

AMENDED Exhibit 637

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Case No.: 4:22-md-03047-YGR

MDL No. 3047

In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation

Summary of Findings - TTN 30-Day Post-Launch Feature Investigation [USDS TnS:TDP_PEx] 2022NOVEMBER3

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Background:

TikTok Now ("TTN") was launched on September 15, 2022 in the US as an in-app feature, according to the [[HYPERLINK "https://newsroom.tiktok.com/en-us/introducing-tiktok-now" \h](https://newsroom.tiktok.com/en-us/introducing-tiktok-now)]. Prior to the launch, TDP's Product Exploitation (PEX) team conducted industry analysis to inform products and policy teams of potential threats ([[HYPERLINK "https://bytedance.us.feishu.cn/sheets/shtcnMdf4BOs87Q5MplK6cJlJze?sheet=520JA8" \h](https://bytedance.us.feishu.cn/sheets/shtcnMdf4BOs87Q5MplK6cJlJze?sheet=520JA8)]). Now that the feature has been launched, PEX conducted a 30-day post-launch feature investigation of TTN where we analyzed data, tested the feature, reviewed public feed, interviewed internal stakeholders, and scanned online discussions and coverage. This document summarizes our preliminary findings, recommendations, and next steps. For the underlying data analysis details, please reference [[HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \h](https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd)] .

Summary of findings:

1. [TTN User Patterns] The majority of TTN users are L1/L2 female users based on predicated age and gender. The underlying demographics correlate with an overwhelming proportion of MS violations (92.1% of all violations on TTN are in the MS issue vertical).

Observations

Next Steps

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TIKTOK-GROVER 2/27/25

1. 51% are predicted L1/L2 users, 73% are predicted female users.
 - a. Only 18% are L1/L2 users by their self-declared birthdays. It is likely that a large portion of U18 users declared they were adults (i.e. 18+) and are not subject to the U18 restrictions of TTN.
2. L1/L2 TTN users can have a large network of mutual followers across age ranges, which leads to increased exposure of violative content and potential for exploits.
 - a. We identified approximately 2,200 L1/L2 users with at least 2k mutual followers. Approximately 70% L1/L2 TTN users are followed by at least 5 L4/L5 users.
3. For TTN, MS is 92.1% of all violations [1], compared to 43.7% [2] for regular TT posts.
 - a. The top 3 violated policy titles are: *Suspected Underaged Users*, *Minor in Minimal Clothing*, and *Torso and Thigh of Minor*.
4. *Suspected Underaged User* and *Minor in Minimal Clothing* policy violations are more prevalent (by ~10% and ~25% respectively) in photo than video moderation, while *Torso and Thighs of a Minor* policy violations are similar across both mediums. This suggests:
 - a. Younger users prefer the photo medium over the video medium for TTN, and/or
 - b. Photo moderators are erring on the side of caution and this may be leading to overkill, as there may be a lack of signals for these two policy titles in the photo queue.

[1] According to US TTN Photo Safety Dashboard (<https://datapower-va.bytedance.net/bi/visit/7145196766170234885>) for 9/15/2022 - 10/15/2022.

[2] According to the [HYPERLINK "<https://www.tiktok.com/transparency/en-us/community-guidelines-enforcement-2022-2/>" \h], 43.7% of total videos removed violate Minor Safety.

2. [TTN Engagement Patterns] While TTN posts do not have as many comments as regular TT, they appear to be more intimate in nature.

1. Collaborate with Policy and S&A on gathering data points to substantiate existing and propose new MS policy recommendations.
2. Conduct qualitative coding (i.e. Codebook review) to analyze where our policies are not capturing emergent violation types on TTN.

Observations

We identified 12 TTN posts with ≥ 100 comments. These comments are largely DM-like between two users. In one of the [[HYPERLINK "https://i-cm.bytedance.net/main-new/comment/search?app_id=1180&match_type=2&group_id%5B0%5D=7149668139284827438&scan_all=true&page=1&page_size=200&sort_type=1"](https://i-cm.bytedance.net/main-new/comment/search?app_id=1180&match_type=2&group_id%5B0%5D=7149668139284827438&scan_all=true&page=1&page_size=200&sort_type=1)] [[HYPERLINK "https://i-cm.bytedance.net/main-new/comment/search?app_id=1180&match_type=2&group_id%5B0%5D=7149668139284827438&scan_all=true&page=1&page_size=200&sort_type=1"](https://i-cm.bytedance.net/main-new/comment/search?app_id=1180&match_type=2&group_id%5B0%5D=7149668139284827438&scan_all=true&page=1&page_size=200&sort_type=1)] containing 113 comments in less than 24 hours, users discussed that their parents check their messages on platforms such as Messenger but do not check TTN comments and explained that they are chatting on TTN to avoid parental supervision (see TTN post id 7149668139284827438, with example screenshots from the users' chat below).

i say let's ease into it about texting i'll just mention your name a lot
 🐼🐼🐼: i'm too scared to actually text you cause of your mom. i
 could easily text you on insta or imessage but your mom🐼

we got our tiktok comments to hold us over🐼🐼🐼emma: i say let's
 ease into it about texting i'll just mention your name a lot🐼

This finding is in-line with [[HYPERLINK](https://bytedance.us.feishu.cn/docx/doxcnXhPY9VsEvCH8dZMOBNgcWc)

"<https://bytedance.us.feishu.cn/docx/doxcnXhPY9VsEvCH8dZMOBNgcWc>"] that users could abuse TTN as a DM channel if the TTN feature continues to allow users with only one TTN friend to post.

3. [TTN Posting Patterns] TTN L1/L2 users were posting during school hours, particularly in timezones on the West Coast and in Hawaii.

Observations

According to [[HYPERLINK](https://bytedance.feishu.cn/docx/doxcnKwPROfFgHecnqLUKvcsLc) "<https://bytedance.feishu.cn/docx/doxcnKwPROfFgHecnqLUKvcsLc>"], TTN notification timing is generated randomly once for the entire United States between 8am-10pm ET. Since

Next Steps

During the 11/12 bimonth, we will be performing NLP analysis on TTN comments to gain an overall understanding of topics, keywords, and sentiment.

Recommendations / Next Steps

1. Set TTN push notifications by US timezones.
2. Set TTN

the US crosses over four timezones, using this one-push-for-all approach makes it difficult to design the pushes around hours teenagers are typically in school or sleeping. A reasonable time to receive a TTN push notification on the West Coast may be late at night on the East Coast, and a push notification designed to reach students after school on the East Coast may arrive right in the middle of class for West Coast students.

We analyzed TTN posting time by L1/L2 users in the two states with the most TTN users -- California and Texas -- to see if L1/L2 users were posting during school or sleep hours. We also reviewed posting time by L1/L2 users in Hawaii, to further understand the impact of timezone differences.

1. TTN posting time appears to peak universally between 22 and 0 UTC across the timezones reviewed (Pacific, Central, and Hawaiian standard time). The peak time standardized for local timezone is 4 PM for California, 5 PM for Texas, and 2 PM for Hawaii.

a. According to [HYPERLINK

"https://bytedance.feishu.cn/sheets/shtcnmcctkJioeg6YcpLw iK4Okc" \h], the majority of TTN pushes are between 21 and 23 UTC, which precedes the actual peak of user posting by about 1 hour.

2. Although the peak posting time generally falls outside local school hours, we still observed significant posting from L1/L2 users during school hours (defined as 8am - 2pm). Specifically, we identified more than 190k TTN posts (about 14% of the population) by L1/L2 users on weekdays in California and Texas. Additionally, for Hawaiian L1/L2 users, TTN posting is much more prevalent during school hours compared to California or Texas -- likely because the -5 hour time difference with the East Coast makes it unlikely that the push notifications will fall outside of school hours.

3. Regardless of timezone and TTN prompts, there is a period of relative inactivity between midnight and 5 AM local time -- when we assume most users will be asleep.

4. These findings are in-line with [HYPERLINK

"https://bytedance.us.feishu.cn/docx/doxcnXhPY9VsEvCH8dZMO BNgcWc" \h] that L1/L2 users would post TTNs during school hours and that designing the app to use one push notification for the entire US may spur during-school and during-sleep hours posting.

push notifications to be outside local school hours.

3. Conduct qualitative coding (i.e., codebook review) to analyze patterns of posts by L1/L2 users in different settings (e.g., during school hours, during after-school activities, late night hours).

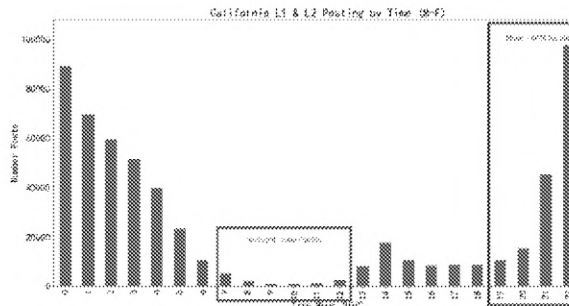


Figure: Posts by hours by L1/L2 users in California (pacific time)

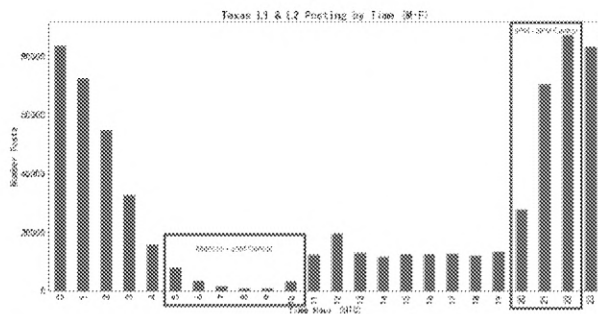


Figure: Posts by hours by L1/L2 users in Texas (central time)

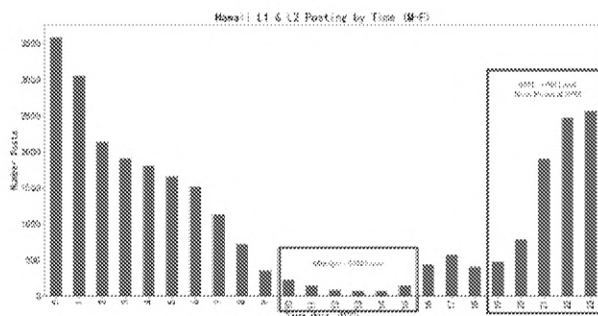


Figure: Posts by hours by L1/L2 users in Hawaii (hawaiian time)

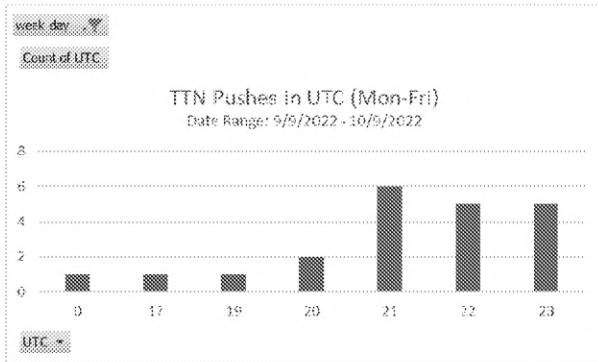


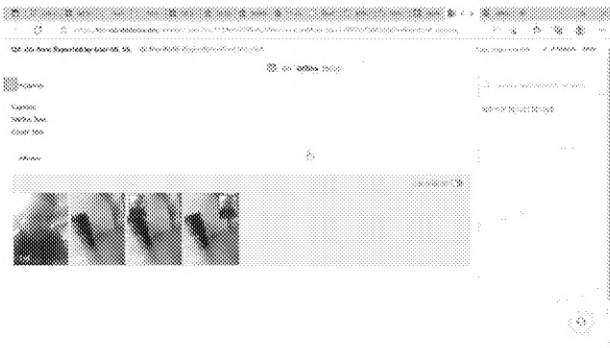
Figure: Number of TTN pushes that occur during Monday - Friday (based on data from 9/9/2022 - 10/9/2022)

4. [TTN Moderation] TTN photo posts present challenges for moderation due to lack of context. This affects identification of *Suspected Underaged User* and *Dangerous Driving Behavior*.

Observations

According to [[HYPERLINK](#)

"[\h](https://bytedance.us.feishu.cn/docx/Jy19d59zso1eTBxfzquy9Bysid)], 80% of the missed policy title is *Suspected Underaged User*. One of the main reasons for missing this policy title is moderators have limited information (see screenshot of TTN moderation below) when determining a user's age. The lack of information in the moderation interface also led to a low AHT which potentially hurt moderation accuracy.



There is a higher percentage of violations for *Dangerous*

Recommendations

Add more context, such as account info (e.g. bio and nickname), to the current moderation interface.

1. Algo team

Driving Behavior in TTN videos (3.5%, or 10,399 video violations) compared to TTN photos (0.0%, or 5 photos violations). Undermoderation of *Dangerous Driving Behavior* in TTN photos is possible and the potential cause is the lack of context when reviewing photos. We identified several examples in our public feed where users appear to be driving in the TTN photos. See below for an example (TTN photo ID: 7154097647568162094). This specific example was approved through machine moderation and was not enqueued for human moderation.



TTN photo post



Zoomed-in speed dial shows speed is not at 0

responsible for machine moderation should consider updating its algorithm for leakage related to *Dangerous Driving Behavior* or pass more driving-related posts to human moderation queues.

2. Update policy playbook for *Dangerous Driving Behavior* for moderators to note the speed dial in front of the steering wheel.

Commented [1]: 5 out of how many? FYI, our policy for TTN photos is much stronger than is the current policy for TTN videos (which is the SFV policy). Policy for TTN photos includes speedometer as one possible indicator of a car in motion.

Commented [2]: @Juliana Nazare

Commented [3]: @Natasha Latzman@Jenny Bimy numbers show 5 photo violations tagged with the "dangerous driving behavior" policy title out of 284,785 photo violations in the dataset we used. This is compared to the 10,399 video violations tagged with this policy title. There is also a lesser used second policy title "distracted or dangerous driving behavior" that has been tagged in 0.5% of photo posts (2,027 photos), but has not been used for any video posts in the dataset.

Jenny Bi : [THANKS] 2022-11-30 04:29:33

5. [TTN Moderation] TTN posts are not currently enqueued in R2 Recall queue because their VVs are not exceeding the R2 Recall threshold. However, top TTN posts are still gaining high views and considering the underlying TTN user demographics, posts by U18 users could be gaining high exposure in the public feed.

Observations	Recommendations / Next Steps
The [HYPERLINK "https://lighthouse.bytedance.net/en/result/pho topostdetail?item_id=7152599984473525550&p roduct=tiktok&config_key=ttn_photo_post" \h] has more than 10k views, even though the user of this TTN post only has 4800+ followers. Additionally, upon further review, the [HYPERLINK "https://lighthouse.bytedance.net/en/result/use rdetail?item_id=6869040593583064069&produc t=tiktok&config_key=tiktok_user_info_" \h] of	1. Consider customizing R2 Recall threshold for TTN posts so that TTN posts with high VVs but haven't reached R2 Recall threshold for regular TT posts will still be enqueued for a 2nd review. 2. During 11/12 bimonth, PEx plans on conducting daily monitoring of high-exposure and/or high-engagement TTN posts to identify additional content

this post may have even been an U13 user (see user's [[HYPERLINK](#) "https://www.youtube.com/channel/UC3GPOk8KGH3LCC41pCLQGVw?app=desktop" \h]).

According to TTN PRDs, TTN posts by U18 users are not circulated on the public feed. However, besides the previous example, we have observed other TTN posts by U18 users on our public feed (see [[HYPERLINK](#) "https://lighthouse.bytedance.net/en/result/vid_eodetail?item_id=7155620444656110891&product=tiktok&config_key=tiktok" \h]).

For example, TTN photo post 7160407426963868970 has more than 10k views but according to Octopus, this post was not enqueued for R2 review:



patterns, potential leakage, and product & policy gaps.

6. [TTN Internal Tooling] TTN posts are not currently available for reviewing in Lighthouse TTP. TTN posts moderation queues are not transferred to TTP.

Observations	Next Steps
TTN posts cannot be viewed in Lighthouse TTP due to Lighthouse TTP backend configuration issues.	PEX created ticket #86966 to work with Engineering on resolving this issue. The Engineering team is still in the process of implementing a resolution. Lark Group " <i>#86966# Jenny Bi's Lighthouse case Feedback Group</i> " was created as a result.
TTN posts are currently moderated in two queues "MNL-Now Images Filter-US_VA" and "ILO-Now Reported by User-US_VA". However, these queues will not be migrated to TTP according to [HYPERLINK	PEX will follow up with tooling on the rationale behind not migrating these queues.

"https://bytedance.us.feishu.cn/sheets/shtusUIC6wWmVPnyPUsmdu0p7c?sheet=J95ilA" \h] .

Other considerations:

Considerations	Details
Users are not notified when screenshots are taken.	As TTN promotes intimate sharing among a small network of friends, shared content could be more sensitive and not intended for a wide audience. Additionally, TTN already has a large number of violations related to minor safety issues. Enabling screenshot notification is recommended for user safety.
TTN leakage as observed on public feed	Through our public feed review, we identified potential leakage in the following violation areas (for visual examples, see [HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \h] Section "Examples of violative content from public feed": * SSHDA (e.g., posting while driving, running on a treadmill) * Implied nudity (e.g., photos of users in a bathroom setting with limited to no clothing) * HIPPA/PII (e.g., photo of patients in a clinic, photos of PII on work computer monitors) * Mis/dis (e.g., image of a letter alleging the election was a fraud, image of taking type-2 diabetes prescriptions for weight-loss) * Content by U18 users
Media monitoring results via LifeRaft, a web monitoring tool	The main theme of negative online discussions is consumers complaining about TTN as a copycat of BeReal and TTN not having [HYPERLINK "http://twitter.com/Satanussum/status/1585358772112744448" \h] or [HYPERLINK "http://twitter.com/brysonchase43/status/1583647870355312640" \h]. Additionally, there is a trend of [HYPERLINK "https://rtiverse.com/news/i-dont-need-to-bereal-tiktok-trend-explained-and-how-to-do/" \h]

to mock the BeReal trend.

Summary of detailed data analysis (for more details, see [

HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \h]):

Category	Data Analysis	Insights
User Demographics	TTN users age distribution based on predicted age ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "BeGed8aagoy6o0xK0pNuMWB7sYg" \h])	Majority of users posting TTN are between 13-15 (according to predicted age)
User Demographics	L1/L2 users (based on both declared age and predicted age) can have close to 10k mutual followers. ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "ZM2kduoacOIW4KxysRCu9mhMsqd" \h])	There are over 2,200 L1/L2 users with at least 2k mutual followers. However, the median number of mutual followers is 63. The vvs of their TTN posts appear to be of a much smaller magnitude. We expect the VVs of TTN posts to increase as it becomes more popular
User Demographics	Top 10 L1/L2 users based on number of mutual followers -- they are all followed by hundreds of L4/L5 users. ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "VUmAdqIkao6k8exknK0uM8FLsOe" \h])	~70% of TTN L1/L2 users are followed by at least 5 L4/L5 users
User Demographics	Types of accounts (according to User Rate) that use TTN ([HYPERLINK	Out of ~10 million TTN users, there were ~290k, or 2.9%, atypical accounts (i.e., accounts with a labeled

hics	"https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "QayodwyOgokcOgxEpptuMzOlsib" \h)	User Rate). Of the 290k atypical accounts, there were ~150k accounts labeled as "suspected handling" (accounts that are managed by someone other than who the account claims to be)
User Demograp hics	Login Platforms ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "YmAydSe6MoM2OMxyqObuUgh6spe" \h)	A large portion of TTN users usually switch accounts to make posts.
User Demograp hics	Device Distribution ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "QMuQdlQoQoCw2wxgdeouhfZdsKg" \h)	There are substantially more iOS users than Android users.
User Demograp hics	Predicted Gender ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "X4Aeds6yAoAumUxWuisuaz6nsrb" \h)	75% of TTN users are predicted female users. Only 25% of TTN users are predicted male users.
User Demograp hics	Underage L1/L2 posting by time ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJkiul1mPsrd" \l "F8sudiOSQoAggUxqmgDuVhpkshd" \h)	Underage posting is steady from 10:00 - 18:00 and spikes between 19:00 - 01:00. All times are UTC.
User Demograp hics	Location by state ([HYPERLINK "https://bytedance.us.feishu.cn/docx/FtC0dVSziokjwqxgJki	Top 5 states with active users in order are: California, Texas, New York, Florida, and Illinois.

	ul1mPsrd" \l "ByG8d0guqoeSmYxCSDcuwJ ShsNf" \h)}	
User Demographics	All Ages Posting Times ([HYPERLINK "https://bytedance.us.feishu. cn/docx/FtC0dVSziokjwqxgJki ul1mPsrd" \l "A6kKdS4csoYCKOx4eAwuL5 UisQc" \h)}	User posting begins picking up at around 1000 hours and spikes at 2100 hours, where it persists until 0300 hours and then there is a significant dropoff from the peak.
Violations	Violation comparison between video and photo ([HYPERLINK "https://bytedance.us.feishu. cn/docx/FtC0dVSziokjwqxgJki ul1mPsrd" \l "UwlkdiEuaogyaxagbHuTIPG syl" \h)}	Photo violations are prevalent in fewer categories, while video violations are spread out across more policy titles.
Violations	Violations comparison by policy verticals between photo and video ([HYPERLINK "https://bytedance.us.feishu. cn/docx/FtC0dVSziokjwqxgJki ul1mPsrd" \l "LWC0dUqKcoyYKcxOk9rugS Vlsch" \h)}	Minor in minimal clothing violations and implied minor nudity are more prevalent in photo than in video; dangerous driving behavior is more prevalent in video; suspected underage users are more prevalent in photo than video.
Violations	Violations of U18 users by self-declared birthday ([HYPERLINK "https://bytedance.us.feishu. cn/docx/FtC0dVSziokjwqxgJki ul1mPsrd" \l "SUekdeAEioEakaxSK7mu10T JsHg" \h)}	Violations from U18 users make up only 10.5% of violations on platform.
Violations	Percent of violations by policy title in video and photo posts for users	<i>Torso and Thighs of a Minor</i> violations are more prevalent in video, while <i>Minor in Minimal Clothing</i> violations

	under the age-gate ([HYPERLINK "https://bytedance.us.feishu. cn/docx/FtC0dVSziokjwqxgJki ul1mPsrd" \l "C6m4da0YEomw4sxSsybu79 zSsbh" \h])	are more prevalent in photo.
Engageme nts	Majority of users posting TTNs are public accounts ([HYPERLINK "https://bytedance.us.feishu. cn/docx/FtC0dVSziokjwqxgJki ul1mPsrd" \l "FqC4dqEOUoU4CMxwFjbuk PPmsqc" \h])	Public accounts make up 80% of TTN posts. However, private accounts post a bit more TTN posts on average. (6 TTN posts/account for private, 4.7 TTN posts/account for public)

DOCUMENT METADATA

Bates Number: TIKTOK3047MDL-045-LARK-00381555-TIKTOK3047MDL-045-LARK-00381567

BEGATTACH: TIKTOK3047MDL-045-LARK-00381547

ENDATTACH: TIKTOK3047MDL-045-LARK-00381580

Attachment Count: 0

PRODVOL: MDL-045

Custodian: MAHER, REAGAN; STANFIELD, JESSICA

File Path: /TIKTOK3047MDL-045-LARK-00381555.PDF

Confidentiality Designation:

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THREADID:

REDACTIONS:

REDACTION TYPE: