

Pregão Eletrônico SESC/MG nº 140-25 – Processo nº 004001-09444

À Comissão Permanente de Licitação do SESC/MG

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S.A., inscrita no CNPJ nº 04.287.754/0001-25, por seu representante legal, vem, tempestivamente, com fundamento no **Regulamento de Licitações e Contratos do SESC (Resolução nº 1.593/2024)** e nos princípios da legalidade, isonomia, competitividade, julgamento objetivo, seleção da proposta mais vantajosa e economicidade, apresentar a presente:

IMPUGNAÇÃO AO EDITAL

pelos fatos e fundamentos a seguir.

I – DA TEMPESTIVIDADE

Nos termos do item 4.1 do Edital, os pedidos de esclarecimentos ou impugnações devem ser encaminhados à Comissão Permanente de Licitação do SESC/MG **até 03 (três) dias úteis anteriores à data de abertura da sessão, observando-se o horário-limite das 17h00**, sendo **excluída da contagem a data da sessão**.

O item **4.1.1** do instrumento convocatório é expresso ao fixar que “*o prazo para apresentação de esclarecimentos ou impugnações se encerra às 17:00 do dia 16/01/2026*”.

A presente impugnação é, portanto, **protocolada dentro do prazo editalício**, de forma regular e tempestiva, devendo ser **conhecida e apreciada quanto ao mérito**.

II – DELIMITAÇÃO DO OBJETO DA IMPUGNAÇÃO

O vício é estrutural e se manifesta de forma cumulativa, nos seguintes eixos:

- 1. Direcionamento formal por marca;**
- 2. Direcionamento estrutural pela composição de lote fechado e julgamento por menor preço por lote;**
- 3. Direcionamento por imposição de plataforma SaaS de fabricante específico;**
- 4. Direcionamento material por engenharia de especificação**, consubstanciado na **cópia funcional de produto determinado**, mediante transposição de **parâmetros técnicos**,

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

FLORIANÓPOLIS - SC - CEP 88020-302
Av Mauro Ramos, 1450 - sala 602 - Centro
Fone: +55 (48) 3024-5688
www.seger.com.br

SÃO PAULO - SP - CEP 05424-150
Rua Pais Leme, 215 - sala 517 - Pinheiros
Fone: +55 (11) 2924-8670
www.segertech.com.br

CURITIBA - PR - CEP 80420-000
Rua Comendador Araújo, 499 - Centro
Fone: +55 (48) 3024-5688

valores numéricos e funcionalidades comerciais que, **em conjunto**, apenas um equipamento específico consegue atender.

III – DO DIRECIONAMENTO POR MARCA (VÍCIO FORMAL)

O TR impõe marca específica:

- 3.1 – Access Point Indoor: “O equipamento deverá ser da marca Huawei...”;**
- 3.2 – Access Point Outdoor: “O equipamento deverá ser da marca Huawei...”;**
- 3.3 – Software de Gerenciamento de APs: “...da marca Huawei”;**
- 3.4 – Switch de Acesso Multigiga: “...da marca Huawei”;**
- 3.5 – Software de Gerenciamento de Switches: “...da marca Huawei”.**

Tais exigências **afastam concorrentes tecnicamente aptos**, violando os princípios do Regulamento do SESC e **restringindo indevidamente a competitividade**.

IV – DO DIRECIONAMENTO POR COMPOSIÇÃO DE LOTE FECHADO E JULGAMENTO POR “MENOR PREÇO POR LOTE”

O Edital estabelece como **critério de julgamento “MENOR PREÇO POR LOTE”**, sendo que o **Lote 1** é composto por **seis itens** que, **em conjunto**, **configuram uma solução wireless completa**, abrangendo, entre outros:

- **Access Points (indoor e outdoor);**
- **Injetores PoE;**
- **Software de gerenciamento;**
- **Licenças de gestão e operação da rede.**

Ou seja, o próprio edital **não está adquirindo itens isolados**, mas sim **uma solução integrada de Wi-Fi**, compreendendo **hardware, energia, software e licenciamento** como um **pacote único e indissociável**.

Tal modelagem **potencializa e consolida o direcionamento**, porquanto:

1. **Elimina a competição por item ou por componente**, impedindo que licitantes ofereçam **arquiteturas equivalentes por meio de soluções interoperáveis**, ainda que plenamente compatíveis com os padrões técnicos exigidos;
2. **Impõe, na prática, a contratação de um único ecossistema tecnológico**, reforçando a dependência de um **fabricante específico**, sobretudo quando o próprio Termo de

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

Referência exige **marca determinada (Huawei)** e especificações que reproduzem **produtos concretos desse fabricante**;

3. **Restringe artificialmente o universo de competidores**, na medida em que fornecedores capazes de atender a parte do objeto (por exemplo, software, injetores PoE ou infraestrutura de controle) **são excluídos** por não ofertarem a totalidade da solução em um único pacote proprietário.

A opção administrativa por **agregar todos os componentes em um único lote**, aliada ao **julgamento por menor preço global**, não se justifica tecnicamente quando:

- os elementos do lote são **tecnologicamente dissociáveis**;
- existem **soluções de mercado interoperáveis**, baseadas em **padrões abertos (IEEE, Wi-Fi Alliance, 802.3, 802.1X, etc.)**;
- e não há **ato formal de padronização** ou **estudo técnico** que demonstre a **indispensabilidade da aquisição em pacote único**.

Nessas condições, a estruturação do **Lote 1 como “solução wireless completa”**, associada ao critério de **menor preço por lote**, funciona como **mecanismo adicional de direcionamento**, pois:

- **reforça a exclusividade do fabricante indicado**;
- **impede a formação de propostas competitivas por equivalência técnica**;
- e **contraria os princípios da isonomia, da ampla concorrência e da seleção da proposta mais vantajosa**, que exigem a **modelagem do objeto de forma a maximizar a competição**, e não a reduzi-la.

Portanto, a **composição do Lote 1 como pacote fechado de solução wireless**, somada à **exigência de marca** e à **engenharia de especificação por cópia de produto determinado**, **agrava o vício de direcionamento** e **contamina o critério de julgamento**, tornando o certame **juridicamente vulnerável à nulidade**.

V – DO DIRECIONAMENTO POR PLATAFORMA SAAS PROPRIETÁRIA E DA INEXISTÊNCIA DE PADRONIZAÇÃO TECNOLÓGICA ANTERIOR (ITEM 3.3)

O Termo de Referência, ao tratar do **item 3.3 – Software de Gerenciamento de Access Points**, estabelece de forma expressa que:

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

FLORIANÓPOLIS - SC - CEP 88020-302
Av Mauro Ramos, 1450 - sala 602 - Centro
Fone: +55 (48) 3024-5688
www.seger.com.br

SÃO PAULO - SP - CEP 05424-150
Rua Pais Leme, 215 - sala 517 - Pinheiros
Fone: +55 (11) 2924-8670
www.segertech.com.br

CURITIBA - PR - CEP 80420-000
Rua Comendador Araújo, 499 - Centro
Fone: +55 (48) 3024-5688

- 3.3.1: “Deverá ser fornecido um software único de gerenciamento centralizado, na modalidade SaaS (Software as a Service), que faça a gerência centralizada dos equipamentos”;
- 3.3.2: “A solução SaaS deve ser hospedada em infraestrutura de nuvem pública ou privada...”;
- 3.3.3: “O software deve ser do mesmo fabricante e nativo para a gerência destes equipamentos...”;
- 3.3.4: “As licenças oferecidas deverão permitir a utilização de todos os módulos... sem depender de integração com outros softwares... pelo prazo mínimo de 60 meses”;
- 3.3.39: “Todo o licenciamento de software necessário para compor a solução de gerência deve estar incluído... pelo período mínimo de 60 meses”.

Tais requisitos, **por si só**, não configuram irregularidade, **uma vez que diversos fabricantes do mercado corporativo de redes sem fio oferecem plataformas próprias de gerenciamento em nuvem (cloud), em modelo SaaS, nativas de seus respectivos ecossistemas.**

O **vício jurídico**, contudo, **não reside na exigência de solução nativa em nuvem**, mas sim no fato de que o edital **impõe, cumulativamente, que essa plataforma seja exclusivamente da marca Huawei**, vedando, de forma absoluta, a participação de **outras soluções tecnicamente equivalentes de fabricantes concorrentes**, igualmente baseadas em SaaS, cloud e gerenciamento nativo.

V.1 – DA IMPROCEDÊNCIA DA ALEGAÇÃO DE “PADRONIZAÇÃO TECNOLÓGICA ANTERIOR”

Caso a Administração sustente que a exigência da marca Huawei se justificaria por suposta “padronização tecnológica anterior”, tal argumento não se sustenta frente ao próprio Termo de Referência, pois:

1. O TR **não indica a existência de qualquer ato administrativo formal de padronização**, nem apresenta estudo técnico que demonstre a adoção institucional prévia e exclusiva de determinada plataforma de gerenciamento;
2. Ao contrário, o próprio edital estrutura o objeto como **contratação de licenciamento em nuvem (SaaS)** por prazo mínimo de 60 meses, caracterizando **nova contratação de plataforma tecnológica**, e não mera continuidade de solução previamente padronizada;

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

3. A contratação não se destina ao reaproveitamento de infraestrutura existente, mas à **adesão a um serviço externo e proprietário do fabricante**, mediante licenciamento.

Logo, não há base técnica ou administrativa para invocar “padronização anterior” como fundamento da exigência de marca, sendo indevida a exclusão de soluções equivalentes de outros fabricantes que igualmente oferecem plataformas cloud nativas, com as mesmas funcionalidades operacionais.

V.2 – DO DIRECIONAMENTO POR IMPOSIÇÃO DE FABRICANTE EM AMBIENTE TECNICAMENTE EQUIVALENTE

AO EXIGIR QUE O SOFTWARE:

- seja **SaaS**;
- seja **nativo do fabricante**;
- e, simultaneamente, **seja obrigatoriamente da marca Huawei**,

o edital **não seleciona uma arquitetura tecnológica**, mas **impõe um fornecedor específico**, ainda que **existam no mercado múltiplas plataformas cloud nativas, tecnicamente equivalentes e plenamente compatíveis com os padrões exigidos (IEEE, Wi-Fi Alliance, segurança, autenticação, gestão, telemetria, AIOps, etc.)**.

Assim, o direcionamento não decorre da opção por **cloud, SaaS ou solução nativa**, mas da **vedação absoluta à participação de outros fabricantes que atendem aos mesmos requisitos funcionais**, caracterizando:

- **restrição indevida à competitividade**;
- **afronta aos princípios da isonomia e da seleção da proposta mais vantajosa**;
- **e consolidação de dependência tecnológica artificial (vendor lock-in) fundada unicamente na marca**.

V.3 – AGRAVAMENTO DO DIRECIONAMENTO JÁ IDENTIFICADO

Esse desenho **não apenas reforça**, mas **agrava** os vícios já demonstrados:

- direcionamento por marca** (itens 3.1 a 3.5);
- direcionamento por composição de lote fechado** (solução completa com julgamento por menor preço por lote);
- e, como se demonstrará a seguir, **direcionamento por engenharia de especificação (cópia de produto determinado)**.

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

Ao impor **marca específica em um ambiente onde múltiplos fabricantes oferecem soluções cloud nativas equivalentes**, o edital **não protege requisitos técnicos**, mas **seleciona previamente o fornecedor**, em afronta direta aos princípios da competitividade e do julgamento objetivo.

V.4 – ÔNUS DE JUSTIFICATIVA TÉCNICA QUALIFICADA

Diante desse cenário, **cabe à Administração:**

- a) **Comprovar formalmente a existência de padronização tecnológica anterior**, mediante ato administrativo específico e estudo técnico;
- b) **demonstrar a inexistência de soluções equivalentes no mercado**, o que não corresponde à realidade do setor;
- c) **Justificar, de forma individualizada, por que a gestão em nuvem de outros fabricantes não atenderia às mesmas necessidades funcionais.**

A ausência de motivação técnica individualizada, específica e documental para cada uma das exigências questionadas – com enfrentamento objetivo dos parâmetros técnicos demonstrados nos Anexos I e II – caracteriza violação aos princípios da motivação, da legalidade, da isonomia e do julgamento objetivo, contaminando a modelagem do objeto e viciando o certame de origem.

Não se satisfaz o dever de motivação com respostas genéricas, padronizadas ou meramente afirmativas, sendo imprescindível que a Administração **indique, item a item**, a razão técnica da indispensabilidade de cada requisito **e a inexistência de equivalentes no mercado.**

VI – DO DIRECIONAMENTO POR CÓPIA DE PRODUTO DETERMINADO (ENGENHARIA DE ESPECIFICAÇÃO)

VI-A – ITEM 3.1 (ACCESS POINT INDOOR)

VI-A.1 – CITAÇÕES LITERAIS DO TR (RECORTES)

3.1.4: “03 (três) rádios 4x4 MU-MIMO... 2.4 GHz 1.3 Gbps; 5.0 GHz 5.7 Gbps; 5.0 GHz 11.5 Gbps.”

3.1.6: “Deve suportar Multi-RU...”

3.1.18: “Operar em canais de 20MHz a 320 MHz.”

3.1.23: “Deve suportar MLO...”

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

- 3.1.28: "...no mínimo, 512 usuários por rádio."
- 3.1.29: "antenas... ganho... 4 dBi (2.4) e 5 dBi (5/6)."
- 3.1.30: "...1000/2500/5000/10000 Base-T."
- 3.1.54: "slot integrado de IoT com RFID ou bluetooth."
- 3.1.55: "power injector... ~90W... do mesmo fabricante."
- 3.1.56: "ZTP (Zero Touch Provisioning)."

VI-A.2 – DEMONSTRAÇÃO TÉCNICA (SÍNTESE)

O conjunto de requisitos acima **replica a arquitetura, os limites numéricos e as funcionalidades comerciais** de um **produto específico** da linha Huawei AirEngine Wi-Fi 7 (tri-rádio 4x4, 1.376/5.765/11.53 Gbps, Multi-RU, MLO, 320 MHz, ≤16 SSIDs, 512 usuários por rádio, 10GbE, BLE/RFID, PoE bt com injetor ~90 W, ZTP, CSD/CDD, MRC, SST, WIDS/WIPS, análise espectral), conforme se verifica no datasheet oficial do fabricante Huawei AirEngine 8771-X1T, ora juntado como Anexo I.

Trata-se de **modelagem por produto**, não de **requisitos funcionais abertos**.

VI-A.3 – QUADRO TÉCNICO (3.1)

Requisito do TR	Produto Copiado (linha Huawei AirEngine Wi-Fi 7)	Equivalentes de Mercado
3 rádios 4x4; 1.3/5.7/11.5 Gbps	Valores comerciais do modelo	Aruba, Extreme, Juniper Mist, Ruckus
Multi-RU; MLO; 320 MHz	Recursos 802.11be destacados no produto	Wi-Fi 7 de outros vendedores
512 usuários/rádio; ≤16 SSIDs	Limites comerciais	Parâmetros equivalentes
Antenas 4 dBi (2.4) e 5 dBi (5/6)	Ganhos de catálogo	Ganhos equivalentes
10GbE; BLE/RFID; PoE bt; injetor ~90W	Interfaces/acessórios do produto	Implementações equivalentes

CONCLUSÃO (3.1): engenharia de especificação por cópia de produto determinado.

VI-B – ITEM 3.2 (ACCESS POINT OUTDOOR)

VI-B.1 – CITAÇÕES LITERAIS DO TR (RECORTES)

- 3.2.2: "IP67."; 3.2.3: "-40 a +65°C."
- 3.2.8: "dual radio 4x4 MU-MIMO... 2.4 GHz 1.15 Gbps; 5.0 GHz 5.95 Gbps."
- 3.2.10: "802.11ax com OFDMA, MU-MIMO, BSS Coloring, TWT, 160 MHz, 1024-QAM..."
- 3.2.19: "antenas omni... 4 dBi (2.4) e 7 dBi (5)."
- 3.2.20: "potência... ≥30 dBm."

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

- 3.2.21/3.2.22: “RJ-45 1/2.5/5 GbE” e “SFP+ 1/10 GbE.”
- 3.2.23–3.2.25: “DFS; CDD/CSD; MRC.”
- 3.2.26–3.2.31: “...chaveamento de tráfego local... continuidade sem controlador.”
- 3.2.33: “512 usuários por rádio.”
- 3.2.43: “PoE++ (802.3bt).”
- 3.2.47: “BLE bluetooth 5.0.”
- 3.2.48: “power injector... ~90W... do mesmo fabricante.”
- 3.2.50: “ZTP.”

VI-B.2 – DEMONSTRAÇÃO TÉCNICA (SÍNTESE)

O arranjo técnico do 3.2 **reproduz fielmente** as **características comerciais de um modelo outdoor específico da linha Huawei AirEngine 6776I**: robustez ambiental (IP68/IP67-equivalente, -40 °C a +70 °C), uplinks RJ-45 multigigabit + SFP+ 10GbE, PoE 802.3bt, BLE/IoT, CSD/CDD, MRC, DFS, WIDS/WIPS, ZTP, telemetria, continuidade sem controlador, além de parâmetros quantitativos (ganho de antena, potência, 512 usuários por rádio, ≤16 SSIDs), conforme se extrai do datasheet oficial do fabricante Huawei AirEngine 6776I, ora juntado como Anexo II.

Novamente, **modelagem por produto**, não por função.

VI-B.3 – QUADRO TÉCNICO (3.2)

Requisito do TR	Produto Copiado (Huawei AirEngine 6776I)	Equivalentes de Mercado
IP67; -40 a +65 °C	IP68; -40 a +70 °C	Aruba Outdoor, Extreme, Juniper, Ruckus
4x4 MU-MIMO; 1.15/5.95 Gbps	Arquitetura e taxas do modelo	APs outdoor corporativos
RJ-45 multigig + SFP+ 10GbE	Interfaces do produto	Uplinks equivalentes
CSD/CDD; MRC; DFS; WIDS/WIPS	Funcionalidades listadas	Concorrentes
PoE++ (802.3bt); BLE 5.0; injetor ~90W	Energia/IoT do produto	Implementações equivalentes
Continuidade sem controlador; ZTP	Fit/Fat/Cloud; service holding	Funcionalidades equivalentes

CONCLUSÃO (3.2): engenharia de especificação por cópia de produto determinado.

VII – DA VEDAÇÃO AO DIRECIONAMENTO INDIRETO

A Administração **não pode substituir a indicação direta de marca por uma “cópia técnica” de um produto.**

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

FLORIANÓPOLIS - SC - CEP 88020-302
Av Mauro Ramos, 1450 - sala 602 - Centro
Fone: +55 (48) 3024-5688
www.seger.com.br

SÃO PAULO - SP - CEP 05424-150
Rua Pais Leme, 215 - sala 517 - Pinheiros
Fone: +55 (11) 2924-8670
www.segertech.com.br

CURITIBA - PR - CEP 80420-000
Rua Comendador Araújo, 499 - Centro
Fone: +55 (48) 3024-5688

A transposição de **parâmetros proprietários, valores numéricos e combinações específicas de hardware** produz o mesmo efeito jurídico da marca: **exclusão de concorrentes aptos e restrição artificial da competição.**

VIII – DO ÔNUS DE MOTIVAÇÃO TÉCNICA QUALIFICADA

Para manter o edital **nos moldes atuais**, o SESC/MG **deverá demonstrar documentalmente, item a item:**

- a) **Essencialidade funcional** de cada parâmetro;
- b) **Inexistência de equivalência** no mercado;
- c) **Exclusividade/padronização formal, por ato administrativo e estudo técnico comparativo.**

A ausência de motivação individualizada confirma o direcionamento e vicia o certame.

IX – DA TEMERIDADE DO DIRECIONAMENTO SEM JUSTIFICATIVA TÉCNICA FORMAL

A manutenção de exigências que **direcionam o certame a produto e fabricante determinados, sem motivação técnica individualizada, formal e documental**, configura conduta **temerária** sob a ótica do regime jurídico aplicável às contratações do SESC.

Isso porque:

1. A **restrição à competitividade é excepcional e somente se legitima** quando **devidamente motivada** por razões técnicas objetivas, **comprovadas por estudos, pareceres ou atos formais de padronização;**
2. A simples afirmação de “adequação às necessidades” **não supre o dever de motivação**, sobretudo quando o mercado dispõe de **soluções equivalentes;**
3. A **engenharia de especificações** que reproduz **parâmetros proprietários de produto determinado**, sem demonstração de **essencialidade** funcional, **produz efeito prático de fornecedor único**, hipótese vedada pelos princípios da isonomia, competitividade e seleção da proposta mais vantajosa.

Nessas circunstâncias, **persistir no direcionamento sem a correspondente justificativa técnica qualificada** expõe o procedimento a:

- a) **Vício de legalidade e nulidade de origem;**
- b) **Fragilidade da Ata de Registro de Preços** e dos contratos dela decorrentes;

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

- c) **Risco de responsabilização administrativa** dos agentes que deram causa à restrição;
- d) **Intervenção de instâncias de controle**, com potencial **suspensão do certame**.

Ressalte-se que a **própria apresentação desta impugnação torna inequívoco o alerta quanto à irregularidade**, de modo que a **manutenção do edital sem saneamento ou sem justificativa técnica individualizada e documental** caracteriza **assunção consciente do risco jurídico**.

X – DAS CONSEQUÊNCIAS JURÍDICAS

A manutenção das cláusulas restritivas enseja:

- a) **NULIDADE DO PROCEDIMENTO**;
- b) **Responsabilização administrativa**;
- c) **VÍCIO DE ORIGEM da Ata**;
- d) **Medidas administrativas e judiciais, inclusive suspensão do certame**.

XI – DOS PEDIDOS

1. **Acolhimento da impugnação**, reconhecendo o **direcionamento por marca** e o **direcionamento por cópia de produto determinado nos itens 3.1 e 3.2**;
2. **Retificação do TR** para:
 - a) **suprimir a exigência de marca**;
 - b) **substituir especificações proprietárias por requisitos funcionais e de desempenho**, abertos e não discriminatórios;
 - c) **admitir componentes compatíveis** quando aplicável;
3. **Subsidiariamente**, que o SESC/MG **apresente justificativa técnica individualizada e documental para cada subitem** que reproduz características de produto específico, **com estudo comparativo e prova de exclusividade**, sob pena de nulidade;
4. **Se necessário, suspensão e republicação** do edital.
5. **Que a Comissão Permanente de Licitação aprecie expressamente e de forma motivada os documentos técnicos anexos (Anexos I e II)**, enfrentando objetivamente, item a item, cada parâmetro técnico apontado nesta impugnação, consignando no processo administrativo as razões técnicas específicas para eventual manutenção de qualquer exigência restritiva, sob pena de nulidade por ausência de motivação.
6. **Que eventual indeferimento da presente impugnação seja acompanhado de decisão administrativa formal, devidamente fundamentada, com indicação**

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.

expressa dos elementos técnicos e jurídicos que afastariam os vícios de direcionamento por marca, por estrutura de lote, por plataforma proprietária e por engenharia de especificação, para fins de controle externo e judicial.

XII – DOS DOCUMENTOS TÉCNICOS ANEXOS

Para fins de **comprovação técnica das alegações de direcionamento por engenharia de especificação**, a Impugnante junta aos autos os seguintes documentos:

Anexo I – Huawei AirEngine 8771-X1T – Access Point Indoor – Datasheet oficial do fabricante;

Anexo II – Huawei AirEngine 6776I-X6TH/X7TH/X6ETH – Access Point Outdoor – Datasheet oficial do fabricante.

Os documentos anexos consistem em **fichas técnicas oficiais do próprio fabricante indicado no edital** e demonstram, de forma objetiva, que os parâmetros constantes do Termo de Referência **reproduzem a arquitetura, os limites numéricos e as funcionalidades comerciais de produtos determinados**, não se tratando de meros requisitos funcionais, mas de **engenharia de especificação direcionada**.

Diante da prova técnica ora apresentada, **cabe à Administração o ônus de demonstrar**, item a item, **por que cada parâmetro copiado de produto específico seria funcionalmente indispensável e por que soluções equivalentes de outros fabricantes não atenderiam às necessidades institucionais**, sob pena de nulidade do certame.

Termos em que,

Pede deferimento.

Florianópolis, SC, 15 de janeiro de 2026.

**ELIANE APARECIDA
DA CUNHA
MACIEL:58045325968**

Assinado de forma digital por
ELIANE APARECIDA DA CUNHA
MACIEL:58045325968
Dados: 2026.01.15 07:46:02
-03'00'

Eliane Aparecida da Cunha Maciel
Presidente
CPF: 580.453.259-68 | RG: 7.959.912-SSP/SC
eliane@seger.com.br 48-3024-5688

SEGER COMERCIAL IMPORTADORA E EXPORTADORA S/A.



Huawei AirEngine 6776I- X6TH&AirEngine 6776I- X7TH&AirEngine 6776I- X6ETH Access Points Datasheet

Product Overview

Huawei AirEngine 6776I-X6TH, AirEngine 6776I-X7TH and AirEngine 6776I-X6ETH are outdoor access points (APs) in compliance with Wi-Fi 7 (802.11be). They can simultaneously provide services on 2.4 GHz, 5 GHz, and 6 GHz frequency bands, achieving a device rate of up to 13.66 Gbps. They are empowered by brand-new Wi-Fi 7 technologies, significantly enhancing users' wireless network experience. These outdoor Aps stand out with excellent outdoor coverage performance, IP68 waterproof and dustproof design, and strong surge protection capability. These strengths make Huawei's Wi-Fi 7 outdoor APs ideal for high-density scenarios such as stadiums and amusement parks.



AirEngine 6776I-X6TH



AirEngine 6776I-X7TH



AirEngine 6776I-X6ETH

- The AirEngine 6776I-X6TH has built-in directional antennas and works simultaneously on the 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO) frequency bands, and 6 GHz(4x4 MIMO) frequency bands, achieving a maximum rate of 13.66 Gbps for the device, and the 6 GHz radio can be flexibly switched to the 5 GHz radio as required.
- The AirEngine 6776I-X7TH has built-in omnidirectional antennas and works simultaneously on the 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO) frequency bands, and 6 GHz (4x4 MIMO) frequency bands, achieving a maximum rate of 13.66 Gbps for the device, and the 6 GHz radio can be flexibly switched to the 5 GHz radio as required.

AirEngine 6776I-X6TH/X7TH Work Mode	MIMO	Peak Data Rate
Mode1	2.4GHz(2x2) +5GHz-H(2x2) + 5GHz-L(4x4)	7.89 Gbps
Mode2	2.4GHz(2x2) +5GHz(2x2) +6GHz(4x4)	13.66 Gbps

- The AirEngine 6776I-X6ETH uses external antennas and works simultaneously on the 2.4 GHz (2x2 MIMO), 5 GHz (2x2 MIMO) frequency bands, and 6 GHz(4x4 MIMO) frequency bands, achieving a maximum rate of 13.66 Gbps for the device, and the 6 GHz radio can be flexibly switched to the 5 GHz radio as required.

AirEngine 6776I-X6ETH Work Mode	MIMO	Peak Data Rate
Mode1	2.4GHz(2x2) +5GHz(2x2) + 5GHz(4x4)	7.89 Gbps
Mode2	2.4GHz(2x2) +5GHz(2x2) +6GHz(4x4)	13.66 Gbps

- 6 KA surge protection for Ethernet ports, IP68 waterproof and dustproof design, and -40°C to + 70°C wide temperature, fully meeting industrial-grade requirements.
- Support Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.
- Support Fit, Fat and cloud management working modes, and enables Huawei cloud management platform to manage and operate APs and services on the APs, reducing network O&M costs.

Feature Descriptions

Wi-Fi 7 (802.11be) standard

Wi-Fi 7 (802.11be) is the Wi-Fi standard, also known as IEEE 802.11be or extremely high throughput (EHT). Based on Wi-Fi 6, Wi-Fi 7 introduces technologies such as 320 MHz bandwidth, 4096-quadrature amplitude modulation (QAM), multi-resource unit

(MRU), multi-link operation (MLO), enhanced multi-user multiple-input multiple-output (MU-MIMO). Drawing on these cutting-edge technologies, Wi-Fi 7 delivers a higher data transmission rate and lower latency than Wi-Fi 6.

New Features in Wi-Fi 7

Wi-Fi 7 aims to increase the WLAN throughput and provide low-latency access assurance. To achieve this goal, the Wi-Fi 7 standard defines modifications to both the physical layer (PHY) and MAC layer. Compared with Wi-Fi 6, Wi-Fi 7 brings the following technical innovations:

Multi-RU

In Wi-Fi 6, each user can send or receive frames only on the RUs allocated to them, which greatly limits the flexibility of spectrum resource scheduling. To resolve this problem and further improve spectrum efficiency, Wi-Fi 7 defines a mechanism for allocating multiple RUs to a single user. To balance the implementation complexity and spectrum utilization, the standard specifications impose certain restrictions on RU combination. That is, small RUs (containing fewer than 242 tones) can be combined only with small RUs, and large RUs (containing greater than or equal to 242 tones) can be combined only with large RUs. Small RUs and large RUs can be combined together.

Higher-Order 4096-QAM

The highest order modulation supported by Wi-Fi 6 is 1024-QAM, which allows each modulation symbol to carry up to 10 bits. To further improve the rate, Wi-Fi 7 introduces 4096-QAM so that each modulation symbol can carry 12 bits. With the same coding, 4096-QAM in Wi-Fi 7 can achieve a 20% rate increase compared with 1024-QAM in Wi-Fi 6.

Multi-Link Mechanism

To efficiently utilize all available spectrum resources, the industry is in urgent need to introduce new spectrum management, coordination, and transmission mechanisms on the 2.4 GHz, 5 GHz, and 6 GHz frequency bands. The TGbe defines multi-link aggregation technologies, including the MAC architecture of enhanced multi-link aggregation, multi-link channel access, and multi-link transmission.

There are two modes as for MLO:

- High-concurrency mode, multiple links send different data to improve bandwidth.
- High-reliability mode, multiple links send the same data, improving reliability.

Leader AP

The leader AP integrates some WLAN AC functions and can be used to manage Fit APs in small- and medium-sized enterprises and stores, implementing WLAN AC-free access not requiring licenses and saving customer investment.

Basic Specifications

Fit AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11be and compatibility with IEEE 802.11a/b/g/n/ac/ax Maximum ratio combining (MRC) Space time block code (STBC) Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) Beamforming Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing BSS Color TxBF TWT

Item	Description
	Compliance with 4096-quadrature amplitude modulation (QAM) and compatibility with 1024-QAM, 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK) Low-density parity-check (LDPC) Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz, 160 MHz and 320 MHz modes Wi-Fi multimedia (WMM) for priority-based data processing and forwarding WLAN channel management and channel rate adjustment NOTE For detailed management channels, see the Country Codes & Channels Compliance. Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Multi-user call admission control (CAC) Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks 802.11k and 802.11v smart roaming 802.11r fast roaming (≤ 50 ms) Spectrum analysis Terminal location
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode, and automatic switchover between Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compatibility with IEEE 802.1Q SSID-based VLAN assignment Eth-Trunk function Management channel of the AP's uplink port in tagged and untagged modes DHCP client, obtaining IP addresses through DHCP Tunnel data forwarding and direct data forwarding STA isolation in the same VLAN IPv4/IPv6 access control list (ACL) Link Layer Discovery Protocol (LLDP) Service holding when CAPWAP link disconnection in direct data forwarding mode Unified authentication on the AC AC dual-link backup Telemetry, quickly collecting AP status and application experience parameters MESH HotSpot2.0 IPv6 SAVI
QoS features	WMM power save Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and

Item	Description
	radio environment) to improve user experience Application identification and QoS classification to improve voice quality for popular applications, such as Zoom, QQ, and WeChat Airtime scheduling Air interface HQoS scheduling Intelligent multimedia scheduling VIP bandwidth reservation VIP FastPass, per-packet power control
Security features	Open system authentication WPA2-PSK authentication and encryption (WPA2-Personal) WPA2-802.1X authentication and encryption (WPA2-Enterprise) WPA3-SAE authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Enterprise) WPA-WPA2 hybrid authentication WPA2-WPA3 hybrid authentication WPA/WPA2/WPA2-PPSK authentication and encryption WPA/WPA2/WPA2-DPSK authentication and encryption WAPI authentication and encryption Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS), including rogue device detection and containment, attack detection and dynamic blacklist, and STA/AP blacklist and whitelist 802.1X authentication, MAC address authentication, and Portal authentication DHCP snooping 802.11w Protected Management Frames (PMF) CAPWAP DTLS data encryption and decryption URL filtering MACsec@ Uplink Ethernet port Secure boot
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	Unified AP management and maintenance on the AC Automatic AP onboarding, automatic configuration loading, and plug-and-play (PnP) Automatic batch upgrade STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth serial port System status alarm Unified AP management on WebMaster

Fat AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11be and compatibility with IEEE 802.11a/b/g/n/ac/ax Maximum ratio combining (MRC) Space time block code (STBC)

Item	Description
	Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) Beamforming Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing BSS Color TxBF TWT Compliance with 4096-quadrature amplitude modulation (QAM) and compatibility with 1024-QAM, 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK) Low-density parity-check (LDPC) Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz, 160 MHz and 320 MHz modes Wi-Fi multimedia (WMM) for priority-based data processing and forwarding WLAN channel management and channel rate adjustment NOTE For detailed management channels, see the Country Codes & Channels Compliance. Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks 802.11k and 802.11v smart roaming 802.11r fast roaming (≤ 50 ms)
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode, and automatic switchover between Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compatibility with IEEE 802.1Q SSID-based VLAN assignment DHCP client, obtaining IP addresses through DHCP Tunnel data forwarding and direct data forwarding STA isolation in the same VLAN IPv4 access control list (ACL) Link Layer Discovery Protocol (LLDP) Leader AP NAT
QoS features	WMM power save Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Airtime scheduling Intelligent multimedia scheduling
Security features	Open system authentication

Item	Description
	WPA2-PSK authentication and encryption (WPA2-Personal) WPA3-SAE authentication and encryption (WPA3-Personal) WPA-WPA2 hybrid authentication WPA2-WPA3 hybrid authentication MAC address authentication, and Portal authentication DHCP snooping 802.11w Protected Management Frames (PMF) Secure boot
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth serial port System status alarm

Cloud-Managed AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11be and compatibility with IEEE 802.11a/b/g/n/ac/ax Maximum ratio combining (MRC) Space time block code (STBC) Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) Beamforming Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing BSS Color TxBF TWT Compliance with 4096-quadrature amplitude modulation (QAM) and compatibility with 1024-QAM, 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK) Low-density parity-check (LDPC) Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz, 160 MHz and 320 MHz modes Wi-Fi multimedia (WMM) for priority-based data processing and forwarding WLAN channel management and channel rate adjustment NOTE For detailed management channels, see the Country Codes & Channels Compliance . Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Automatic AP Online by NCE-Campus

Item	Description
	Multi-user call admission control (CAC) Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks 802.11k and 802.11v smart roaming 802.11r fast roaming (≤ 50 ms) Spectrum analysis Terminal location
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode, and automatic switchover between Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compatibility with IEEE 802.1Q SSID-based VLAN assignment DHCP client, obtaining IP addresses through DHCP STA isolation in the same VLAN IPv4/IPv6 access control list (ACL) Link Layer Discovery Protocol (LLDP) Service holdover when the link to NCE-Campus is disconnected Unified authentication on the cloud management platform Network address translation (NAT) Telemetry, quickly collecting AP status and application experience parameters MESH Tunnel-AC IPv6 SAVI HotSpot2.0
QoS features	WMM power save Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience Application identification and QoS classification to improve voice quality for popular applications, such as Zoom, QQ, and WeChat Airtime scheduling Air interface HQoS scheduling Intelligent multimedia scheduling VIP bandwidth reservation VIP FastPass, per-packet power control
Security features	Open system authentication WPA2-PSK authentication and encryption (WPA2-Personal) WPA2-802.1X authentication and encryption (WPA2-Enterprise) WPA3-SAE authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Enterprise) WPA-WPA2 hybrid authentication WPA2-WPA3 hybrid authentication WPA/WPA2/WPA2-PPSK authentication and encryption

Item	Description
	WPA/WPA2/WPA2-DPSK authentication and encryption 802.1X authentication, MAC address authentication, and Portal authentication Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS), including rogue device detection and containment, attack detection and dynamic blacklist, and STA/AP blacklist and whitelist DHCP snooping 802.11w Protected Management Frames (PMF) CAPWAP DTLS data encryption and decryption URL filtering MACsec@ Uplink Ethernet port Secure boot
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	Unified AP management and maintenance on the cloud management platform Automatic AP onboarding, automatic configuration loading, and PnP Batch upgrade STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth serial port Real-time user configuration monitoring and fast fault locating using the NMS System status alarm Network Time Protocol (NTP)

Technical Specifications

Item		AirEngine 6776I-X6TH	AirEngine 6776I-X7TH	AirEngine 6776I-X6ETH
Technical specifications	Dimensions (H x W x D)	85 mm x 280 mm x 220 mm	100 mm x 280 mm x 220 mm	85 mm x 280 mm x 220 mm
	Weight	3.28 kg	3.59 kg	3.70 kg
	Interface type	1 x 1G/2.5G/10GE SFP+ 1 x 100M/1GE/2.5GE/5GE/10GE (RJ-45) 1 x 10M/100M/1GE (RJ-45) 1 x USB NOTE 10GE(RJ-45) and GE(RJ-45) supports PoE input. 10G optical ports support optical-electrical separation solution by working with the waterproof connection kit for an AP hybrid cable to achieve data transmission on the optical port and power supply on the electrical (RJ45) port. The third-party device connected to AP via the USB port must be insulated. the USB cable length must be less than 2 m. The USB module must meet the specifications of Huawei outdoor APs. For details, see Huawei WLAN AP IoT Card (USB) Hardware Specifications.		
	Bluetooth	Bluetooth 5.2		

Item		AirEngine 6776I-X6TH	AirEngine 6776I-X7TH	AirEngine 6776I-X6ETH
	IoT	- Built-in multi-protocol IoT interfaces, flexibly supporting BLE, ZigBee, HomeKit, and Thread* - USB port extension external IoT (Supports protocols such as ZigBee, RFID, and UWB) NOTE Features marked with asterisks (*) can be implemented through software upgrade.		
	GNSS	GPS, Beidou NOTE It can be implemented through software upgrade.		
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system.		
Power specifications	Power input	PoE power supply: In compliance with 802.3bt/at		- PoE power supply: In compliance with 802.3bt/at - DC: 18V~60V
		NOTE When 802.3at power is supplied, the AP will operate with restrictions, and the details refer to the Info-Finder .		
	Maximum power consumption	33.1 W (excluding USB)	33.5 W (excluding USB)	33.9 W (excluding USB)
		NOTE The actual maximum power consumption depends on local laws and regulations.		
Environmental specifications	Operating temperature	-40°C to +70°C NOTE The value may vary depending on the installation environment.		
	Storage temperature	-40°C to +85°C		
	Operating humidity	0% to 100%		
	Dustproof and waterproof grade	IP68		
	Altitude	-60 m to +5000 m		
	Atmospheric pressure	53 kPa to 106 kPa		
Radio specifications	Antenna type	Built-in directional antennas NOTE Horizontal beamwidth: 70° for 2.4 GHz, 60° for 5 GHz and 55° for 6 GHz. Vertical beamwidth: 35° for 2.4 GHz, 20° for 5 GHz and 20° for 6 GHz.	Built-in omnidirectional antenna	External antenna
	Antenna gain	2.4GHz: 10dBi 5GHz: 11dBi 6/5GHz: 12/11dBi	2.4GHz: 5dBi 5GHz: 5dBi 6/5GHz: 5dBi	NOTE The gain varies with external antennas. For

Item		AirEngine 6776L-X6TH	AirEngine 6776L-X7TH	AirEngine 6776L-X6ETH
		NOTE The gains above are the single-antenna peak gains.		details, see the specifications of each antenna.
	Maximum number of SSIDs for each radio	16		
	Maximum number of users	1800 (600 per radio) NOTE The actual number of users varies according to the environment.		
	Maximum transmit power	2.4GHz: 28dBm 5GHz: 23dBm 6/5GHz: 27dBm	2.4GHz: 28dBm 5GHz: 24dBm 6/5GHz: 27dBm	2.4GHz: 28dBm 5GHz: 27dBm 6/5GHz: 29dBm
	Frequency bands	2.400 to 2.4835 GHz ISM 5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM 5.925 to 6.425 GHz U-NII-5 6.425 to 6.525 GHz U-NII-6 6.525 to 6.875 GHz U-NII-7 6.875 to 7.125 GHz U-NII-8 NOTE The available bands and channels are dependent on the configured regulatory domain (country).		

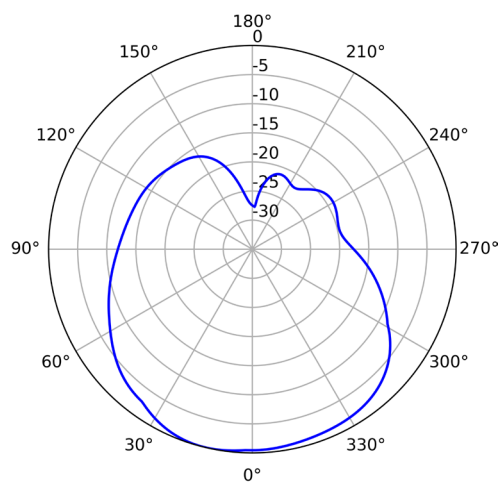
Standards Compliance

Item	Description		
Safety standards	- EN 62368-1 - IEC 62368-1	- EN 60950-22 - IEC 60950-22	
Radio standards	ETSI EN 300 328	ETSI EN 301 893	AS/NZS 4268
EMC standards	- EN 301 489-1 - EN 301 489-17 - EN 60601-1-2 - EN 55032 - EN 55035	- GB 17625.2 - CISPR 32 - CISPR 35 □ AS/NZS CISPR32	- IEC/EN61000-4-2 - IEC/EN 61000-4-3 - IEC/EN 61000-4-4 - IEC/EN 61000-4-5 - IEC/EN61000-4-6 - ICES-003
IEEE	IEEE 802.11a/b/g	IEEE 802.11h	IEEE 802.11v

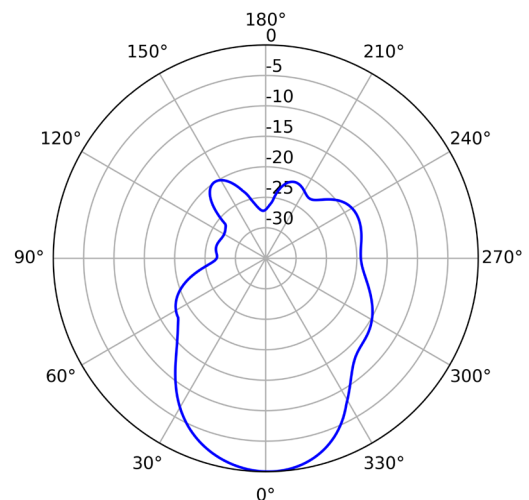
Item	Description		
standards	• IEEE 802.11n • IEEE 802.11ac • IEEE 802.11ax • IEEE 802.11be	• IEEE 802.11d • IEEE 802.11e • IEEE 802.11k	• IEEE 802.11w • IEEE 802.11r
Security standards	• 802.11i, Wi-Fi Protected Access (WPA), WPA2, WPA2-Enterprise, WPA2-PSK, WPA3, WAPI • 802.1X • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP), WEP, Open • EAP Type(s)		
EMF	• EN 62311	• EN 50385	
RoHS	• Directive 2002/95/EC & 2011/65/EU • (EU)2015/863		
Reach	• Regulation 1907/2006/EC		
WEEE	• Directive 2002/96/EC & 2012/19/EU		

Antennas Pattern

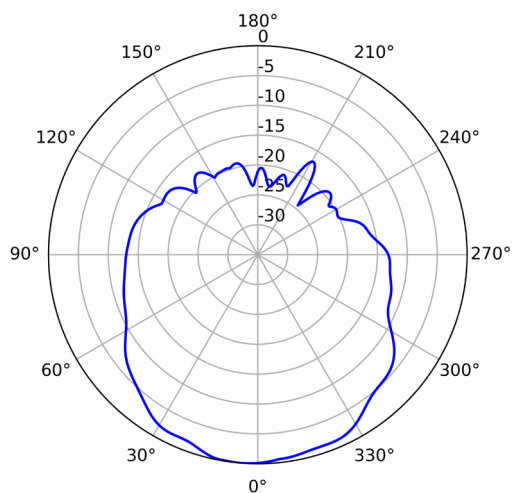
AirEngine 6776I-X6TH



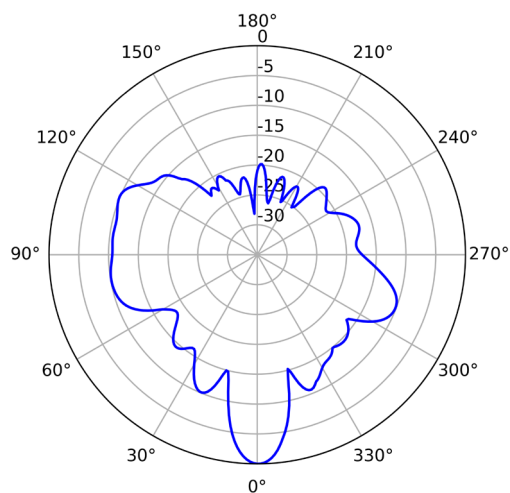
2.4GHz (Horizontal)



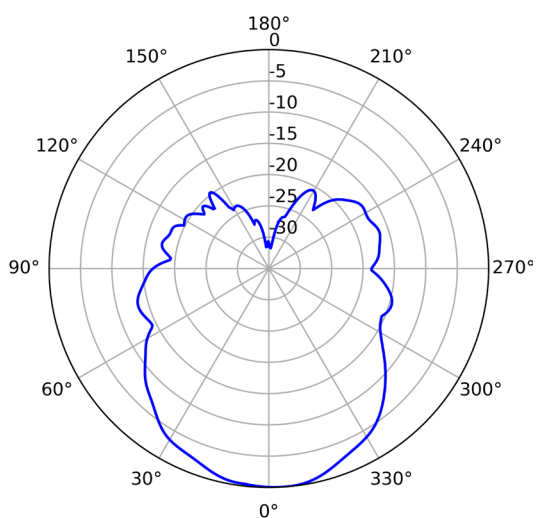
2.4GHz (Vertical)



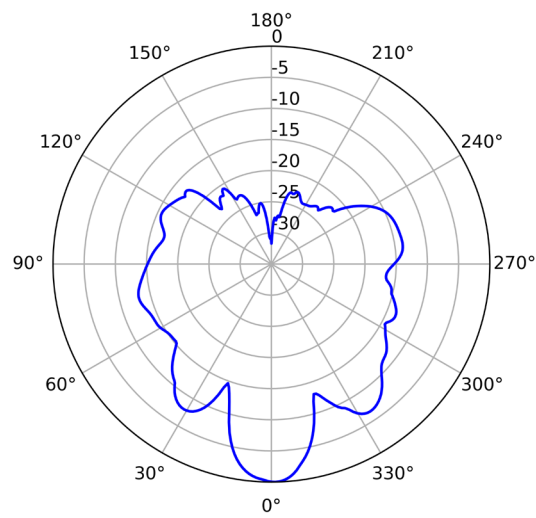
5GHz (Horizontal)



5GHz (Vertical)

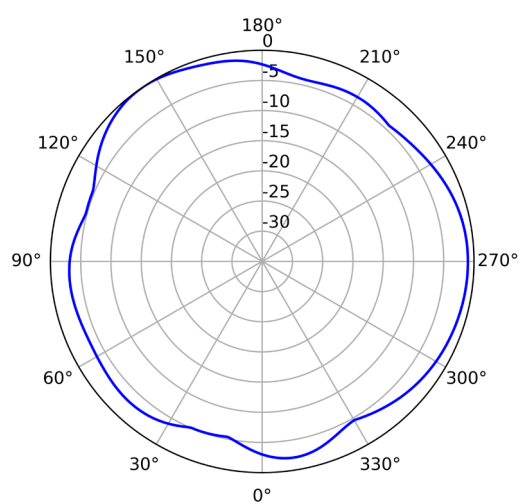


6GHz (Horizontal)

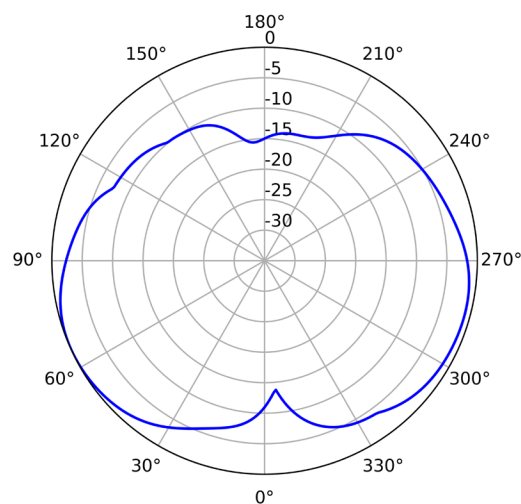


6GHz (Vertical)

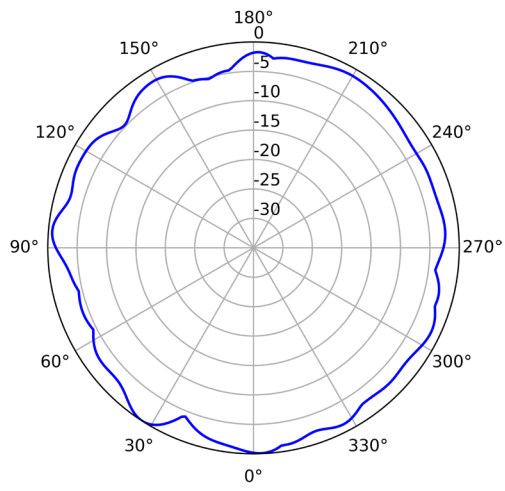
AirEngine 6776I-X7TH



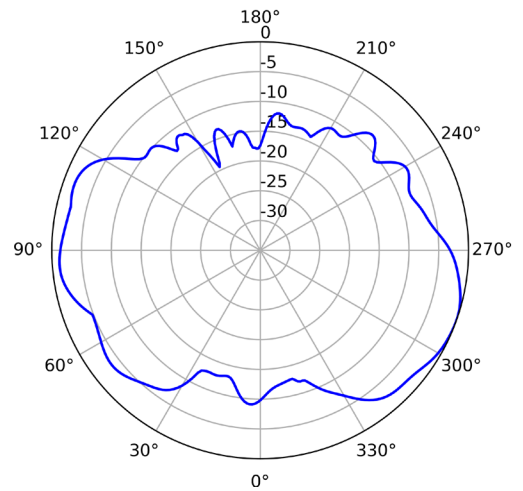
2.4GHz (Horizontal)



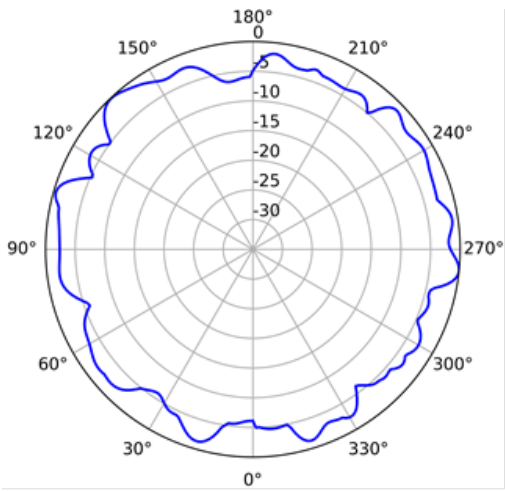
2.4GHz (Vertical)



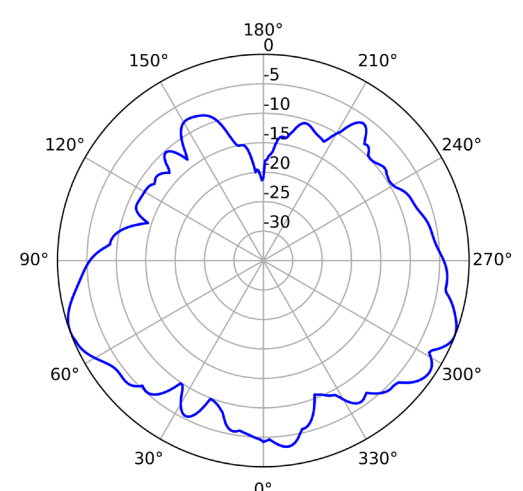
5GHz (Horizontal)



5GHz (Vertical)



6GHz (Horizontal)



6GHz (Vertical)

Copyright © Huawei Technologies Co., Ltd. 2025. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base Bantian, Longgang Shenzhen 518129 People's Republic of China

Website: www.huawei.com



Huawei AirEngine 8771-X1T

Access Point Datasheet

Product Overview

Huawei AirEngine 8771-X1T is an indoor access point (AP) in compliance with Wi-Fi 7 (802.11be). It can simultaneously provide services on 2.4 GHz (4x4 MIMO), 5 GHz (4x4 MIMO), and 6 GHz (4x4 MIMO) frequency bands, achieving a device rate of up to 18.67 Gbps. The AirEngine 8771-X1T excels in innovative application scenarios such as metacosm, XR remote collaboration, XR telemedicine, and XR interactive teaching.



AirEngine 8771-X1T

- Triple-radio: 2.4 GHz (4x4 MIMO) + 5 GHz (4x4 MIMO) + 6 GHz (4x4 MIMO), achieving rates of up to 1.376 Gbps, 5.765 Gbps, and 11.53 Gbps respectively, and 18.67 Gbps for the device.

Frequency Band	Channel Bandwidth	MIMO	Peak Data Rate
6 GHz	320 MHz	4x4	11.53 Gbps
5 GHz	160 MHz	4x4	5.765 Gbps
2.4 GHz	40 MHz	4x4	1.376 Gbps

- 6 GHz radio that can be switched to the 5 GHz radio flexibly, adapting to scenarios where the use of the 6 GHz frequency band is not clear yet. Dual-radio: 2.4 GHz (4x4 MIMO) + 5 GHz (4x4 MIMO) + 5GHz (4x4 MIMO), achieving rates of up to 1.376 Gbps, 5.765 Gbps, and 5.765 Gbps respectively, and 12.91 Gbps for the device.
- 2 x 10GE electrical ports and 1 x 10G SFP+ port. The 10GE ports support PoE input. The 10G SFP+ optical port supports 300 m long-distance PoE++ power supply with hybrid cable 2.0.
- Built-in dynamic-zoom smart antennas that can flexibly work in omnidirectional or high-density coverage mode. The former mode promises wider coverage, while the latter mode maximizes performance and optimizes user experience in dense environments. It makes the AP capable of adapting to omnidirectional and high-density scenarios dynamically based on STA access requirements.
- USB interface can be used for external IoT expansion (supporting protocols such as ZigBee and RFID).
- Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.
- Fit and cloud working modes.

Feature Descriptions

Wi-Fi 7 (802.11be) standard

Wi-Fi 7 (802.11be) is the Wi-Fi standard, also known as IEEE 802.11be or extremely high throughput (EHT). Based on Wi-Fi 6, Wi-Fi 7 introduces technologies such as 320 MHz bandwidth, 4096-quadrature amplitude modulation (QAM), multi-resource unit (RU), multi-link operation (MLO), enhanced multi-user multiple-input multiple-output (MU-MIMO), and multi-access point coordination. Drawing on these cutting-edge technologies, Wi-Fi 7 delivers a higher data transmission rate and lower latency than Wi-Fi 6. Wi-Fi 7 is expected to support a throughput of up to 30 Gbps, about three times that of Wi-Fi 6.

Wi-Fi 7 vs. Wi-Fi 6

Based on the Wi-Fi 6 standard, Wi-Fi 7 introduces a plurality of new technologies. The following compares Wi-Fi 6 and Wi-Fi 7.

	Wi-Fi 6	Wi-Fi 7
IEEE standard	802.11ax	802.11be
Maximum transmission rate	9.6 Gbps	23 Gbps
Frequency band	2.4 GHz, 5 GHz, 6 GHz (Wi-Fi 6E)	2.4 GHz, 5 GHz, and 6 GHz
Security protocol	WPA3	WPA3
Channel bandwidth	20 MHz, 40 MHz, 80 MHz, 160 MHz, 80+80 MHz	Up to 320 MHz
Modulation mode	1024-QAM OFDMA	4096-QAM OFDMA

New Features in Wi-Fi 7

Wi-Fi 7 aims to increase the WLAN throughput to more than 30 Gbps and provide low-latency access assurance. To achieve this goal, the standard defines modifications to both the physical layer (PHY) and MAC layer. Compared with Wi-Fi 6, Wi-Fi 7 brings the following technical innovations:

Up to 320 MHz Bandwidth

The 2.4 GHz and 5 GHz frequency bands are unlicensed spectrums that limited and congested. When running emerging applications (such as VR/AR), existing Wi-Fi networks inevitably encounter low quality of service (QoS). To achieve more than 30 Gbps throughput, Wi-Fi 7 will support the 6 GHz of frequency band and extend new bandwidth modes, including contiguous 240 MHz, non-contiguous 160+80 MHz, contiguous 320 MHz, and non-contiguous 160+160 MHz.

Multi-RU*

In Wi-Fi 6, each user can send or receive frames only on the RUs allocated to them, which greatly limits the flexibility of spectrum resource scheduling. To resolve this problem and further improve spectrum efficiency, Wi-Fi 7 defines a mechanism for allocating multiple RUs to a single user. To balance the implementation complexity and spectrum utilization, the standard specifications impose certain restrictions on RU combination. That is, small RUs (containing fewer than 242 tones) can be combined only with small RUs, and large RUs (containing greater than or equal to 242 tones) can be combined only with large RUs. Small RUs and large RUs can be combined together.

NOTE

The function and features marked with * can be implemented through software upgrade. The following describes are the same.

Higher-Order 4096-QAM

The highest order modulation supported by Wi-Fi 6 is 1024-QAM, which allows each modulation symbol to carry up to 10 bits. To further improve the rate, Wi-Fi 7 introduces 4096-QAM so that each modulation symbol can carry 12 bits. With the same coding, 4096-QAM in Wi-Fi 7 can achieve a 20% rate increase compared with 1024-QAM in Wi-Fi 6.

Multi-Link Mechanism

To efficiently utilize all available spectrum resources, the industry is in urgent need to introduce new spectrum management, coordination, and transmission mechanisms on the 2.4 GHz, 5 GHz, and 6 GHz frequency bands. The TGbe defines multi-link aggregation technologies, including the MAC architecture of enhanced multi-link aggregation, multi-link channel access, and multi-link transmission.

Wi-Fi 7 Application Scenarios

New functions introduced by Wi-Fi 7 will significantly improve the data transmission rate and deliver lower latency. These highlights will contribute to the development of emerging applications:

- Video stream
- Video/Voice conference
- Online gaming
- Real-time collaboration
- Cloud/Edge computing
- Industrial IoT

- Immersive AR/VR
- Interactive telemedicine

Cloud-based Management

The AP can be managed via cloud, then no need to deploy a WLAN AC and an authentication server. In cloud-based management mode, abundant authentication functions, such as pre-shared key (PSK) authentication, Portal authentication, SMS authentication, and social media authentication, can be implemented. This mode significantly simplifies the networking and reduces the capital expenditure (CAPEX). In addition, multiple advanced functions, such as online cloud-based network planning, cloud-based deployment, cloud-based inspection, and cloud-based O&M, can be implemented through Huawei cloud management platform. In multi-branch deployment scenarios, cloud APs are pre-configured on the cloud management platform firstly. Then on site, you only need to power on the cloud APs and connect them to switch ports, then scan the QR code to implement AP plug-and-play. Pre-configurations are automatically delivered to devices, greatly shortening the network deployment time. The cloud management platform can monitor the network status, device status, and terminal connection status of all sites of a tenant in a comprehensive and intuitive way to learn the network and service running status in real time.

Basic Specifications

Fit AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11a/b/g/n/ac/ac Wave 2/ax/be Maximum ratio combining (MRC) Space time block code (STBC) Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD) Beamforming Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing Per-packet power control BSS Color TxBF Compliance with 4096-quadrature amplitude modulation (QAM) and compatibility with 1024-QAM, 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK) Target wake time (TWT) Low-density parity-check (LDPC) Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz, 160 MHz, and 320 MHz modes Priority mapping and scheduling that are compliant with Wi-Fi multimedia (WMM) to implement priority-based data processing and forwarding. Automatic and manual rate adjustment (the rate is adjusted automatically by default) WLAN channel management and channel rate adjustment  NOTE For detailed management channels, see the Country Codes & Channels Compliance. Automatic channel scanning and interference avoidance Separate service set identifier (SSID) hiding configuration for each AP, supporting Chinese SSIDs Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD)

Item	Description
	Control and Provisioning of Wireless Access Points (APs) in Fit AP mode Automatic login in Fit AP mode Extended Service Set (ESS) in Fit AP mode Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks Multi-user call admission control (CAC) 802.11k and 802.11v smart roaming 802.11r fast roaming (≤ 50 ms) Hotspot2.0
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compliance with IEEE 802.1q SSID-based VLAN assignment Uplink VLAN trunks on Ethernet ports Management channel of the AP's uplink port in tagged and untagged mode DHCP client, obtaining IP addresses through DHCP Tunnel data forwarding and direct data forwarding Application identification and QoS classification when AP local forwarding (also called direct forwarding), which can significantly improve voice quality for applications such as Skype, QQ, and WeChat STA isolation in the same VLAN IPv4/IPv6 access control lists (ACLs) Link Layer Discovery Protocol (LLDP) Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode Unified authentication on the AC in Fit AP mode AC dual-link backup in Fit AP mode IPv6 in Fit AP mode Soft Generic Routing Encapsulation (GRE) Telemetry in Fit AP mode, quickly collecting AP status and application experience parameters IPv6 Source Address Validation Improvements (SAVI) Multicast Domain Name Service (mDNS) gateway protocol Link Aggregation Control Protocol (LACP)
QoS features	WMM parameter management for each radio WMM power saving Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience VIP bandwidth reservation Airtime scheduling Air interface HQoS scheduling Application acceleration for VR and mobile gaming Application identification
Security features	Open system authentication WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit encryption key

Item	Description
	WPA2-PSK authentication and encryption (WPA2-Personal) WPA2-802.1X authentication and encryption (WPA2-Enterprise) WPA3-SAE authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Enterprise) WPA-WPA2 hybrid authentication WPA2-WPA3 hybrid authentication WPA2-PPSK authentication and encryption in Fit AP mode Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS), including rogue device detection and containment, attack detection and dynamic blacklist, and STA/AP blacklist and whitelist 802.1X authentication, MAC address authentication, and Portal authentication DHCP snooping Dynamic ARP Inspection (DAI) IP Source Guard (IPSG) 802.11w Protected Management Frames (PMF) IPsec/DTLS hardware encryption
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	Unified management and maintenance on the AC in Fit AP mode Automatic login, automatic configuration loading, and plug-and-play (PnP) in Fit AP mode Automatic batch upgrade in Fit AP mode Telnet STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth serial interface Real-time configuration monitoring and fast fault locating using the NMS System status alarm
BYOD	Device type identification according to the organizationally unique identifier (OUI) in the MAC address Device type identification according to the user agent (UA) information in an HTTP packet Device type identification according to DHCP options The RADIUS server delivers packet forwarding, security, and QoS policies according to the device type carried in the RADIUS authentication and accounting packets.

Cloud-based management mode

Item	Description
WLAN features	Compliance with IEEE 802.11a/b/g/n/ac/ac Wave 2/ax/be Maximum ratio combining (MRC) Space time block code (STBC) Beamforming Multi-user multiple-input multiple-output (MU-MIMO) Orthogonal frequency division multiple access (OFDMA) Preamble puncturing Per-packet power control BSS Color

Item	Description
	TxBF Compliance with 4096-quadrature amplitude modulation (QAM) and compatibility with 1024-QAM, 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK) Low-density parity-check (LDPC) Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx) 802.11 dynamic frequency selection (DFS) Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding WLAN channel management and channel rate adjustment  NOTE For detailed management channels, see the Country Codes & Channels Compliance. Automatic channel scanning and interference avoidance Service set identifier (SSID) hiding Signal sustain technology (SST) Unscheduled automatic power save delivery (U-APSD) Automatic login
Network features	Compliance with IEEE 802.3ab Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X) Compliance with IEEE 802.1q SSID-based VLAN assignment VLAN trunk on uplink Ethernet ports Management channel of the AP uplink port in tagged and untagged mode DHCP client, obtaining IP addresses through DHCP Tunnel data forwarding and direct data forwarding STA isolation in the same VLAN IPv4/IPv6 access control lists (ACLs) Link Layer Discovery Protocol (LLDP) Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode Unified authentication on the AC in Fit AP mode AC dual-link backup in Fit AP mode IPv6 in Fit AP mode Soft Generic Routing Encapsulation (GRE) IPv6 Source Address Validation Improvements (SAVI) Multicast Domain Name Service (mDNS) gateway protocol
QoS features	WMM parameter management for each radio WMM power saving Priority mapping for upstream packets and flow-based mapping for downstream packets Queue mapping and scheduling User-based bandwidth limiting Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience VIP bandwidth reservation

Item	Description
	Airtime scheduling Application acceleration for VR and mobile gaming Air interface HQoS scheduling
Security features	Open system authentication WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit encryption key WPA2-PSK authentication and encryption (WPA2-Personal) WPA2-802.1X authentication and encryption (WPA2-Enterprise) WPA3-SAE authentication and encryption (WPA3-Personal) WPA3-802.1X authentication and encryption (WPA3-Enterprise) WPA-WPA2 hybrid authentication WPA2-WPA3 hybrid authentication 802.1x authentication, MAC address authentication, and Portal authentication DHCP snooping Dynamic ARP Inspection (DAI) IP Source Guard (IPSG)
EAP types	EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-CHAP, EAP-SIM, EAP-AKA, EAP-GTC, EAP-FAST, EAP-PEAP, EAP-MD5, EAP-MSCHAPv2, PEAPv0, PEAPv1
Maintenance features	Unified management and maintenance on the Agile Controller Automatic login and configuration loading, and plug-and-play (PnP) Batch upgrade Telnet STelnet using SSHv2 SFTP using SSHv2 Remote wireless O&M through the Bluetooth console port Web-based local AP management through HTTP or HTTPS Real-time configuration monitoring and fast fault locating using the NMS System status alarm Network Time Protocol (NTP)

Technical Specifications

Item	Description
Technical specifications	Dimensions (H x W x D)
	50 x 220 x 220 mm
	Weight
	1.4 kg
	Interface type
	2 x 100M/1000M/2.5GE/5GE/10GE auto-sensing (RJ45) 1 x 1G/10G SFP+ 1 x USB 2.0 port NOTE - The 10GE electrical port supports PoE input. - The 10G optical port supports the 10GE optical module, GE optical

Item		Description
		module, or hybrid module (supporting PoE input).
	Bluetooth	BLE 5.2
	IoT	- Built-in multi-protocol IoT interfaces, flexibly supporting BLE, RFID, ZigBee, Homekit, and 6LoWPAN* - USB port extension external IoT (Supports protocols such as ZigBee, RFID, and UWB)  NOTE Features marked with asterisks (*) can be implemented through software upgrade in the future.
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system
	CPU	quad-core advanced processor
Power specifications	Power input	43.2V~57.6V - PoE power supply: In compliance with 802.3bt/at  NOTE When 802.3af power is supplied, the AP will operate with restrictions, for example the USB port is unavailable, and the details refer to the Info-Finder.
	Maximum power consumption	44.4 W (excluding USB)  NOTE The actual maximum power consumption depends on local laws and regulations.
Environmental specifications	Operating temperature	-10°C to +50°C
	Storage temperature	-40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	-60 m to +5000 m
	Atmospheric pressure	53 kPa to 106 kPa
Radio specifications	Antenna type	Built-in smart antennas
	Antenna gain	2.4GHz: 4dBi 5GHz: 5dBi 6GHz: 5dBi  NOTE - The gains above are the single-antenna peak gains. - The equivalent antenna gain after all 2.4 GHz or 5 GHz antennas are combined is 2 dBi in 2.4 GHz or 3 dBi in 5 GHz and 6 GHz. .
	Maximum number of SSIDs for each radio	≤ 16
	Maximum number of users	≤ 1536 (512/Radio)

Item	Description
	 NOTE ● The actual number of users varies according to the environment. ● 200 theoretical clients at 5Mbps / client. ● 120 devices transmitting HD video at 5Mbps / device without losing quality.
Maximum transmit power	MIMO combined power, excluding antenna gains 2.4GHz(4x4): 26dBm 5GHz (4x4): 25dBm 6GHz (4x4): 25dBm  NOTE ● The actual transmit power must be added with the antenna gain. ● The actual transmit power depends on local laws and regulations.
Power increment	1 dBm
Frequency bands	2.400 to 2.4835 GHz ISM 5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM 5.925 to 6.425 GHz U-NII-5 6.425 to 6.525 GHz U-NII-6 6.525 to 6.875 GHz U-NII-7 6.875 to 7.125 GHz U-NII-8  NOTE The available bands and channels are dependent on the configured regulatory domain (country)
Receiver sensitivity	• 2.4GHz 802.11ax(HE20): -101dBm/MCS0NSS1;-98dBm/MCS1NSS1;-96dBm/MCS2NSS1;-93dBm/MCS3NSS1;-90dBm/MCS4NSS1;-86dBm/MCS5NSS1;-85dBm/MCS6NSS1;-83dBm/MCS7NSS1;-79dBm/MCS8NSS1;-78dBm/MCS9NSS1;-74dBm/MCS10NSS1;-72dBm/MCS11NSS1; • 2.4GHz 802.11ax(HE40): -97dBm/MCS0NSS1;-96dBm/MCS1NSS1;-94dBm/MCS2NSS1;-91dBm/MCS3NSS1;-88dBm/MCS4NSS1;-84dBm/MCS5NSS1;-83dBm/MCS6NSS1;-81dBm/MCS7NSS1;-77dBm/MCS8NSS1;-76dBm/MCS9NSS1;-72dBm/MCS10NSS1;-69dBm/MCS11NSS1; • 5GHz 802.11ax (HE20): -96dBm/MCS0NSS1;-94dBm/MCS1NSS1;-92dBm/MCS2NSS1;-89dBm/MCS3NSS1;-86dBm/MCS4NSS1;-82dBm/MCS5NSS1;-80dBm/MCS6NSS1;-79dBm/MCS7NSS1;-75dBm/MCS8NSS1;-73dBm/MCS9NSS1;-69dBm/MCS10NSS1;-67dBm/MCS11NSS1; • 5GHz 802.11ax (HE40): -94dBm/MCS0NSS1;-92dBm/MCS1NSS1;-89dBm/MCS2NSS1;-87dBm/MCS3NSS1;-83dBm/MCS4NSS1;-79dBm/MCS5NSS1;-78dBm/MCS6NSS1;-76dBm/MCS7NSS1;-72dBm/MCS8NSS1;-70dBm/MCS9NSS1;-67dBm/MCS10NSS1;-65dBm/MCS11NSS1; • 5GHz 802.11ax (HE80): -91dBm/MCS0NSS1;-89dBm/MCS1NSS1;-86dBm/MCS2NSS1;-84dBm/MCS3NSS1;-81dBm/MCS4NSS1;-76dBm/MCS5NSS1;-75dBm/MCS6NSS1;-73dBm/MCS7NSS1;-

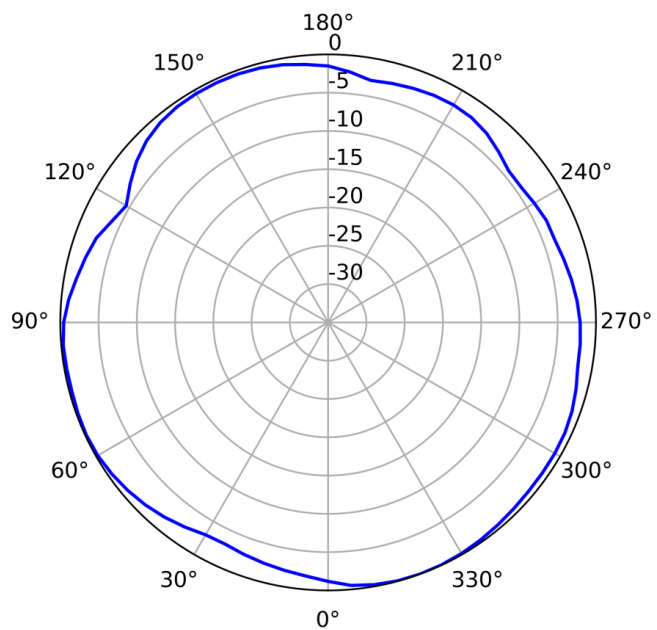
Item	Description
	69dBm/MCS8NSS1;-68dBm/MCS9NSS1;-64dBm/MCS10NSS1;-62dBm/MCS11NSS1; • 5GHz 802.11ax (HE160): -88dBm/MCS0NSS1;-86dBm/MCS1NSS1;-84dBm/MCS2NSS1;-81dBm/MCS3NSS1;-78dBm/MCS4NSS1;-73dBm/MCS5NSS1;-72dBm/MCS6NSS1;-70dBm/MCS7NSS1;-67dBm/MCS8NSS1;-65dBm/MCS9NSS1;-62dBm/MCS10NSS1;-59dBm/MCS11NSS1; • 5GHz 802.11be (EHT20): -89dBm/MCS0;-88dBm/MCS1;-86dBm/MCS2;-84dBm/MCS3;-81dBm/MCS4;-76dBm/MCS5;-75dBm/MCS6;-74dBm/MCS7;-69dBm/MCS8;-68dBm/MCS9;-64dBm/MCS10;-63dBm/MCS11;-59dBm/MCS12;-56dBm/MCS13; • 5GHz 802.11be (EHT40): -89dBm/MCS0;-86dBm/MCS1;-84dBm/MCS2;-81dBm/MCS3;-78dBm/MCS4;-74dBm/MCS5;-72dBm/MCS6;-71dBm/MCS7;-67dBm/MCS8;-66dBm/MCS9;-62dBm/MCS10;-59dBm/MCS11;-56dBm/MCS12;-54dBm/MCS13; • 5GHz 802.11be (EHT80): -90dBm/MCS0NSS1;-89dBm/MCS1NSS1;-86dBm/MCS2NSS1;-84dBm/MCS3NSS1;-81dBm/MCS4NSS1;-76dBm/MCS5NSS1;-75dBm/MCS6NSS1;-73dBm/MCS7NSS1;-69dBm/MCS8NSS1;-68dBm/MCS9NSS1;-64dBm/MCS10NSS1;-62dBm/MCS11NSS1; • 5GHz 802.11be (EHT160): -83dBm/MCS0NSS1;-81dBm/MCS1NSS1;-79dBm/MCS2NSS1;-76dBm/MCS3NSS1;-73dBm/MCS4NSS1;-68dBm/MCS5NSS1;-68dBm/MCS6NSS1;-66dBm/MCS7NSS1;-63dBm/MCS8NSS1;-61dBm/MCS9NSS1;-56dBm/MCS10NSS1;-55dBm/MCS11NSS1;-53dBm/MCS12NSS1;-51dBm/MCS13NSS1; • 6GHz 802.11ax (HE20): -97dBm/MCS0NSS1;-96dBm/MCS1NSS1;-93dBm/MCS2NSS1;-91dBm/MCS3NSS1;-88dBm/MCS4NSS1;-84dBm/MCS5NSS1;-82dBm/MCS6NSS1;-80dBm/MCS7NSS1;-77dBm/MCS8NSS1;-75dBm/MCS9NSS1;-72dBm/MCS10NSS1;-69dBm/MCS11NSS1; • 6GHz 802.11ax (HE40): -95dBm/MCS0NSS1;-93dBm/MCS1NSS1;-91dBm/MCS2NSS1;-89dBm/MCS3NSS1;-86dBm/MCS4NSS1;-82dBm/MCS5NSS1;-80dBm/MCS6NSS1;-79dBm/MCS7NSS1;-75dBm/MCS8NSS1;-73dBm/MCS9NSS1;-70dBm/MCS10NSS1;-68dBm/MCS11NSS1; • 6GHz 802.11ax (HE80): -92dBm/MCS0NSS1;-90dBm/MCS1NSS1;-88dBm/MCS2NSS1;-86dBm/MCS3NSS1;-83dBm/MCS4NSS1;-79dBm/MCS5NSS1;-78dBm/MCS6NSS1;-76dBm/MCS7NSS1;-72dBm/MCS8NSS1;-70dBm/MCS9NSS1;-67dBm/MCS10NSS1;-65dBm/MCS11NSS1; • 6GHz 802.11ax (HE160): -89dBm/MCS0NSS1;-87dBm/MCS1NSS1;-85dBm/MCS2NSS1;-83dBm/MCS3NSS1;-80dBm/MCS4NSS1;-76dBm/MCS5NSS1;-74dBm/MCS6NSS1;-73dBm/MCS7NSS1;-69dBm/MCS8NSS1;-67dBm/MCS9NSS1;-64dBm/MCS10NSS1;-61dBm/MCS11NSS1; • 6GHz 802.11be (EHT20): -87dBm/MCS0;-87dBm/MCS1;-85dBm/MCS2;-82dBm/MCS3;-79dBm/MCS4;-74dBm/MCS5;-73dBm/MCS6;-72dBm/MCS7;-67dBm/MCS8;-66dBm/MCS9;-62dBm/MCS10;-61dBm/MCS11;-57dBm/MCS12;-53dBm/MCS13; • 6GHz 802.11be (EHT40): -87dBm/MCS0;-84dBm/MCS1;-82dBm/MCS2;-80dBm/MCS3;-76dBm/MCS4;-72dBm/MCS5;-70dBm/MCS6;-69dBm/MCS7;-65dBm/MCS8;-64dBm/MCS9;-58dBm/MCS10;-30dBm/MCS11;-60dBm/MCS12;-52dBm/MCS13; • 6GHz 802.11be (EHT80): -83.5dBm/MCS0;-81.5dBm/MCS1;-79dBm/MCS2;-76.5dBm/MCS3;-73.5dBm/MCS4;-69dBm/MCS5;-68dBm/MCS6;-66.5dBm/MCS7;-63dBm/MCS8;-61dBm/MCS9;-58dBm/MCS10;-56dBm/MCS11;-53dBm/MCS12;-50.5dBm/MCS13; • 6GHz 802.11be (EHT160): -81dBm/MCS0;-79dBm/MCS1;-77dBm/MCS2;-74dBm/MCS3;-71dBm/MCS4;-67dBm/MCS5;-66dBm/MCS6;-65dBm/MCS7;-

Item	Description
	61dBm/MCS8;-60dBm/MCS9;-55dBm/MCS10;-53dBm/MCS11;-52dBm/MCS12;-50dBm/MCS13; • 6GHz 802.11be (EHT320): -79dBm/MCS0; -76dBm/MCS1;-74dBm/MCS2;-71dBm/MCS3;-69dBm/MCS4;-64dBm/MCS5;-64dBm/MCS6;-63dBm/MCS7;-60dBm/MCS8;-55dBm/MCS9;-52dBm/MCS10;-50dBm/MCS11;-50dBm/MCS12;-49dBm/MCS13;

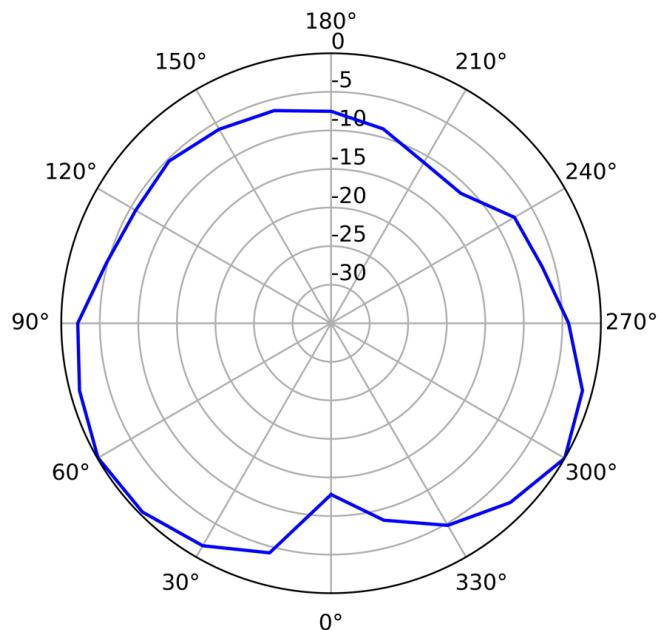
Standards Compliance

Item	Description
Safety standards	● UL 60950-1 ● EN 60950-1 ● IEC 60950-1 ● UL 62368-1 ● EN 62368-1 ● IEC 62368-1 ● GB 4943.1 ● CAN/CSA 22.2 No.60950-1
Radio standards	● ETSI EN 300 328 ● ETSI EN 301 893 ● AS/NZS 4268
EMC standards	● EN 301 489-1 ● EN 301 489-17 ● EN 60601-1-2 ● EN 55024 ● EN 55032 ● EN 55035 ● GB 9254 ● GB 17625.1 ● GB 17625.2 ● AS/NZS CISPR32 ● CISPR 24 ● CISPR 32 ● CISPR 35 ● IEC/EN61000-4-2 ● IEC/EN 61000-4-3 ● IEC/EN 61000-4-4 ● IEC/EN 61000-4-5 ● IEC/EN61000-4-6 ● ICES-003
IEEE standards	● IEEE 802.11a/b/g ● IEEE 802.11n ● IEEE 802.11ac ● IEEE 802.11ax ● IEEE 802.11be ● IEEE 802.11h ● IEEE 802.11d ● IEEE 802.11e ● IEEE 802.11k ● IEEE 802.11v ● IEEE 802.11w ● IEEE 802.11r ● IEEE 802.11be
Security standards	● 802.11i, Wi-Fi Protected Access (WPA), WPA2, WPA2-Enterprise, WPA2-PSK, WPA3, WAPI ● 802.1X ● Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP), WEP, Open ● EAP Type(s)
EMF	● EN 62311 ● EN 50385
RoHS	● Directive 2002/95/EC & 2011/65/EU ● (EU)2015/863
Reach	● Regulation 1907/2006/EC
WEEE	● Directive 2002/96/EC & 2012/19/EU

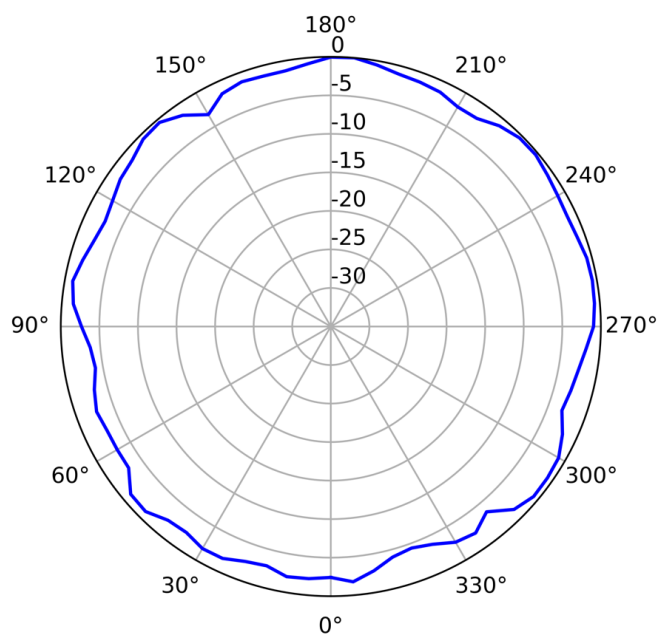
Antennas Pattern



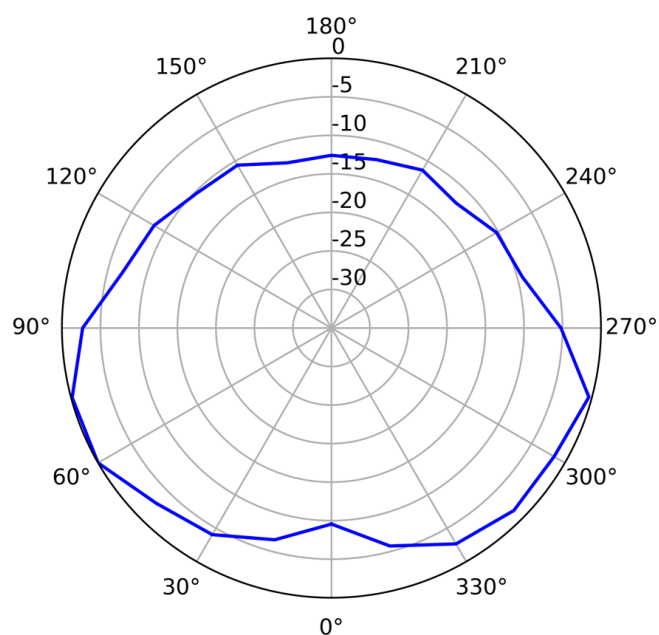
2.4GHz (Horizontal)



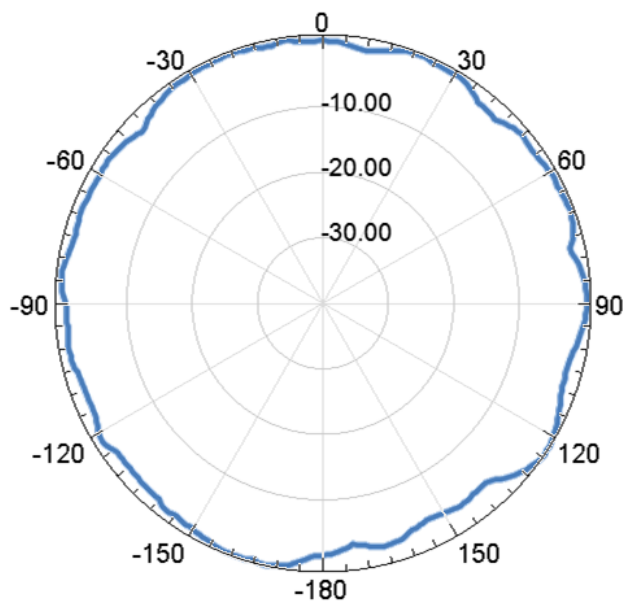
2.4GHz (Vertical)



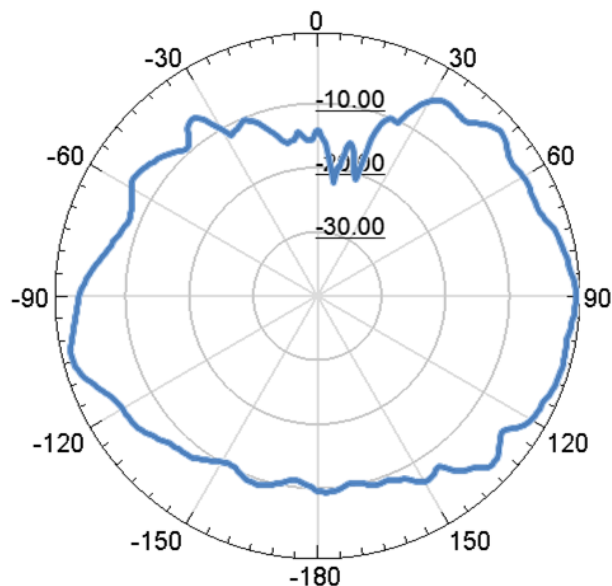
5GHz (Horizontal)



5GHz (Vertical)



6GHz (Horizontal)



6GHz (Vertical)

More Information

For more information about Huawei WLAN products, visit <http://e.huawei.com> or contact us in the following ways:

- Global service hotline: <http://e.huawei.com/en/service-hotline>
- Logging in to the Huawei enterprise technical support website: <http://support.huawei.com/enterprise/>
- Sending an email to the customer service mailbox: support_e@huawei.com

Copyright © Huawei Technologies Co., Ltd. 2025. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base Bantian, Longgang Shenzhen 518129 People's Republic of China

Website: www.huawei.com