

Jabra Elite 85h claim verification

1. Summary

FORCE Technology has verified the measurements and calculations, which contribute towards substantiating the audio and call related parts of the following claim. The claim wording is created by Jabra, for their newly released wireless headset, Jabra Elite 85h.

Details of associated disclaimers are given in section 4.

Product	Claim
Jabra Elite Active 85h	"Engineered for the best wireless calls and music experience with SmartSound. Sub-headline: SmartSound that automatically adapts to your surroundings"

2. Method

Jabra Elite 85h was tested against the largest market leading manufacturers in the business, using 7 major competing products on the market.

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

The included measures, which are used as base for this claim are:

- **Communication performance (Tx)**
 - POLQA.Tx TQL (PMOS) No background noise
 - 3QUEST G-MOS – average of different background noise scenarios and talkers
 - P-MOS Mean in wind-noise, from 0, +15 and -15 degrees angle of incidence. 5 m/s wind laminar flow.
- **Communication performance (Rx)**
 - POLQA.Rx TQL (PMOS) No background noise
- **Music playback in background noise**
 - ITU-T P.835 listening experiment using the "Overall quality" rating date from 50 consumers in target group
- **Smart sound support**
 - Lookup in manufacturer manuals and websites.

Table 1 below shows the overall weighting of each parameter when the average is calculated, and the weighting of each measure, when a parameter is comprised of more than one measurement. All parameters and sub-measures were selected by Jabra. Weightings are mutually agreed by Jabra and FORCE Technology.

Measure	Weighting
Communication performance (Tx)	33%
POLQA.Tx TQL (PMOS) No background noise	11%
3QUEST G-MOS – average of different background noise scenarios and talkers	11%
P-MOS Mean in wind-noise, from 0, +15 and -15 degrees angle of incidence. 5 m/s wind laminar flow	11%
Communication performance (Rx)	33%
POLQA.Rx TQL (PMOS) No background noise	33%
Music performance	33%
ITU-T P.835 listening experiment using the "Overall quality" rating date from 50 consumers in target group	33%
Smart sound support yes/no	0%

Table 1 - Weightings of included parameters and sub-measures

Based on these measures, an overall score was calculated for the weighted parameters.

Jabra Elite 85h scored highest along with Sony WH-1000XM3.

3. Definitions

ITU-T P.863 "POLQA" - Perceptual Objective Listening Quality Analysis – ITU-T Standard that covers a model to predict speech quality by means of analysing digital speech signals.

ITU-T P.835 - Subjective test methodology for evaluating speech communication systems that include noise suppression algorithm.

Tx – Uplink/Transmit, meaning the signal which is captured by the device’s microphone.

Rx – Downlink/Receive, meaning the signal which is reproduced by the device’s loudspeaker (in this case the headphones).

Smart sound – Audio that automatically adapts to the user’s environment.

TQL – Property of the ITU-T P.863 standard "Total Quality Loss". In this case, TQL covers an average measurement of 20 sentences, in a silent condition. No background noise was present during this measurement.

G-MOS – Overall Mean opinion score (Defined in ETSI EG 202 396-3). This measure is an average of several sentences and noise conditions.

3QUEST – Head-Acoustics method for prediction of speech quality by means of analysing digital speech signals.

4. Disclaimers

*At the time of validating, 25th of March 2019, Jabra Elite 85h was best calls and music experience headphone with SmartSound. Measured and validated by FORCE Technology, up against the 7 main competitors in market, Jabra Elite 85h and Sony WH-1000XM3 obtained highest perceptually measured mean scores for music and speech quality.

5. Document validation

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

FORCE Technology confirms that given associated disclaimers stated in section 4. On the 28'th of March 2019 the claim within this document for the Jabra Elite Active 85h is accurate, in terms of validity of measurements and calculations it is based upon.

Authorized by FORCE Technology