

GENERAL INFORMATION

1.1. Product description



DIGITAL
SOUND



Orpheo TG

Orpheo TG helps tour groups overcome background noise and distance from the tour guide - even in noisy surroundings

Used in factories, museums, power plants, zoos, theme parks, tourist attractions - anywhere tours are conducted

Orpheo TG is audioguide compatible; it enables a docent to conduct a tour with several languages simultaneously

Portable, wireless listening, easy to set up and use

No installation required / Operates over a distance of approximately 100 meters (300 feet)

Unlimited number of users

50 channels can be used simultaneously enabling the system to be used for multi-lingual applications or simultaneous translation



SYSTEM FEATURES

- UHF band 2400-2480 MHz
- Conforms to international regulations
- Easy switch transmitter/receiver mode
- 50 selectable channels
- Digital Technology
- 50 hours autonomy in receiver mode; 20 hours in transmitter mode (intensive usage)
- OLED Display
- Radio debit: 250 kbps
- Integrated loudspeaker



More than 17 years of research and development experience in the Audioguide world
With more than 70,000 devices installed around the world, we have the experience to create top-of-the-line audio tour solutions



TECHNICAL SPECIFICATIONS



Key Specifications / Overall system

Carrier frequency range: ISM/SDR
 2400 - 2480 MHz (according to international regulations)
 Adjustable frequencies: 50+ selectable channels
 High Sound Quality
 Ambient temperature: -10°C ~ 40°C
 Antenna: internal
 Battery: 2100 mAH lithium polymere 3.7V
 Operating range: 100 m (open field)
 OLED Display
 Dimensions (LxWxD): 9.5 cm x 5 cm x 1.6 cm
 Weight ~ 112 g
 Circular touchpad with raised markers

Charging Rack (available in 3 formats)

Number of charging slots: 24
 Voltage requirements: 100 V / 240V AC
 Indicator lights:
 LED green: battery charge complete
 LED blinking red: recharging
 Charging current: approx. 400 mA
 Charging time Li-Polymere (2100 mAH): ~ 3 hours
 Thermal Charging Protection
 Dimensions (LxWxD): 45 cm x 17,6 cm x 9 cm
 Can be rack mounted; 19" standard format
 Weight: 2,5 kg

Receiver

Autonomy: 50 hours
 Sensitivity: -103 dBm
 Adjacent Chanel Rejection: 23 dB
 Audio level: 30 mW
 Two headphone jacks: 3.5 mm socket
 Signal Noise Ratio: 98 dB
 Total Harmony Distortion: -84 dB

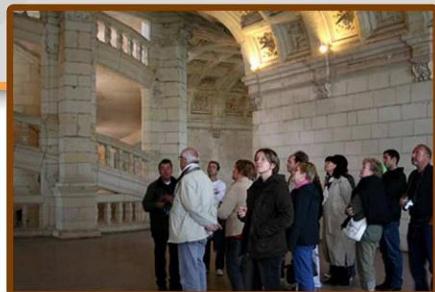
Individual power supply or charging case with 24 slots
 (also available in a portable suitcase)

Transmitter

Autonomy: 20 hours
 Microphone : condenser mic. (lapel or headset mic.)
 Power 5 dBm > 3 mW
 Channel modification by remote control
 Signal Noise Ratio: 95 dB
 Total Harmony Distortion: -80 dB



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1.2. Tested System Details



Photography of EUT

Power supply:

During all the tests, EUT is supplied by V_{nom} : 3.7VDC

For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply1	<input type="checkbox"/> AC <input type="checkbox"/> DC <input checked="" type="checkbox"/> Battery	3.7VDC		-

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply1	Battery	-	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Access1	Jack Headphone		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Access2	Jack Microphone		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Access3	Multi pin contacts	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Equipment information:

Frequency band:	[2400 – 2483.5] MHz			
Spectrum Modulation:	<input checked="" type="checkbox"/>			
Number of Channel:	50			
Spacing channel:	1.571MHz			
Transmit chains:	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
	<input checked="" type="checkbox"/> Single antenna		<input type="checkbox"/> Symmetrical	<input type="checkbox"/> Asymmetrical
	Gain 1: 0dBi	Gain 2: dBi	Gain 3: dBi	Gain 4: dBi
Beam forming gain:	<input type="checkbox"/> Yes: dB		<input checked="" type="checkbox"/> No	
Receiver chains	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Type of equipment:	<input checked="" type="checkbox"/> Stand-alone		<input type="checkbox"/> Plug-in	<input type="checkbox"/> Combined
Ad-Hoc mode:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Duty cycle:	<input type="checkbox"/> Continuous duty		<input type="checkbox"/> Intermittent duty	<input checked="" type="checkbox"/> Continuous operation
Equipment type:	<input checked="" type="checkbox"/> Production model		<input type="checkbox"/> Prototype	

CHANNEL PLAN			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
Cmin: 2	2401.885253904	27	2441.161376904
3	2403.456298824	28	2442.732421824
4	2405.027343744	29	2444.303466744
5	2406.598388664	30	2445.874511664
6	2408.169433584	31	2447.445556584
7	2409.740478504	32	2449.016601504
8	2411.311523424	33	2450.587646424
9	2412.882568344	34	2452.158691344
10	2414.453613264	35	2453.729736264
11	2416.024658184	36	2455.300781184
12	2417.595703104	37	2456.871826104
13	2419.166748024	38	2458.442871024
14	2420.737792944	39	2460.013915944
15	2422.308837864	40	2461.584960864
16	2423.879882784	41	2463.156005784
17	2425.450927704	42	2464.727050704
18	2427.021972624	43	2466.298095624
19	2428.593017544	44	2467.869140544
20	2430.164062464	45	2469.440185464
21	2431.735107384	46	2471.011230384
22	2433.306152304	47	2472.582275304
23	2434.877197224	48	2474.153320224
24	2436.448242144	49	2475.724365144
25	2438.019287064	Cmax: 50	2477.295410064
Cmid: 26	2439.590331984		

DATA RATE		
Data Rate (Mbps)	Modulation Type	Worst Case Modulation
0.250	FSK	<input checked="" type="checkbox"/>

EUT configuration

The EUT is set in the following modes during tests:

- Permanent emission with modulation on a fixed channel in the data rate that produced the highest power

Firmware Version: v1.1.0.1

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-2003, FCC Part 15 Subpart C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed on From July 1st to 6th, 2014.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-2003 in a letter dated March 25th, 2008 (registration number 94821). This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.