Tested by SenseLab FORCE TECHNOLOGY

Jabra Elite 7 series claim verification

1. Summary

FORCE Technology has verified the measurements which contribute towards substantiating the following claim. The claim wording is created by Jabra, for their newly released true wireless earbuds "Jabra Elite 7 Pro" and "Jabra Elite 7 Active".

Product	Claim
Jabra Elite 7 Pro	"The best true wireless sound for outstanding calls & music anywhere."
Jabra Elite 7 Active	"The best true wireless sound and fit for an active lifestyle."

2. Overview

Jabra Elite 7 Pro and Active were tested against the largest market leading manufacturers in the business, using 4 major competing products on the market for Pro, and 3 major competing products on the market for Active.

Each product was measured on several parameters, and a weighted average score was calculated. The measurements cover a wide range of product characteristics that are relevant to headset usage, user experience and performance. Specialists from FORCE Technology conducted or verified all measurements, to ensure that all products were measured correctly, in the same way and under identical conditions.

Each area-score is calculated by a weighted average of the parameters that comprise the area. Weightings of area scores and parameters for the Pro claim are shown in Table 1, the weightings a

Area	Weight		Parameter name	Description
Calls	33%	40%	Tx measured	GMOS without disctractor, and only background noise scenarios (café counter, traffic road, no background noise)
		40%	Rx measured	POLQA
		10%	Call EQ	Specific EQ settings for calls Yes/No
		10%	Sidetone adjustable	Is sidetone level adjustable Yes/No
Music	33%	30%	Music quality	Subjective listening test
		30%	TNC	Total noise cancellation incl. passive and active
		10%	ANC adjustable	Is the ANC level adjustable Yes/No
		10%	Hear Through adjustable	Is the hear through level adjustable Yes/No
		10%	MySound or equivalent	Are personal equazlier or similar settings available Yes/No
		10%	MyFit or equivalent	Is a hearing test and subsequent EQ adjustment available Yes/No
Flexibility	33%	25%	Voice Assistants certified	Are one or more voice assistants certified Yes/No
		25%	Battery life	Total battery life including recharges by charge box
		25%	Size/ Discreetness	Measured physical height and visible area when in ear
		25%	IP55 or higher rated	3 different score-options based on IP rating.

Table 1 – Pro claim weights and parameters. 33% is calculated as the equivalent of 1/3.

Area	Weight		Parameter name	Description
Sound	33%	30%	Tx measured	GMOS without disctractor, and only background noise scenarios (café counter, traffic road, no background noise)
		10%	Rx measured	POLQA
		20%	Music quality	Subjective listening test
		10%	Call EQ	Specific EQ settings for calls Yes/No
		10%	MySound or equivalent	Are personal equazlier or similar settings available Yes/No
		10%	MyFit or equivalent	Is a hearing test and subsequent EQ adjustment available Yes/No
		10%	Sidetone adjustable	Is sidetone level adjustable Yes/No
Flexibility	33%	10%	Voice Assistant Certified	Are one or more voice assistants certified Yes/No
		30%	Battery life	Total battery life including recharges by charge box
		40%	TNC	Total noise cancellation incl. passive and active
		10%	ANC adjustable	Is the ANC level adjustable Yes/No
		10%	HearThrough adjustable	Is the hear through level adjustable Yes/No
Sports	33%	25%	Secure fit	Average fit score based on a comfort and fit test using consumers
		25%	Comfort	Average comfort score based on a comfort and fit test using consumers
		25%	Size/ Discreetness	Measured physical height and visible area when in ear
		25%	IP55 or higher rated	3 different score-options based on IP rating.

Table 2 Active claim weights and parameters. 33% is calculated as the equivalent of 1/3.

3. Method descriptions (for measurements)

3.1 TNC (Total noise cancellation):

1. The headset is placed on a head and torso simulator (Brüel & Kjær 4128C). In a diffuse field reverberation room.
2. Any ANC is turned on and set to the maximum noise attenuation.
3. 12 noise scenarios from ETSI EG 202 396-1 are played in the room, and the resulting noise at DRP (Drum Reference Point), is measured, relative to the same level without the headphones.

3.2 Music playback (Consumer listening study):

1. All products are recorded using a Brüel & Kjær HATS 5128. In an ITU-R BS.1116-3-compliant listening room.
    a. All products using default settings with ANC on if available.
    b. Connected to a Bluetooth dongle.
        i. If a dongle was supplied with the product. This dongle was used. Otherwise a standard dongle (Asus BT500) was used.
2. Products are recorded using two ETSI EG 202 396-1 background noise scenarios, and in silent background conditions. Background noise scenarios were:
    a. Cafeteria_Noise_binaural (0.00-30.00 s).wav

   b. Outside_Traffic_Road_binaural (0.00-30.00 s).wav
3. Each product was tested using the same 6 music samples, with a duration of ~15seconds.
4. Product playback levels were calibrated for equal loudness.
5. Audio files were presented via Sennheiser IE300 headphones.
   a. The influence of presentation headphone and HATS ear-canal coupler was compensated prior to the listening test.
6. Products were rated on a 1-5 scale of overall sound quality.(1 Bad, 2 Poor, 3 Fair, 4 Good, 5 Excellent)
7. 29 consumers within the "knowledge worker" category participated in the study, which was conducted using a double blind paradigm.

3.3 Tx mean opinion score:

1. 3QUEST G-MOS – average MOS score with different background noise scenarios and talkers, and a silent condition.

3.4 Battery time (Full charge)

1. Device is charged fully.
2. Device is connected to a Bluetooth dongle (Asus BT500), playing an audio loop, while ensuring music mode.
3. Device playback level is adjusted using the same method for all products.
4. ANC is activated on device.
5. Device is placed in charging box after complete discharge, and test is repeated until no power remains in charging box.
6. Total device playback time, including repeats, until charge box is empty is used as final score.

3.5 Rx mean opinion score:

1. POLQA.Rx TQL – average MOS score based on the POLQA model.

3.6 Comfort test with consumers:

1. Products are fitted to consumers' ears with help from test instructor.
2. The consumer wears the product while performing different tasks i.e. picking up books from the floor, walking on stairs etc.
3. The consumer wears the product for a total of no less than 20 minutes.
4. The consumer rates each product on several fit, comfort and pain-related parameters before, during and after the test.
5. 100 consumers within the "knowledge worker" category participated in the study.

3.7 Size and discreetness:

1. The height from edge of tip to the back of the product is measured.
2. The total area covered by the product, when placed in a B&K HATS 5128C and seen directly from the side, is measured.
3. An average of the two values is calculated.

4. Document validation

FORCE Technology confirms the correct performance of measurements and calculations stated in this document.

FORCE Technology confirms that the Elite 7 series products, Pro and Active receives the highest scores amongst the tested products, substantiating the claim.

FORCE Technology confirms that on the 2'nd of January 2022 the claims within this document for Jabra Elite 7 Pro and Active are accurate, in terms of validity of measurements and calculations it is based upon.

FORCE Technology is not responsible for selection of the included products, nor the design of claim wording, parameters or weightings, only the correct performance of measurements and calculations, which the claims are based upon.

Authorized by FORCE Technology