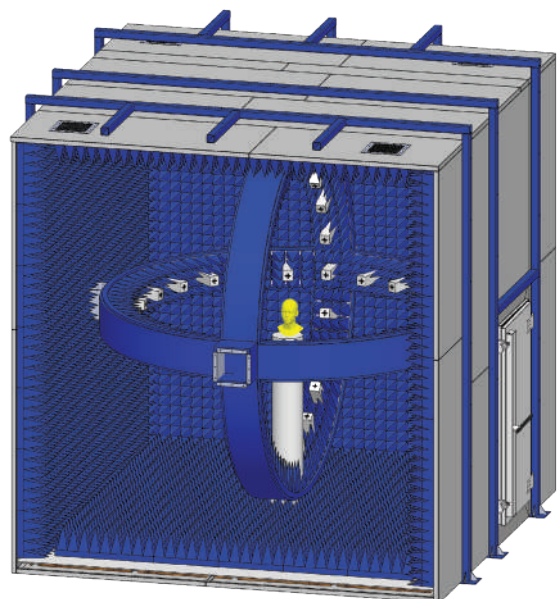
# OTA/CTIA CHAMBERS

Aracion's OTA/CTIA Chambers are accurately crafted for precise Over-The-Air (OTA) testing, ensuring compliance with CTIA standards. These chambers provide a controlled environment for accurate evaluations of mobile devices and antennas, delivering reliable results. Equipped with advanced technology, they offer a comprehensive solution for testing 5G millimeter-wave products.

**Frequency Range: Up to 110 GHz**

## Applications:

1. Mobile Device Performance Testing
2. Antenna Efficiency and Radiation Pattern Measurement
3. 5G NR and LTE Conformance Testing
4. Wireless Communication Device Certification
5. Wi-Fi and Bluetooth Device Testing
6. Carrier Acceptance Testing



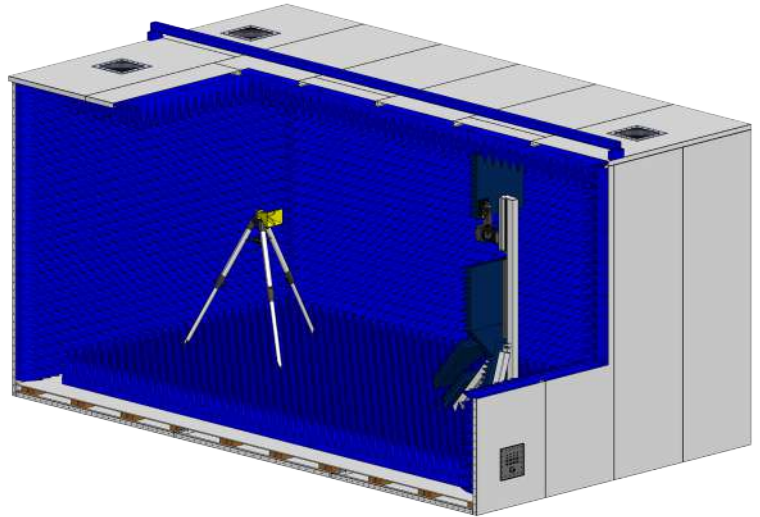
## FAR FIELD/NEAR FIELD CHAMBERS

Aracion's Far-Field and Near-Field Chambers are meticulously designed for wireless device testing, adhering to 3GPP/CTIA standards. In Far-Field configurations, they accurately measure antenna characteristics such as gain and efficiency, while Near-Field setups enable detailed assessments of electromagnetic fields, phase, and polarization. Seamlessly integrating with device development workflows, these chambers offer efficient and precise testing solutions.

**Frequency Range: Up to 110 GHz**

### Applications:

1. Antenna Pattern Measurement
2. Radar Cross Section (RCS) Testing
3. Wireless Communication Device Testing
4. Wireless Network Optimization
5. Automotive Radar System Testing



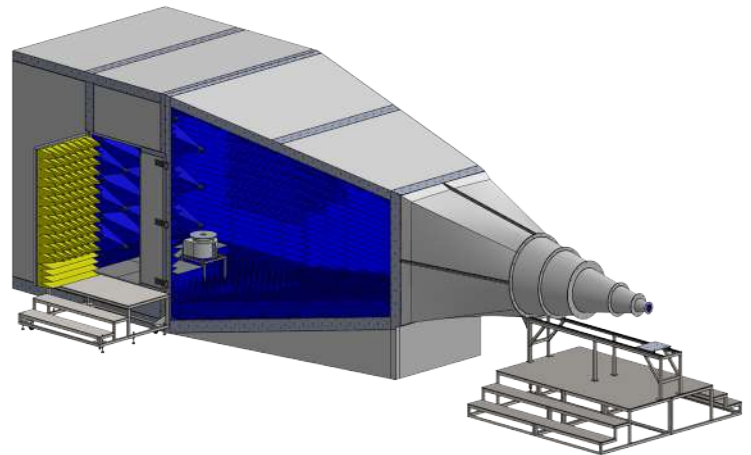
## TAPERED CHAMBERS

Aracion's Tapered Chambers are engineered indoor spaces tailored for antenna measurements. Anechoic in nature, they create a controlled environment ideal for Electromagnetic Compatibility (EMC) testing, minimizing interference. Featuring microwave-absorbing materials on walls, ceilings, and floors, these chambers ensure superior field uniformity, reduced stray signals, and cost-effectiveness compared to traditional setups.

**Frequency Range: Up to 110 GHz**

### Applications:

1. Antenna Pattern Measurement
2. Electromagnetic Compatibility (EMC) Testing
3. Wireless Communication Device Testing
4. Aerospace and Defense Radar System Testing
5. Automotive Radar and Communication System Testing.



# DEFENSE AND AEROSPACE SOLUTIONS

Embark on a journey of innovation and excellence with Aracion's Defense and Aerospace Solutions, meticulously crafted to surpass the exacting standards of military and aerospace testing requirements.

## Key Features:

- Comprehensive EMC Testing: Ensure adherence to MIL-STD-461, Mil-STD 464 and DO-160 standards for electromagnetic compatibility (EMC) and environmental conditions in aerospace testing.
- Flexible Configurations: Adapt to diverse testing scenarios with customizable designs, offering versatility in testing setups.
- Advanced EMI Shielding: Utilize cutting-edge electromagnetic interference (EMI) shielding technology for a controlled testing environment.
- Environmental Control: Maintain precise control over temperature and mechanical vibrations, meeting the stringent conditions specified in DO-160.
- High power absorbers available for radar and other applications
- Available as a Turnkey Package – chamber, Antenna & mast, turntables, instrumentation and software

## Advantages:

- Compliance Assurance: Ensure reliability and accuracy with solutions that adhere to MIL-STD-461 and DO-160 standards.
- Versatile Testing Capabilities: Customize configurations to test a wide range of equipment, from avionics to communication systems.
- State-of-the-Art EMI Shielding: Guarantee interference-free testing with advanced shielding technology tailored to military and aerospace applications.

## Industry Applications:

- Military Electronics: Validate the electromagnetic compatibility of military electronics and communication systems for critical defense applications.
- Aerospace Components: Assess the functionality and reliability of avionics, radar systems, and other aerospace components in controlled testing environments.
- Aviation Systems: Ensure the resilience and performance of aviation systems under diverse environmental conditions specified in DO-160.



# ESPIONAGE AND DATA PROTECTION

Leveraging advanced technology and expertise, our comprehensive Espionage and Data Protection Solutions are tailored to meet the stringent security requirements of government agencies, defense organizations, and other sensitive industries.

## Key Features:

- **Secure Data Transmission:** Utilize specialized technology to suppress compromising emanations and ensure separation between secure communication environments, with TEMPEST tested and approved products.
- **Use-Case Specific Isolation and Conversion:** Provide isolation and conversion for common installation needs, such as integrating audio channels, RS-232 interfaces, and contact closures for secure networking, ensuring seamless integration into diverse communication environments while maintaining security.
- **Transparent Operation:** Perform data and clock buffering while remaining completely transparent to protocols, handshaking, and signaling, ensuring compatibility with existing systems and applications without compromising security or functionality.

## Advantages:

- **Government and Defense:** Ideal for high-security communication environments, protecting classified information and sensitive data from espionage threats.
- **Critical Infrastructure Protection:** Safeguard energy, transportation, and telecommunications networks from cyber threats and unauthorized access.
- **Financial and Healthcare Sectors:** Provide secure communication channels for financial institutions and healthcare organizations, protecting sensitive financial data, patient records, and proprietary information.
- **Secure Networking:** Widely used in secure audio and video transmission, remote monitoring, and command and control systems, ensuring the integrity and confidentiality of communications.

# RF SHIELDING SOLUTIONS

## WHERE EXCELLENCE MEETS PRECISION

### 1. RF SHIELD ENCLOSURES

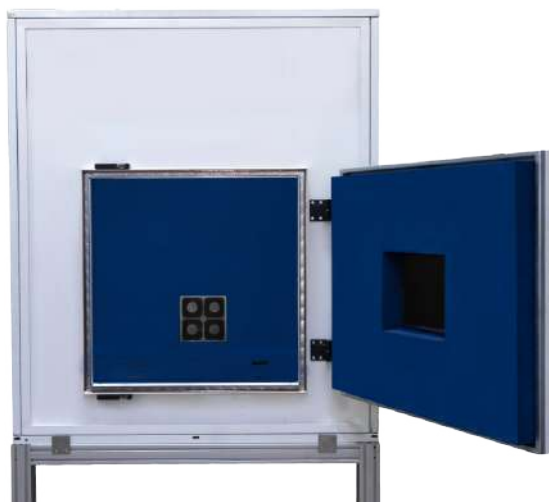
Contemporary RF shield enclosures demand exceptional RF isolation, comprehensive spectral and application coverage, durable construction, and versatile customization options to address the exacting needs of a wide range of applications. At Aracion, we take pride in our consistent delivery of RF shield boxes that not only excel in providing the highest levels of RF isolation and performance but are also tailored to meet the specific and demanding requirements of our customers, all while maintaining cost-effectiveness.

#### Applications

- RF Testing
- Wireless Communication Device Testing
- Iof Device Testing
- Mobile Device Testing
- Research and Development
- Compliance Testing

#### Key Specifications

- Reliable High RF Shielding up to 120 dB from 0.1GHz to TOGHz
- Dimensions, Filters and I/Os can be customized
- Customizable absorbers and accessories
- Compact design to test multiple DUTs



# ABSORBERS

Aracion's absorbers set a new standard for precision in EMC and RF testing. Offering unmatched shielding capabilities and versatile customization options, our absorbers are tailored to meet the diverse needs of various industries. Fully bespoke, our absorbers guarantee reliable performance across a broad frequency range, making them essential components for critical testing environments.

## ABSORBERS FOR EMC APPLICATIONS

- Hybrid Absorbers made of Polyurethane Foam and Ferrite Tiles
- Hybrid Absorbers made of Solid EPS/EPP Foam

## ABSORBERS FOR MICROWAVE APPLICATIONS

- Fire Retardant Pyramid Absorbers for High Power applications
- Pyramid Absorbers made of thin-film coated Polyurethane Foam
- Pyramid Absorbers made of Foam
- Wedge Absorbers made of Foam
- Absorbers made of Solid EPP Foam

# HYBRID ABSORBERS MADE OF POLYURATHANE FOAM AND FERRITE TILES

Frequency Range: 30 MHz-110 GHz

Applications: 1m, 3m, 5m, 10m and FAC.



## Features:

- Standard truncated shaped or untruncated, pyramidal polyethylene foam absorber.
- Certified to fire-retardancy (GB8624-B1, B2, DIN4102-B2, ISO11925-2, UL94) and environmental specifications.
- Modular Installation techniques are available using specific adhesive, velcro-fasteners or hanging type.
- Reach and RoHs Compliant, maintaining a healthy environment for operation.
- Installed Modularly with ferrites to gain outstanding broadband performance

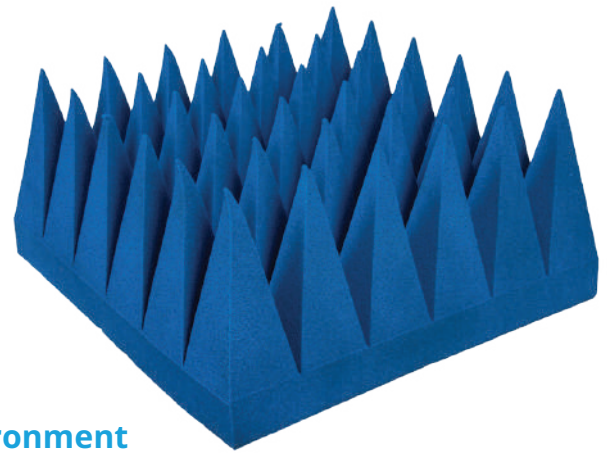
## Characteristics

Operating Temperate long time	-50°C~80°C
Operating Temperate short time	-40°C~70°C
Humidity Range	40%~80%
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Number of Pyramids				Typical Reflectivity (-dB)					Power Capacity (kW/m <sup>2</sup> )
	0.03	0.08	0.3	0.5	1	3	6	10	18	
ARPFA-P200E	11	21	15	17	11	10	11	13	15	1.5
ARPFA-P300E	11	21	16	17	11	13	15	20	20	1.5
ARPFA-P500E	12	21	17	19	17	17	20	25	25	1.5
ARPFA-P700E	14	23	20	20	18	20	25	25	30	1.5
ARPFA-T300E	11	20	17	18	15	13	17	22	25	1.5
ARPFA-T500E	13	23	20	20	16	18	22	25	28	1.5
ARPFA-T700E	15	25	21	20	20	20	25	28	30	1.5
ARPFA-P1000E	15	25	25	25	23	22	28	28	35	1.5
ARPFA-T1000E	17	25	25	25	25	30	30	35	40	1.5

Model	Base Size (mm)	Pyramids No. per piece	Size of per pyramid (mm)	Nominal weight (kg/m <sup>2</sup> )
ARPFA-P200E	600x600	81	190x65x50	4.5
ARPFA-P300E	600x600	36	300x100x60	7.3
ARPFA-P500E	600x600	16	496x145x65	11.5
ARPFA-P700E	600x600	09	700x950x130	16.5
ARPFA-T300E	600x600	16	305x145x72	11
ARPFA-T500E	600x600	09	495x195x110	13
ARPFA-T700E	600x600	04	710x295x100	19
ARPFA-P1000E	300x300	01	1000x300x150	23
ARPFA-T1000E	300x300	01	1000x300x185	28

# FIRE RETARDANT PYRAMID ABSORBERS FOR HIGH-POWER APPLICATIONS



**Frequency Range: 30 MHz-110 GHz**

**Applications: Far-Field/Near-Field, Compact Antenna Test Ranges, High Power Environment**

## Features:

- Fire-Retardancy Certified (NRL 8093 Tests 1, 2 and 3) and environmental specifications
- Excellent power handling capacity assured under continuous wave exposure.
- Maximum Incident Power Density @6kW/m<sup>2</sup>
- Modular installation techniques are available using rail mounting without adhesive
- REACH and RoHS compliant, maintaining a healthy environment

## Characteristics

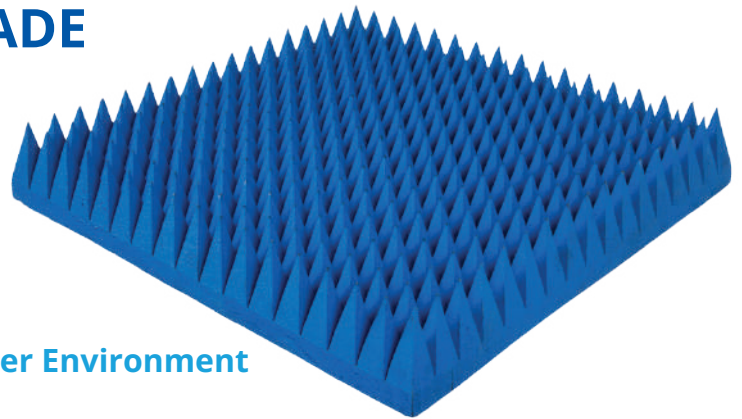
Operating Temperate long time	-50°C~120°C
Operating Temperate short time	-50°C~150°C
Humidity Range	40%~60%
Frequency Range	30MHz up to 110MHz
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Base Size (mm)	Pyramids No. per piece	Size of per pyramid (mm)	Nominal weight (kg/m2)	Typical Reflectivity (-dB)										Power Capacity (kW/m2)	
					0.03 (GHz)	0.08 (GHz)	0.3 (GHz)	0.5 (GHz)	1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	40 (GHz)		100 (GHz)
ARPFA-P200	500x500	81	190x65x50	10					27	35	40	45	50	50	45	3
ARPFA-P300	500x500	64	30x50x60	13				25	35	13	50	50	50	55	45	3
ARPFA-P500	500x500	64	500x60x76	19			20	30	40	17	50	50	55	55	45	4
ARPFA-P700	500x500	36	690x80x90	21		8	25	35	40	20	50	55	55	55	45	5
ARPFA-P1000	500x500	16	1000x123x160	29		11	30	40	45	13	55	55	55	55	45	5
ARPFA-P1200	500x500	09	1200x163x180	32	5	13	35	40	45	18	55	55	55	55	45	6
ARPFA-P1500	500x500	09	1500x163x205	33	12	14	35	40	50	20	55	55	55	55	45	6
ARPFA-P1600E	500x500	09	1600x163x220	40	14	22	35	45	50	22	55	55	55	55	45	6
ARPFA-P2000	500x500	04	2000x248x250	45	14	24	38	45	50	30	55	55	55	55	45	6

# PYRAMID ABSORBERS MADE OF THIN-FILM COATED POLYURETHANE FOAM

Frequency: 30 MHz-110 GHz

Applications: Far-Field/Near-Field, Compact Antenna Test Ranges, High Power Environment



## Features:

- Thin-film coated and optional multi-colour
- Non-hygroscopic materials are used to meet any climatic conditions
- Completely heat, cold and moisture/humidity resistant
- Modular installation techniques are available using specific adhesive, velcro fasteners or hanging type.
- REACH and RoHS compliant, maintaining a healthy environment for operation.

## Characteristics

Operating Temperature long time	-50°C~120°C
Operating Temperature short time	-50°C~150°C
Humidity Range	40%~60%
Frequency Range	30MHz up to 110MHz
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Base Size (mm)	Pyramids No. per piece	Size of per pyramid (mm)	Nominal weight (kg/m2)	Typical Reflectivity (-dB)										Power Capacity (kW/m2)		
					0.03 (GHz)	0.08 (GHz)	0.3 (GHz)	0.5 (GHz)	1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	40 (GHz)		100 (GHz)	
ARPFA-P50C	610x610	576	50x25x20	2.5								30	35	40	50	45	1.5
ARPFA-P10C	610x610	225	96x36x20	3.6					15	30	35	42	50	50	45		1.5
ARPFA-P150C	610x610	144	150x50x30	4.4					20	33	40	48	50	50	45		1.5
ARPFA-P200C	610x610	81	190x65x50	6.5				20	27	38	45	50	50	50	48		1.5
ARPFA-P300C	610x610	36	300x100x60	11.5			20	27	38	45	50	50	55	55	47		1.5
ARPFA-P500C	610x610	16	495x145x70	18		20	30	35	45	50	50	55	55	60	48		1.5
ARPFA-P700C	610x610	9	700x195x130	26		8	27	40	45	50	55	55	60	60	48		1.5
ARPFA-P1000C	300x300	1	1000x300x150	36	5	11	35	40	45	55	55	60	60	60	47		1.5
ARPFA-P1200C	400x400	1	1200x400x200	41	7	16	40	45	50	55	55	60	60	60	47		1.5
ARPFA-P1600C	500x500	1	1600x500x200	32	8	17	40	45	50	55	60	60	60	60	48		1.5
ARPFA-P1800C	500x500	1	1800x500x200	37	9	19	42	48	50	55	60	60	60	60	48		1.5

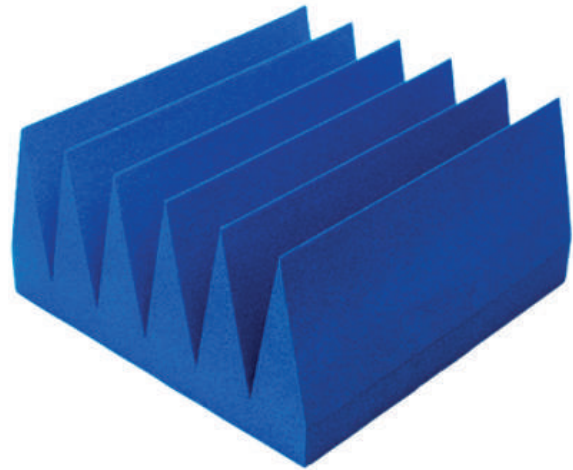


# WEDGE ABSORBERS MADE OF FOAM

Frequency Range: 30 MHz to 110 MHz

Applications: Big-Size Compact Antenna

Test Ranges, Pyramidal Shaped Chambers



## Features:

- Wedge-shape, and standard light blue or optional.
- Certified to fire-retardancy (NRL 8093 Tests 1, 2 and 3) and environmental specifications.
- Modular installation techniques are available using specific adhesives, velcro fasteners or hanging types.
- REACH and RoHS compliant, maintaining a healthy environment

## Characteristics

Operating Temperate (long-running)	-50°C~90°C
Operating Temperate (short-running)	-100°C~120°C
Humidity Range	40%~70%
Frequency Range	30MHz up to 110MHz
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Base Size (mm)	Pyramids No. per piece	Size of per pyramid (mm)	Nominal weight (kg/m2)	Typical Reflectivity (-dB)							Power Capacity (kW/m2)
					0.5 (GHz)	1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	40 (GHz)	
ARPFA-W200	610x610	6	200x100x50	8		25	32	35	42	48	50	1.5
ARPFA-W300	610x610	6	300x100x60	10		30	38	45	48	50	50	1.5
ARPFA-W500	610x610	3	495x200x65	16	20	35	43	50	50	50	50	1.5
ARPFA-W700	610x610	3	700x200x130	20	25	40	50	50	50	50	50	1.5

# ABSORBERS MADE OF SOLID EPP FOAM

Frequency Range: 30 MHz-110 MHz

Applications: Far-Field and Near-Field Facilities,  
Compact Antenna test ranges



## Features:

- Pyramidal Shape, and black colour with white-hat.
- Compliant with fire retardant standard (DIN4102 Class B2 and UL94-HBF) and environmental specifications.
- Modular installation techniques are available using specific adhesives, velcro fasteners or screw.
- REACH and RoHS compliant, maintaining a healthy environment.
- Non-hygroscopic materials are used to meet any climatic conditions.

## Characteristics

Operating Temperate (long-running)	-50°C~90°C
Operating Temperate (short-running)	-100°C~120°C
Humidity Range	40%~70%
Frequency Range	30MHz up to 110MHz
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Base Size (mm)	Pyramids No. per piece	Size of per pyramid (mm)	Nominal weight (kg/m <sup>2</sup> )	Typical Reflectivity (-dB)									Power Capacity (kW/m <sup>2</sup> )	
					00.8 (GHz)	0.3 (GHz)	0.5 (GHz)	1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	18 (GHz)		
AREPP-P300	600x600	36	300x100x60	2.5				25	35	40	50	50	50	50	50
AREPP-P500	600x600	16	500x145x75	3.5		20	30	40	45	50	50	50	50	50	50
AREPP-P700	600x600	9	500x195x130	5	8	25	35	40	45	50	50	50	50	50	50

# FLAT ABSORBERS MADE OF POLYURETHANE FOAM

Frequency Range: 1 kW/m<sup>2</sup>

## Applications:

- Far-Field and Near-Field Facilities
- Compact Antenna test ranges
- RTS Facilities
- Wireless OTA measurement systems



## Characteristics

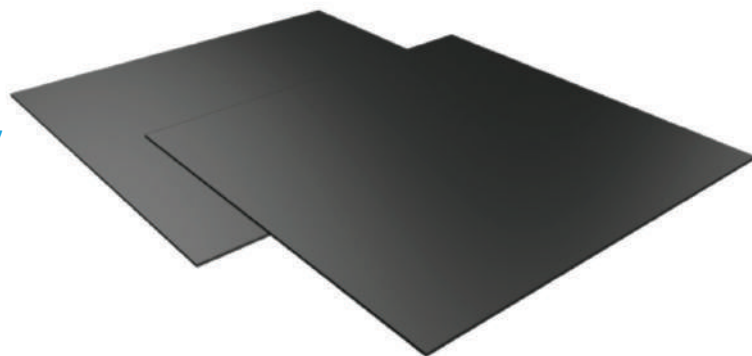
Operating Temperate (long-running)	-60°C~90°C
Operating Temperate (short-running)	40%~80%
Humidity Range	1GHz up to 40GHz
Frequency Range	1kW/m <sup>2</sup>
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Unit Dimension (mm)	Standard weight (kg/m <sup>2</sup> )	Size of Packing Cartol (mm)	Qty Per Carton	Typical Reflectivity (-dB)					
					1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	40 (GHz)
ARPFA-T5	610x610x5	0.3	1280x605x605	256				5	10	15
ARPFA-T10	610x610x10	0.5	1280x605x605	128			10	15	15	18
ARPFA-T20	610x610x20	0.6	1280x605x605	64		10	15	17	17	20
ARPFA-T50	610x610x50	1.5	1280x605x605	26	10	18	18	19	19	22
ARPFA-T100	610x610x100	3	1280x605x605	13	15	19	19	20	20	22
ARPFA-TW40	610x610x40	1.5	1280x605x605	32	18	20	20	20	20	23

# NARROW-BAND FLAT ABSORBERS MADE OF RUBBER

**Frequency Range: 1-40 GHz**

**Applications: Far-Field and Near-Field facilities, Compact Antenna Test Ranges, Wireless OTA measurement systems**



## Features:

- Applied Frequency: 1-40 GHz
- Thickness: Determined by the resonance frequency
- Heat resistance characteristics: -50°C-150°C
- Can be applied to any bad environment
- Power Resistance: above 2kW/m<sup>2</sup>
- Absorbing Performance: Resonance absorption attenuation <-18 dB

Model	Resonant Frequency (GHZ)	Thickness (mm)	Weight (kg/m <sup>2</sup> )	Typical Reflectivity (-dB)
ARRFA-T40	40	0.7	2	18
ARRFA-T15	15	1.3	3.5	18
ARRFA-T10	10	1.8	5.2	18
ARRFA-T7	7	2.5	7	18
ARRFA-T5	5	3	8	18
ARRFA-T2	2	6.8	17	18

# HIGH POWER HANDLING ABSORBERS MADE OF HONEYCOMB MATERIAL

**Frequency Range: 1 GHz-40 GHz**

**Applications: Far-Field and Near-Field facilities, Compact Antenna Test Ranges, Wireless OTA measurement systems**



## Features:

- A lightweight high-temperature handling material with hexagonal cells.
- Operated over various frequencies over a broad spectrum.
- Certified to fire retardancy (NRL 8093 Tests 1, 2 and 3) and environmental specifications.
- Modular installation techniques are available using specific adhesives, velcro fasteners or by screw or hanging type.
- REACH and ROHS compliant, maintaining a healthy environment for operation.

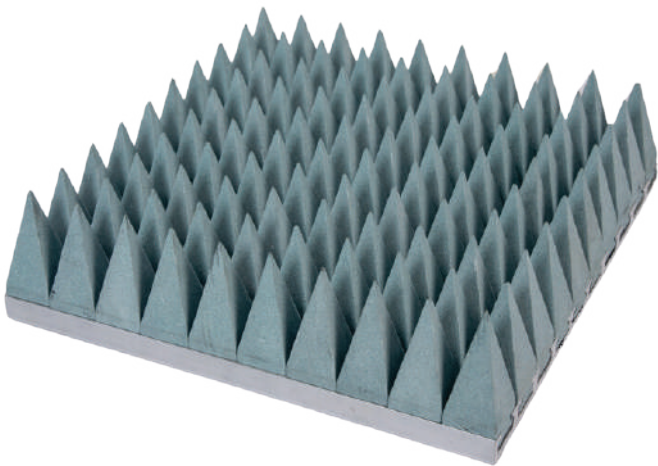
## Characteristics

Operating Temperate (long-running)	-50°C~150°C
Humidity Range	40%~80%
Frequency Range	1GHz up to 40GHz
Power-handling capability	10kg/m2
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Base Size (mm)	Pyramids No. per piece	Height (mm)	Typical Reflectivity (-dB)								
				0.08 (GHz)	0.3 (GHz)	0.5 (GHz)	1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	40 (GHz)
ARHA-P50	500x500	200	50				15	13	30	35	40	50
ARHA-P100	500x500	100	100				20	30	35	40	45	50
ARHA-P150	500x500	100	150			15	28	32	35	45	45	50
ARHA-P200	500x500	100	200		15	20	33	35	40	45	50	50
ARHA-P300	500x500	25	300		22	27	40	40	45	50	55	50
ARHA-P500	500x500	9	500	6	27	35	43	45	52	55	55	52
ARHA-P700	500x500	4	700					50	52	55	55	52
ARHA-T5	500x500		5						6	8	12	15
ARHA-T10	500x500		10				16	5	12	15	18	20
ARHA-T18	500x500		18				10	8	15	15	20	20
ARHA-T50	500x500		50					13	17	18	22	23
ARHA-T100	500x500		100					20	20	22	22	25

# PYRAMID ABSORBERS FOR ULTRA HIGH-POWER APPLICATIONS

Frequency Range: Upto 18 GHz  
Applications: High Power/ High Vacuum  
Environment, High Power Antenna, Power  
resistance noles less than 30 kW/m2, Satellite Antenna Measurement



## Features:

- High-power absorbers: Ensures reliable absorption of high-power signals in various testing environments.
- Comprehensive testing for high-power airborne antennas: Facilitates thorough testing and validation of airborne antenna systems under high-power conditions.
- Antenna testing under high vacuum environments: With its excellent thermal conductivity and compatibility with vacuum environments, it's perfect for satellite antenna measurements and other applications requiring high vacuum testing conditions.

Model	Thickness (mm)	Typical Reflectivity (-dB)	Typical Reflectivity (-dB)				
			P band	S band	C band	X band	Ku band
ARSC-50	50	40		-15	-20	-25	-30
ARSC-90	90	60		-25	-30	-35	-40
ARSC-200	200	150	-18	-30	-35	-38	-40

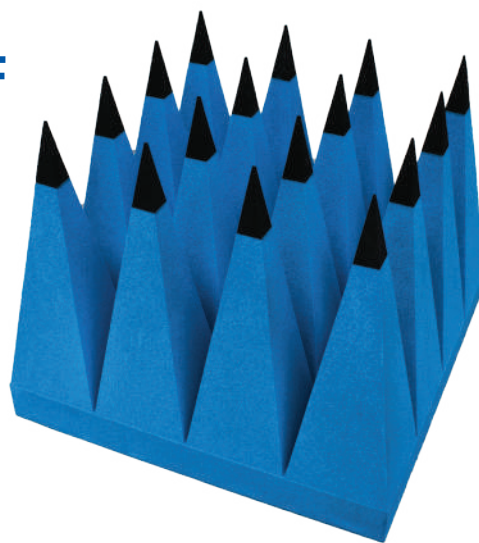
# PYRAMID ABSORBERS MADE OF POLYURETHANE FOAM

**Frequency Range: 30 MHz-110 MHz**

**Applications: Far-Field and Near-Field facilities,  
Compact Antenna test ranges**

## Features:

- Certified to fire retardancy (NRL 8093 Tests 1, 2 and 3) and environmental specifications
- Modular installation techniques are available using specific adhesive, velcro fasteners or plate and rail mounting.
- Reach and RoHS compliant, maintaining a healthy environment for operation.



## Characteristics

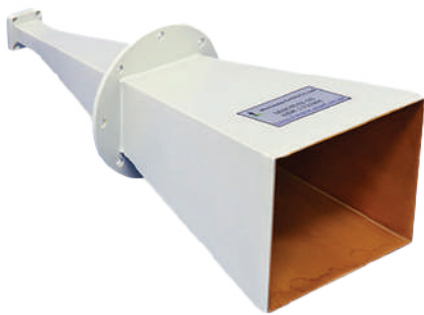
Operating Temperate (long-running)	-50°C~90°C
Operating Temperate (short-running)	-100°C~120°C
Humidity Range	40%~70%
Frequency Range	30MHz up to 110GHz
Quality Control	ISO9001
Product life	+15 years under controlled environment

Model	Base Size (mm)	Pyramids No. per piece	Size of per pyramid (mm)	Nominal weight (kg/m2)	Typical Reflectivity (-dB)										Power Capacity (kW/m2)	
					0.03 (GHz)	0.08 (GHz)	0.3 (GHz)	1.5 (GHz)	1 (GHz)	3 (GHz)	6 (GHz)	10 (GHz)	18 (GHz)	40 (GHz)	100 (GHz)	
ARPFA-PSD	610x610	576	50x25x20	15							30	35	40	50	45	1.5
AFPFA P100	610x610	225	96x36x20	2.2					15	13	35	40	45	50	45	1.5
ARPFA P200	610x610	81	190x65x50	4				20	27	17	40	45	50	50	48	1.5
ARPFA-P300	610x610	36	300x100x60	7				25	35	20	50	50	55	55	47	1.5
ARPFA-P500	610x610	16	495x145x70	11			20	30	40	13	50	55	55	55	48	1.5
ARPFA-P700	610x610	9	700x195x130	16		8	27	40	40	18	55	55	55	55	48	1.5
ARPFA-P1000	300x300	1	1000x300x150	22	5	11	35	40	45	20	55	55	55	55	47	1.5
ARPFA-P1200	400x400	1	1200x400x200	25	7	16	40	45	50	22	55	55	55	55	47	1.5
ARPFA-P1600	500x500	1	1600x500x200	20	8	17	40	45	50	30	55	55	55	55	48	1.5



# ACCESSORIES

Discover Aracion's comprehensive range of accessories designed to elevate the functionality and performance of your electronic systems. From antennas tailored for diverse applications to filters and connectors crafted to meet precise requirements, our precision-engineered solutions ensure that you have everything you need for optimal performance and reliability.



# TEST & MEASUREMENT INSTRUMENTATION

In the ever-evolving world of testing and measurement, innovation is the key to success. Aracion is your trusted partner, standing as a beacon of ingenuity. Our cutting-edge technology solutions redefine precision and quality, solving the most intricate testing and measurement challenges.

## SERVING YOUR INDUSTRY

- Aerospace & Defence
- Automotive
- Electronics design
- EMC testing
- Mobile network testing

## SERVING YOUR INDUSTRY

- We customize our solutions to meet the unique needs of your industry.
- Choose a flexible approach to technology acquisition: lease, purchase, or rent.
- Benefit from our T&M solution consultation services.
- Our software development expertise takes your capabilities to the next level.
- T&M OEMs we work with: VIAVI, Spirent, Keysight, Anritsu, Rohde & Schwarz, Prana RD, Bonn Elektronik, Com-Power, Schwarzbeck, Montana, Raditeq, Minicircuits, RF-lambda, etc.



# TURNKEY LAB SETUPS

Experience unparalleled testing excellence with Aracion's Turnkey Lab Solutions, designed to elevate your testing experience and streamline your compliance and OEM development processes.

## COMPLIANCE LAB SOLUTIONS

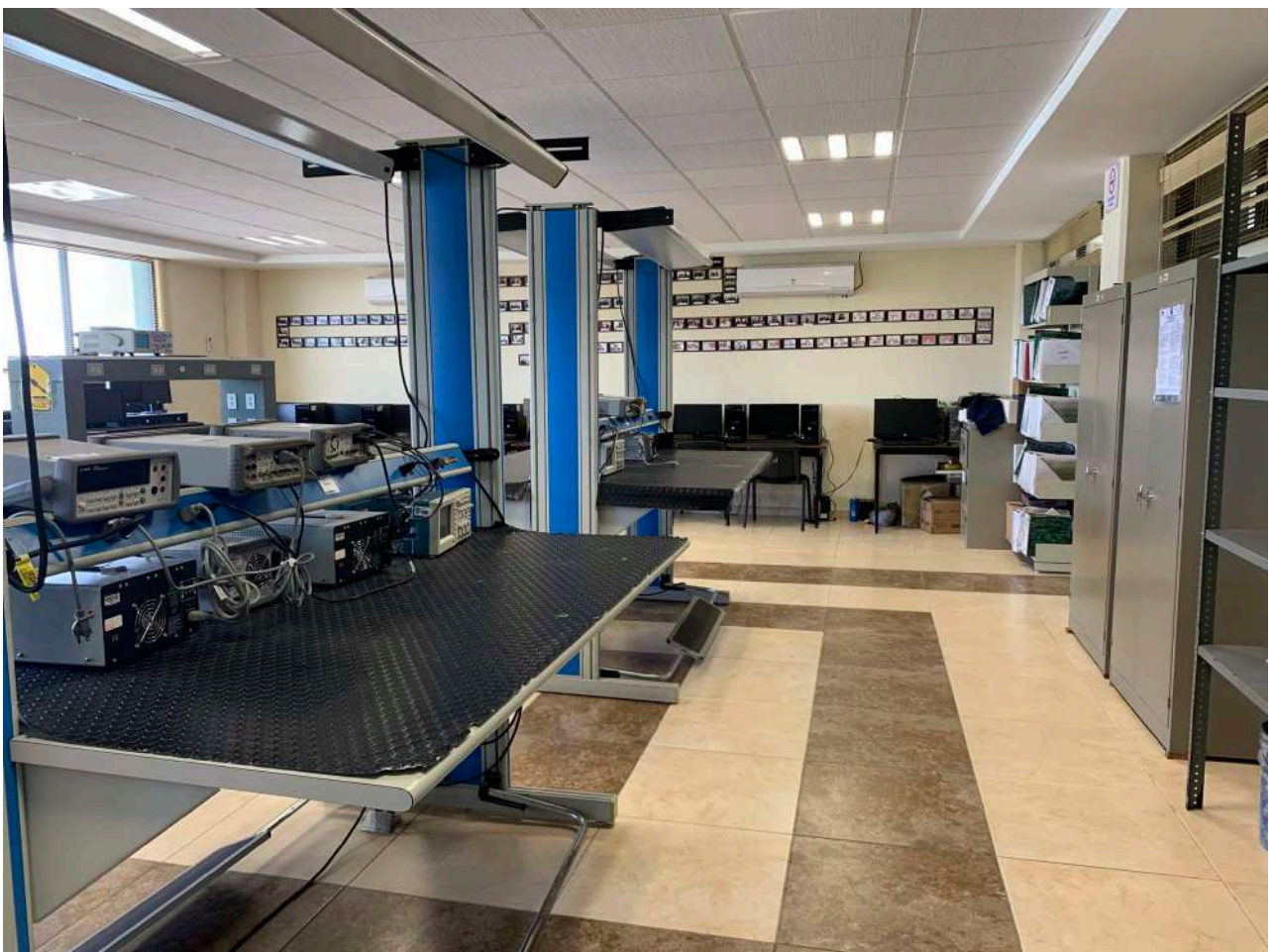
- **Comprehensive Support:** From initial consultation to final certification, Aracion provides end-to-end guidance through the compliance testing journey.
- **Tailored Testing Plans:** Customized testing plans ensure your products meet industry standards, including EMC, environmental, and safety requirements.
- **State-of-the-Art Facilities:** Access cutting-edge anechoic and semi-anechoic chambers, reverberation chambers, and specialized environments for precise and reliable testing.
- **Detailed Reporting:** Receive clear and comprehensive test reports, essential for regulatory compliance and product certification.

## OEM DEVELOPMENT LAB

- **Custom Lab Spaces:** Benefit from dedicated lab spaces tailored to your OEM development projects' unique requirements.
- **Advanced Equipment:** Access a wide array of testing equipment, including climate simulation chambers and vibration testing systems, to support your product development process.
- **R&D Collaboration:** Collaborate with Aracion's experts to enhance your research and development efforts, fostering innovation and excellence in your OEM projects.
- **Flexibility and Scalability:** Our turnkey solutions are flexible and scalable, adapting to the evolving needs of your OEM development projects.

Aracion's Turnkey Lab Solutions empower businesses to achieve compliance and excel in OEM development. Whether you are navigating complex regulatory landscapes or pushing the boundaries of innovation, our comprehensive services provide the expertise and facilities needed to elevate your testing and development processes.





# ARACION PRODUCT TESTING LAB

Explore Aracion's pioneering Product Testing Lab, boasting the India's first FR1/FR2 OTA testing facility, dedicated to advancing high-speed wireless communication technologies.

At Aracion, we specialize in testing user equipment (UE), customer premises equipment (CPE), and base stations across various cellular technologies, including 2G, 3G, 4G, and 5G.

Our commitment is to ensure devices meet industry standards and perform reliably in real-world scenarios. We aim to guarantee maximum adaptability and provide end-to-end partner support.

## TESTING CAPACITIES

### 5G TESTING:

#### Standards:

- 3GPP 38.141-1 / ETSI TS 138 141-1 138.141-1: Base Station - FR 1 Frequency Band
- 3GPP 38.141-2 / ETSI TS 138.141-2: Base Station- FR 2 Frequency Band
- 3GPP 38.106/ ETSI TS 138 106 & 3GPP 38.104 / ETSI TS 138 104 for Standalone for BBU's / RRU's
- 3GPP 38.521-1, 3GPP 38.521-2 & 3GPP 38.521-3 / ETSI TS 138.521-1, ETSI TS 138.521-2 & ETSI TS 138.521-3: User Equipment - MIMO / SISO, IoT Products
- 3GPP Signalling and Non Signalling Testing- Protocol Testings, 5G Core Testings

### TECHNOLOGIES COVERED:

5G- FR1/ FR2

Devices with <600 MHz Bandwidth

Devices with <100 MHz Bandwidth

## ENVIRONMENTAL TESTING

- Our facility is equipped to perform environmental testing for a variety of industries and standards.

### Specifically, we offer testing for:

- Environmental and Telecom standards compliant with QM 333
  - Environmental and Commercial standards compliant with IEC 60068 Series and IS 9000 Series & ETSI 300 019, NEMA 250
  - Environmental and Global Military standards compliant with MIL 810 C, D, E, F, G, and H
  - Environmental and Indian Military standards compliant with JSS 55555 Standards
- 
- Dry Heat
  - Damp Heat
  - Cold Test
  - Thermal Cyclic Test
  - Thermal Shock Test
  - Salt Spray / Salt Mist
  - Drop / Fall / Topple
  - Dust / Sand Test
  - IP 1X, 2X, 3X, 4X, 5X, 6X & X1, X2, X3, X4, X5, X6, X7 as per IEC 60529 / IEC 60950-22
  - Vibration
  - Shock
  - Bump
  - Humidity Test
  - NEMA 250
  - Altitude up to 40,000 ft. Impact Test.
  - IK Testing up to 50 J



## WIRELESS TESTING

- ETSI EN 300 328 (2.4GHz) for BLE / BT / WiFi / Zig Bee Testing ETSI EN 301 893 (5GHz) for WiFi Access Point
- ETSI EN 302 502 (5.8GHz) for RLAN / Access Point
- ETSI EN 300 220 / ETSI EN 300 330 / ETSI EN 300 440 / ETSI EN 305 550 for SRD
- Cellular tests from 2G (GSM) / 3G (WCDMA / Node-B) /
- 4G (LTE / eNode) / 5G (gNode / UE's / CPE's)

## CELLULAR TESTING

- GSM - 3GPP TS 51 010-1 or EN 301 511 (GSM/GPRS/EDGE)
- WCDMA / /HSPA - 3GPP TS 34.121-1 or EN 301 908-2 (UMTS)
- CDMA - EN 301 908-04 (CDMA)
- LTE - 3GPP TS 36.521-1 or EN 301 908-13 (LTE/LTE-A)
- Base Station Antenna / Active Antenna System - 3GPP TS 37.145-1, ETSI TS 137 145-1 & ETSI TS 135 145-2
- Multi-Standard Radio (MSR) / Base Station (BS) - 3GPP TS 37.141: 2016

### Technology Covered :

- 2G / 3G / 4G / / BTS / AAS / NB-IoT /5G

## EMI/EMC TESTING

Telecommunications devices

Electrical medical device testing

Consumer electronics: lighting, household devices etc.

Military products

Automotive electronic sub-assemblies

Drone Testing Services

## WIRELESS TESTING FOR FCC/ISED

- FCC Part 15 C – 15.247 (2.4GHz)
- FCC Part 15 C – 15.209 (SRD)
- FCC Part 15 C – 15.407 (5GHz)
- Part 15D - Unlicensed Personal
- Communications Service Devices FCC Part 15E
- FCC Part 15 E -U-NII without DFS Intentional Radiators
- FCC Part 15 F - Ultra-Wideband Operation (UWB)
- FCC Part 15 G - BPL Intentional Radiators
- FCC Part 15 H- White Space Devices.
- FCC Part 15B, FCC Part 18, FCC Part 15C,
- FCC Part 15D, FCC Part 15E, FCC Part 15F,
- FCC Part 15H, FCC Part 15G ,RSS-GEN ,RSS-130,RSS 132 ,RSS-133 ,RSS-139,RSS-213 ,RSS-247.

## CELLULAR TESTING FOR FCC/ISED

- Commercial Mobile Services (FCC Licensed Radio Service Equipment)
- Public Mobile Services - FCC Parts 22 (Cellular)
- Personal Communications Services - FCC Part 24
- Satellite Communications - FCC Part 25 (Below 3 GHZ)
- Miscellaneous Wireless Communications Services –FCC Part 27

### Technology Covered :

- FCC Parts 22, FCC Parts 24, FCC Parts 25, FCC Parts 27, FCC Parts 90, FCC Parts 95, FCC Parts 97,FCC Parts 101.
- RSS-102 (RF Exp.) ,RSS-199,RSS 248 ,RSS-119;
- RSS-130, RSS-132; RSS-133; RSS-139; RSS-170,
- RSS-199; RSS-210; RSS-213; RSS-247; RSS-310.

## SAFETY TESTING SERVICES

- BS EN 60601-1; IEC 60601-1 ; ANSI/AAMI ES60601 1:2005/A2:2021
- BS EN 61010-1; IEC 61010-1
- IEC 60601-2-21/ IS 13450: Part 2: Sec 21: 2018
- IEC 60601-2-20/ IS 13450: Part 2: Sec 20: 2018
- IEC 60601-2-2/ IS 13450: Part 2: Sec 2: 2019 IEC 60601-2-25 / IS 13450: Part 2 : Sec 25: 2018
- IEC 60601-2-27 / IS 13450: Part 2 : Sec 27: 2018
- ISO 80601-2-69
- IEC 60601-1-10:2007+AMD1:2013+ AMD2:2020 ,
- IEC 80601-2-77:2019 Medical electrical equipment — Part 2-77
- IEC 80601-2-78:2019 Medical electrical equipment — Part 2 78
- ISO 80601-2-70:2015 Medical electrical equipment — Part 2 70
- IEC 60601-1-8
- ISO 14117:2019
- ISO 7176-21
- ISO 21384-2:2021
- ISO 14971:2019.
- ISO 80601-2-26 / IS 13450: Part 2: SEC 26: 2018
- IEC 60601-2-40 / IS 13450-2-40: 2018
- IEC 80601-2-49 / IS 13450-2-49
- ISO 80601-2-61
- IEC 60601-2-47
- IEC 60601-1-11
- IEC 62304:2006
- IEC60601- 1-6:2010+AMD1:2013+AMD2:2020
- IEC 60601-1-10:2007+AMD1:2013+ AMD2:2020
- IS/ IEC/ EN 62368-1
- IEC 60950-22
- IEC 60215

# REGULATORY QUALIFICATION AND CERTIFICATION

Time-to-market is crucial for manufacturers. Delays during the product's certification phase hinder legal sales, increasing losses. The cycle: Develop -> Test -> Certify -> Sell is vital, with no room for shortcuts. Aracion offers value-add services, streamlining the certification process. With experience in global product certifications, we optimize documentation, offer full support, and prioritize efficiency, considering both time and cost.

## ALLIANCE QUALIFICATION AND CERTIFICATION



## REGULATORY TESTING & CERTIFICATION



## REGULATORY REPRESENTATIVE SERVICES

Launching a product in a specific region or country requires a lot of regulatory testing approvals. As regulatory representatives, we work with manufacturers to ensure compliance with local regulations and standards.

We help you with local presence in the region, communication with authorities, labeling & documentation, updates on evolving regulations, and navigating compliance issues.



# OUR CUSTOMERS



# OUR LOCATIONS





**Contact our offices near you and find out how our insights  
into your company accomplish meaningful solutions to your**

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